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How Entrepreneurial Firms Prosper while Larger Firms Crumble

P. K. Shukla (Corresponding author)
Argyros School of Business and Economics
Chapman University
1 University Drive, Orange, California 92866, USA
Tel: 1-714-997-6817 E-mail: shukla@chapman.edu

Abstract

Many firms are facing great difficulty surviving the declining financial markets in Fall 2008. As larger firms take drastic measures to control and cut costs while forecasting declining revenue, entrepreneurial firms view the same marketplace in a more positive light. What separate these two types of firms is their differing levels of entrepreneurial intensity.

An entrepreneurial grid positions firms upon two dimensions: Frequency of Entrepreneurship and Degree of Entrepreneurship (innovativeness, risk taking, and proactiveness). Just as managers select the placement of their firm on market dimensions such as quality and price, firms need to make a strategic position choice on where they wish their firm to be placed as related to entrepreneurial intensity. The firms listed in a recent article from *BusinessWeek* magazine titled "The World's Most Innovative Companies" portrays a higher level of entrepreneurial efforts on both dimensions; firms that would be labeled as revolutionary on the entrepreneurial grid. It would be expected that as consumers expect new and improved products and services to emerge from innovative markets, firms labeled as periodic/incremental would have difficulties in sustaining continual growth. Additionally, firms labeled as continuous or incremental, dynamic, and periodic or discontinuous on the grid would be expected to have moderate success.

Keywords: Entrepreneurial firms, Innovativeness, Entrepreneurial intensity, Financial crisis

1. Background

Perusing business journals mid-December, 2008 the citizens of the United States are alarmed by the headlines of great concern expressing financial difficulties and distress as several large decades old established firms have been unable to withstand the recent national and global economic downturn.. Many large firms have taken drastic measures such as implementing hiring freezes and careful review of expenditures to be approved for the upcoming fiscal year. Despite the doom and gloom of a real recession, aspiring entrepreneurs who see a market niche unfulfilled are ready with business plans in hand and prepared fast pitches for capturing these market opportunities. Moreover, Chapman University Alumni entrepreneurs with mid-size sales firms (over $5 million in annual revenue) who speak about growth prospects for their firm are eager to add recent graduates to their staff as they search for more growth opportunities in their respective industries.

2. Historical frame of reference

These sharply contrasting views of the business world remind me of a passage from *A Tale of Two Cities* (1859) a historical novel by Charles Dickens, set in London and Paris:

"It was the best of times, it was the worst of times; it was the age of wisdom, it was the age of foolishness; it was the epoch of belief, it was the epoch of incredulity; it was the season of Light, it was the season of Darkness; it was the spring of hope, it was the winter of despair; we had everything before us, we had nothing before us."

During a planning committee session for the Harvard Business School Alumni Association of Orange County Entrepreneurship Conference 2009, an interesting point was raised. Conference organizers mentioned that a fast growing segment for the economy in Southern California is the growing number of established entrepreneurial firms (those worth over $5 million in annual revenue). These firms, with values between $5 million to $20 million in annual revenue are looking at economic conditions more favorably than larger firms in their industry. In fact, as established firms fail, smaller firms see opportunities to capture some percent of customers now willing to switch to a new service provider.

3. World's most innovative companies

Entrepreneurial individuals and firms do not look at the economy as half empty, but instead as half full. These groups see a gap that can partially be filled by creativity and innovativeness. Consumers are demanding firms to be more

innovative by developing newer products/services, newer processes, and newer customer experiences. These innovations come from a culture that promotes creativity at the individual and team level. T he firms listed in a recent article from *BusinessWeek* magazine titled "The World's Most Innovative Companies" portrays a higher level of entrepreneurial efforts on both dimensions; firms that would be labeled as revolutionary on the entrepreneurial grid. Every manager of a large, medium, or small firm can learn from the approaches used by these fifty firms. *BusinessWeek* identified their methodology for selection:

To determine our 2008 list of the 50 most innovative companies, the Boston Consulting Group once again asked executives to vote for the most pioneering companies in the last year. In a climate when innovation will be scrutinized more than ever, we added three financial measures. For 2008, votes cast in the *BusinessWeek*-BCG survey got an 80% weighting, while three-year revenue and margin growth each got 5% and stock returns were weighted 10%.

BCG sent the 17-question survey electronically in November to the 2,500 largest global corporations by market value. More than 2,950 executives responded, our largest sample ever.

Insert Table 1 here

These specific managerial approaches utilized by the entrepreneurial firms surveyed in this study are effective in explaining the various elements of what it means to be innovative and successful.

4. Entrepreneurial Grid

Michael Morris presents an entrepreneurial grid that positions firms on two dimensions: Frequency of Entrepreneurship (number of events) and Degree of Entrepreneurship (innovativeness, risk taking, and proactiveness). The firms listed on *BusinessWeek*'s "The World's Most Innovative Companies" display a higher level of entrepreneurial efforts on both dimensions.

Insert Figure 1 here

Innovativeness choices available to a firm can vary greatly from basic options to advanced options. Basic options involve cost reductions, repositioning, and new applications for existing products and services. Intermediate options for innovations include product improvements and revisions, additions to product/service lines in a company, and new product or service lines in a company. Advanced options for innovativeness include novel market products and services created for global consumers.

The combination of frequency of entrepreneurship and degree of entrepreneurship is used to determine the entrepreneurial intensity of a firm. The Business Week listing of the world's most innovative companies includes firms that would be labeled as revolutionary on the entrepreneurial grid. As consumers expect new and improved products/services, firms labeled as periodic/incremental would be unable to sustain growth. Additionally, firms labeled as continuous or incremental, dynamic, and periodic or discontinuous on the grid would be expected to have a moderate likelihood of success.

Michael Morris and Donald Kuratko illustrated the application of the entrepreneurial grid to organizations. The figure presents their views on the placement of example firms; as some subjective assessments are involved, some may disagree with the positioning of the organizations.

Insert Figure 2 here

5. Implications

The difficulties with several larger firms is the failure of their own past success--- as they gained larger market share and efficiencies from higher volume and economies of scale, they lost an entrepreneurial spark to constantly pursue new opportunities. We have seen countless examples of larger firms, with more financial resources and larger staffing, beaten in the market share by smaller capitalized startups. Many firms and mangers describe themselves as being market driven and being customer driven; in today's business marketplace, both the market and customers are forcing firms to become more entrepreneurial. Some firms in the past looked upon their frequency of entrepreneurship (number of events) and their degree of entrepreneurship (innovativeness, risk taking, proactiveness) as simply offensive strategies to gain market share; now many firms see these moves as a defensive necessity to maintain market share.

Albert Einstein is quoted as having said imagination is more important than knowledge. In today's business market, perhaps imagination is more important than larger financing. Success with entrepreneurial efforts depends less upon the amount of a firm's Research and Development budget and more upon how creative the individuals in the firm are with using their finite resources given to them. Even Chapman University's Leatherby Center for Entrepreneurship and Business Ethics has faced a similar struggle competing against more endowed entrepreneurship programs at larger campuses. The Chapman University programs are nationally Top 10 ranked in entrepreneurship at both the graduate and undergraduate levels as surveyed by *The Princeton Review* and *Entrepreneur* magazine. With the Center's limited staff, it has become apparent that being entrepreneurial, creative, and innovative is essential to staying afloat throughout an

economic recession. After all, the Center would be hypocritical if it didn't practice what it taught.

As the winter of despair for some is going to turn to the spring of hope for others, the United States will see a shake-out in the market of some firms that were too low in their frequency and degree of entrepreneurship. For the remaining firms, they should see better times.

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Table 1. "Top Ten World's Most Innovative Companies 2008"

Rank	**Company**	**HQ Country**	**HQ Continent**	**Revenue Growth 2004-07* (in %)**	**Margin Growth 2004-07* (in %)**	**Stock Returns 2004-07** (in %)**	**Most Known for its Innovative... (% who think so)**
1	APPLE	USA	North America	47	69	83	Products (52%)
2	GOOGLE	USA	North America	73	5	53	Customer Experience (26%)
3	TOYOTA MOTOR	Japan	Asia	12	1	15	Processes (36%)
4	GENERAL ELECTRIC	USA	North America	9	1	3	Processes (43%)
5	MICROSOFT	USA	North America	16	8	12	Products (26%)
6	TATA GROUP	India	Asia	NA	NA	NA	Products (58%)
7	NINTENDO	Japan	Asia	37	4	77	Products (63%)
8	PROCTER & GAMBLE	USA	North America	16	4	12	Processes (30%)
9	SONY	Japan	Asia	8	13	17	Products (56%)
10	NOKIA						

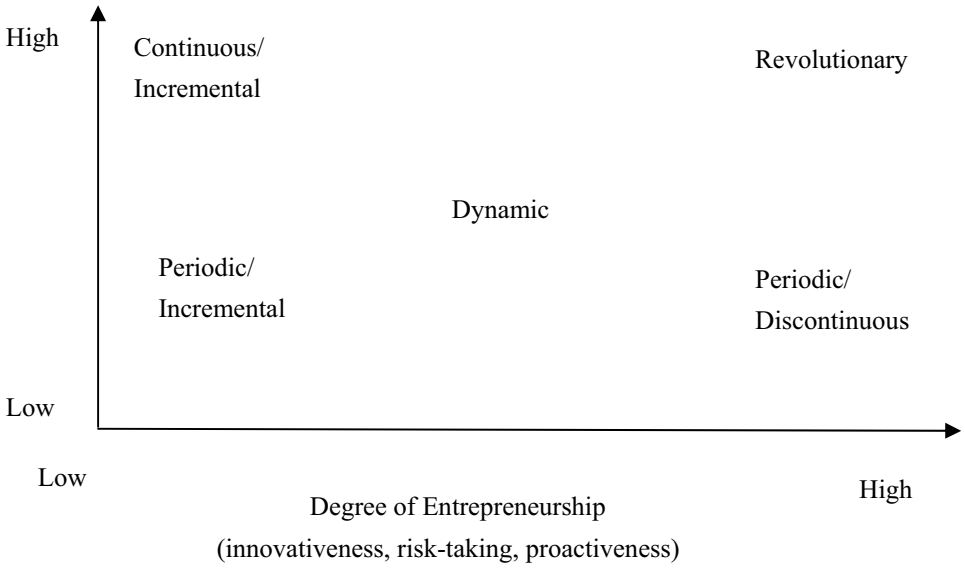

Figure 1. Entrepreneurial Intensity: Combining Degree and Frequency of Entrepreneurship

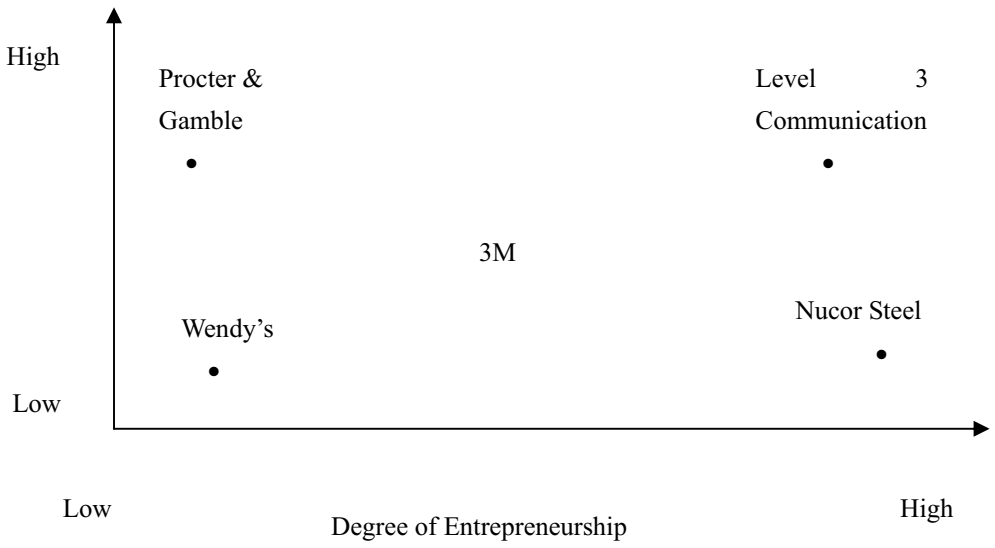

Figure 2. Applying the Entrepreneurial Grid to Organizations

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Employee Rewards and Motivation in Non Profit Organisations: Case Study from Australia

John Tippet (Corresponding author)
Centre for International Corporate Governance Research
Victoria University
PO Box 14428, Melbourne 8001, Australia
Tel: 61-3- 9919-1058 E-mail: john.tippet@vu.edu.au

Ron Kluvers
Faculty of Business and Enterprise
Swinburne University
Hawthorn, Melbourne 3122, Australia
Tel: 61- 3-9214-8435 E-mail: rkluvers@swinburne.edu.au

Abstract

This paper is a study designed to understand how intrinsic rewards, as compared with extrinsic rewards, are perceived as sources of motivation by staff of NFP organisations.

Data was gathered through a survey featuring a number of statements about intrinsic and extrinsic rewards. The small-sample *t*-test was used to determine the significance of responses, and hence test the hypothesis that employees are motivated by intrinsic rewards.

The findings of the study are that significant *t*-test *p*-values highlighted intrinsic rewards – in particular, the achievements of employees' clients, work/life balance, and having fun at work – as being important staff motivators.

Keywords: Intrinsic rewards, Extrinsic rewards, Motivation, Context, Not-for-profit organisations

1. Introduction

The aim of this study is to understand what motivates employees to work in Not-for-Profit (NFP) organisations; in particular, to consider the importance of intrinsic factors in the motivation of people to work in and remain in the NFP sector despite being paid less than their private sector counterparts. The hypothesis to be tested is that employees are motivated by intrinsic rewards. Frey (1997), whilst essentially concerned with the crowding-out effect extrinsic incentives may have on intrinsic work motivation, suggests that when employees' income rises above subsistence level, they seek meaning in work; that is to say, intrinsic motivation becomes more important. Since employees in the organisation that is the subject of this study are not dissatisfied with their pay (see section 5, Table 1), it may be inferred that they consider their pay to be above subsistence level; and therefore that intrinsic motivation is likely to be more important to them.

According to Ryan and Deci (2000), the term, "extrinsic motivation" is the attainment of a separable outcome from the performance of an activity; whereas "intrinsic motivation" is the performance of an activity for the inherent satisfaction of the activity itself. The present study examines both intrinsic and extrinsic rewards in an organisation made up of two units: one unit paying a performance bonus (an obvious extrinsic reward) and the other unit not, thus providing an ideal context in which to study the motivational effect of an extrinsic reward compared with the motivational effect of intrinsic rewards.

Gupta and Mitra (1998) argue that money is an important motivator, although the NFP literature indicates that intrinsic rewards are important to staff in NFP sector organisations and that classical agency theory is inadequate to explain the motivation of employees in this sector. Extrinsic rewards, such as monetary bonuses, are incentives provided by others and are external to the recipient. Herzberg (2003) argues that money is a "hygiene factor", and cannot be a source of motivation. However, if the hygiene factor (in this case, pay) is perceived to be inadequate then the employee will be dissatisfied. Intrinsic rewards are personal, "internal" responses, such as satisfaction or pride in an accomplishment.

According to Ryan and Deci (2000) fun and challenge are of greater significance to an intrinsically-motivated person than external pressures and rewards.

The debate about the influence of extrinsic and intrinsic rewards on motivation appears to be cast in dichotomous terms. However, much of the evidence indicating the importance of extrinsic rewards comes from the business sector or was obtained using an experimental research method in which the context of the task is not considered. In fact participants in experiments are often required to perform trivial tasks. The focus of the experiment is usually to determine the effects of changing the level or frequency of rewards rather than what participants are required to do. However, in a human services context the nature of the task is not trivial and in all likelihood is the reason for the employee being in the sector (Schepers et al., 2005). The fact that an individual is working in a NFP organisation is indicative of a set of values in which extrinsic rewards are not the first consideration (Weisbrod, 1983; Preston, 1989; Roomkin and Weisbrod, 1999).

The paper continues (section 2) with a consideration of organisational context. In section 3 the literature dealing with intrinsic and extrinsic rewards is discussed; followed by section 4, the research method and research question. Section 5 provides the statistical analysis; and section 6 discusses the findings, with conclusions being drawn in section 7.

2. Organisational context

Employee motivation cannot be examined in isolation from its organisational context since it is the activities undertaken within an organisation that are being considered; and in particular it is human motivation that encourages the individual to remain with the organisation (Berry, Broadbent and Otley, 1995; Schepers et. al., 2005). In this study the context is particularly relevant as it defines the activities and rewards (Jobome, 2006).

The organisation in which this study took place provides services for people with disabilities and is divided into two units: the *Employment* unit, which finds employment for people with disabilities in the open market; and the *Lifestyles* unit, which provides independent living skills for intellectually disabled people. The organisation is regarded as successful as it has operated for six years, has a staff of about 60 people and has received public recognition for its work. There is an executive manager for the organisation as a whole and a separate manager for each of the *Lifestyles* and *Employment* units. Each staff member in the *Employment* unit looks after approximately 20 clients, while *Lifestyles* unit staff develop and present programs for individuals and small groups. Staff and management in both units expressed a strong sense of collegiality, though the two units consider themselves to be operating independently, having different clients and different sources of funding.

There are two main sources of funding. The *Employment* unit has, to date, received block funding from the Australian Federal Government, while the *Lifestyles* unit is funded by Victorian State Government grants. The relationship between the Federal Government and the organisation is defined contractually and reflects the introduction of business ideology into the NFP sector. These changes were seen as potentially disruptive requiring the organisation to adopt a more business-like approach in an attempt to maintain performance.

The Federal Government has decided to fund open employment agencies on the basis of the number of clients they find employment for rather than by a set grant (block funding) paid irrespective of the number of clients who had been found employment. This change had been mooted for a number of years and management decided to improve *Employment* unit staff performance by offering a bonus if they were able to increase the number of clients placed in employment. However, management did not extend the bonus to *Lifestyles* unit staff as it was considered to be inappropriate. Hence, staff in the *Employment* unit can participate in the bonus scheme, while staff in the *Lifestyles* unit cannot. Of particular significance is that any intrinsic rewards staff receive are closely linked to the type of work they do.

In a study undertaken by Graffam, Noblet, Crosbie and Lavelle (2005) it was found that the employee turnover rate in the open disability employment industry was 27.3 per cent, in comparison to the all-industries average of 12.4 per cent (ABS, 2002). The higher than average employee turnover is problematic for the industry. According to Graffam, Noblet, Crosbie and Lavelle (2005) the costs and unnecessary disruptions to the industry, including the recruitment of replacement personnel, administrative, advertising and screening costs are significant. Other costs include interviewing, security checks, the processing of references, lost productivity, the cost of training, and costs associated with the period prior to departure when employees tend to be less productive. Therefore the issue of workforce motivation is important for the sector.

3. The literature: rewards in the not-for-profit sector

The literature points to two contrary positions regarding the motivational effect of rewards. One position argues that extrinsic rewards will be a source of motivation, while the other argues that intrinsic rewards have greater impact, particularly in a non-commercial setting. In the light of these two positions, the focus of the present paper is the motivational effect of intrinsic rewards.

Agency theory suggests that people are motivated by extrinsic rewards and that employees will only perform tasks for which they are rewarded (Jensen and Meckling, 1976; Eisenhardt, 1989; Baiman, 1990). This means that people will only work to the best of their abilities if they consider the reward to be adequate. According to Jensen and Meckling (1976) agency theory states that individuals are wealth maximisers. Altruism is not considered to be a part of the principal/agent relationship.

Ryan and Deci (2000) point out that the question of extrinsic/intrinsic motivation is a complex issue. They suggest that some forms of extrinsic motivation may appear to be intrinsic. In particular, they speak of "regulation through identification", which reflects a conscious valuing of a behavioural goal so that the action is accepted or owned as personally important. Thus, the significance of an extrinsic reward is related to the values of the employee; in other words, the efficacy of the extrinsic reward is linked to what the employee believes to be important. Gupta and Mitra (1998) using meta-analysis found that financial incentives are strong motivators. They found that financial incentives were particularly powerful with respect to performance quantity. However, results were uncertain when regarding performance quality – an important consideration in the human services sector.

The results of research in the public sector appear to contradict the conclusions of Gupta and Mitra. According to O'Donnell and Shields (2002) the application of performance-related pay in the Australian Public Service (APS) has been problematic. Similarly the research of Marsden and Richardson (1994) found that performance-related pay had limited motivational effects. O'Donnell (1998) found that the attempt to apply performance bonuses to senior officers of the APS did not contribute to an improvement in performance. Also, the OECD (1993) questioned the motivational effects of pay increases and bonuses, particularly for senior public service managers. According to Gaertner and Gaertner (1985), performance appraisals that placed emphasis on the development needs of managers had the potential to increase the performance of the manager. This finding is in line with Ryan and Deci's (2000) idea of assimilation: the assimilation of the organisation's demands with one's own values and needs. Gaertner and Gaertner's finding suggests that extrinsic rewards coupled with training or feedback that could assist the individual to improve performance have greater significance than extrinsic rewards alone.

Dowling and Richardson (1997) showed that UK National Health Service (NHS) managers were positive about role and goal clarity, and feedback and support from superiors. Hence, these factors – clarity of goal and support from superiors – are significant motivators. Redman *et al.* (2000) found that two-thirds of NHS managers reported that a performance management system contributed to their motivation. However, the performance-related pay component of the system was perceived negatively – particularly so in instances of performance pay being given to individuals where performance was heavily dependent on a team effort.

The findings of Gaertner and Gaertner (1985), Dowling and Richardson (1997), Redman *et al.* (2000) and O'Donnell and Shields (2002) are supported by Frey's (1997) contention that, once pay exceeds a subsistence level, intrinsic factors are stronger motivators; and that extrinsic rewards by themselves are problematic and staff motivation also requires intrinsic rewards such as pride at doing a good job and a sense of doing something worthwhile. People working in the third sector do so despite generally lower pay because they consider the task to be important. Williams (1998) points out that people have different values, motives and perceptions and are not passive recipients who will automatically respond to work systems as management wishes. In keeping with the findings of Etzioni (1988) and Larson (1977), values are considered to be important in the development of an individual's commitment to an organisation. The importance of altruistic values in relation to employment in the third sector was highlighted by Jobome (2006), who found in his study of management pay in large UK NFPs that intrinsic rewards dominated extrinsic ones.

Holcombe (1995), consistent with the argument of Ryan and Deci (2000), argues that bringing about a congruence of individual values with organisational values is creating a sense of mission that is an employee's personal commitment to the organisation. In her study of the Grameen Bank in Bangladesh, Holcombe demonstrates how important employee identification with the organisation's goals and values is to the achievement of the organisation's mission. Holcombe appears to be in total agreement with Ryan and Deci (2000); also with Brown and Yoshioka (2003). However, the latter found that a perception that pay was inadequate was a source of dissatisfaction, which could lead to a reduction of motivation. This point was also emphasised by Herzberg (2003), and is implicit in Frey (1997). Thus, the values and the mission of an NFP organisation are an important source of motivation, but extrinsic rewards cannot be ignored. Most agency models of motivation are only concerned with financial rewards (Frey, 1997), but Almer, Higgs and Hooks (2005), Etzioni (1988), and Larson (1977) argue that there are factors other than pay that motivate individuals to work in NFP organisations.

In addition, Berry, Broadbent and Otley (1995) point out that organisational control, including such elements as goal setting, performance measurement and rewards, is pluralistic and people working in the 'caring services' may consider remunerative motivation as less important than the normative reward of 'doing a worthwhile job'. Similar conclusions

were drawn by Bouillon et al. (2006) in their study of hospital managers; their research indicates that hospital managers were not motivated by individual opportunism alone.

Brown and Yoshioka (2003) state that many individuals in NFP organisations conceptualise money as a means to accomplish larger objectives and not as an end in itself. Therefore financial incentives and controls may not be effective motivators in NFP's. Speckbacher (2003) believes that NFP organisations may attract committed employees precisely because the absence of owners is a signal to such employees that their selflessness will not be enriching someone else. This position has been supported empirically by Weisbrod (1983), Preston (1989), and Roomkin and Weisbrod (1999). Schepers et al. (2005) argue that employees working in third sector organisations would be motivated predominantly by social contact, working for and with people, altruism, personal growth, all of which are intrinsic factors, the motivational importance of which is the focus of the present research.

4. Research method

The research question is to determine the relative importance of intrinsic rewards in the motivation of employees.

The small-sample *t*-test was used to analyse the data, constituting employee responses to six statements indicating intrinsic or extrinsic orientation of the reward. The statements are:

- I am satisfied with my pay
- I believe that bonus schemes can increase work performance
- I would prefer a reward system based on individual rather than team outcomes
- I am motivated by the achievements of my clients
- Working at the organisation allows me to achieve a good work/life balance
- I have fun while working at the organisation

Participants indicated their opinions to the six statements by circling a number, one to five, on a five-point likert scale. Response categories ranged from strongly disagreeing to strongly agreeing. Respondents returned 52 useable responses. The questionnaire was developed in conjunction with a manager of the organisation.

To understand the factors that motivate employees, the null hypothesis to be tested is:

Ho: **Employees are not motivated by intrinsic rewards**.

5. Statistical analysis

The statistics reported in the tables below reveal staff perceptions, from across the organisation. The response rate was 87 per cent; the relevant *p*-value is placed immediately below each of tables 1 – 6.

Table 1 to go here

The *t*-test on the data of Table 1 reveals that employees are ambivalent about satisfaction with their pay. Hence, we cannot say that employees are solely motivated by extrinsic rewards. This highlights Herzberg's (2003) conclusion that pay does not motivate; rather, it is a "hygiene" factor.

Table 2 to go here

The response to the statement "I believe that bonus schemes can increase work performance" (Table 2) is significant. Employees *do* believe that bonus schemes can increase work performance. This concurs with Ryan and Deci (2000) who state that the efficacy of an extrinsic reward is linked with the beliefs of the employee. The apparent motivation of the extrinsic reward is, in fact, linked with the belief of employees that the task being undertaken is worthwhile.

Table 3 to go here

The result shown in Table 3 is statistically significant– employees do *not* (a –ve *t*-value) prefer a reward system based on individual outcomes. This result further indicates the ambiguous nature of individual extrinsic rewards as motivators.

Table 4 to go here

In addition, the significant result (+ ve *t*-value (along with *p*-value)) shown in Table 4 emphasises the importance of intrinsic rewards as motivators, further evidence in agreement with Herzberg's (2003) argument.

These results (Tables 3 and 4) clearly emphasise the importance of intrinsic rewards to employees. Table 4 results, in particular, highlight the importance of the mission of a NFP organisation as a source of motivation for its employees.

Table 5 to go here

The statistically significant result of Table 5 strengthens the argument that intrinsic rewards are important motivators to employees of this organisation. Obviously, work/life balance is an outcome of the particular employment environment, and this response of employees adds weight to the hypothesised importance of intrinsic rewards as motivators.

Table 6 to go here

The *t*-test result for the data of Table 6 is significant. Employees clearly indicate that they do have fun while working at the organisation – 78.9 per cent of respondents agree that they have fun while working at the organisation.

6. Discussion

The results reported above lead to a rejection of the null hypothesis. Employees of this organisation do appear to be motivated by intrinsic rewards. Our results question the conclusions of Gupta and Mitra (1998) that extrinsic rewards are good motivators.

Employees are ambivalent about satisfaction with their pay. If employees are unsure about whether or not they are satisfied with their pay, then pay cannot be a prime source of motivation for them. This is in line with Herzberg's (2003) argument that pay is a "hygiene" factor, and does not satisfy.

Employees, though, do agree that bonus schemes can improve performance. However, whilst a bonus is an extrinsic reward, this does not diminish the importance of intrinsic rewards. As Ryan and Deci (2000) state, extrinsically motivated behaviours are the outcome of individuals believing that the activity for which the bonus was received is socially significant, and valued by their colleagues, and leads to a sense of belonging. Thus, the real value of the bonus as a motivator is that it reinforces the intrinsic reward of feeling connected, of having done something worthwhile.

The response in the affirmative to the statement, "I am motivated by the achievements of my clients" is particularly indicative of the importance of intrinsic rewards. Most staff reported being motivated by the achievements of their clients, indicating the importance of the mission of the organisation as a source of motivation. This supports the findings of Holcombe (1995) in the case of the Grameen bank. It also supports the argument of Ryan and Deci (2000), Frey (1997), Etzioni (1988) – who state that individuals may derive utility from non-economic factors or rewards – and Larson (1977), who argue that serving the public good and control over the work environment can modify the behaviour of individuals.

The survey data support the contention of Deckop and Cirka (2000), that intrinsic rewards have a greater impact in NFP organisations. The results also support the contention of Berry, Broadbent and Otley (1995), that people working in the caring services are more concerned with doing a worthwhile job than they are with remuneration. Further, the results support the suggestion made by Brown and Yoshioka (2003) that money is perceived as a means to an end and is a secondary matter to NFP staff since the majority of respondents reported being not dissatisfied with their pay.

The apparent predominance of intrinsic motivation in this organisation supports Herzberg's (2003) contention that pay is a "hygiene" factor and not a real motivator; and Jobome (2006), who found that intrinsic rewards dominated extrinsic rewards in UK NFPs. This is supported by the findings regarding having fun at work (Schepers et al., 2005), and the importance of the work/life balance. These two statements received considerable support from the survey respondents, which support seriously questions a widely-held belief that extrinsic rewards are the single-most important motivator.

7. Conclusions

The present study was undertaken to answer the question of the value of intrinsic rewards as motivators for employees in the NFP sector. Intrinsic motivational factors have been found to be significant, in both the presence of an employee bonus scheme and in its absence. This finding of the motivational importance of intrinsic factors is across the whole organisation, irrespective of the quite varying conditions under which employees of the organisation work; and is in support of Jobome (2006) who argues that in UK NFPs intrinsic rewards dominate extrinsic. Extrinsic motivators do play a role, but not to the extent that classical agency theory suggests. The findings of this paper support the contentions of Etzioni (1988) and Larson (1977), that people are motivated by non-economic rewards.

The results indicate that classical agency theory cannot adequately explain the motivation of staff in the NFP sector. In addition, the importance of intrinsic motivators highlights the importance of context in the motivation of staff, and the need for further research into this aspect of motivation. Human behaviour is complex and explanations of motivation need to consider carefully the organisational context (Jobome, 2006). It is through the organisation that staff are able to work with clients and witness their successes, achieve a good work/life balance and have fun at work. The results reported in this paper are gained from one NFP organisation and therefore the conclusions must be tentative. However, the findings do indicate the direction of future research.

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Table 1.

I am satisfied with my pay

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	3.8	3.9	3.9
	Disagree	14	26.9	27.5	31.4
	Neutral	14	26.9	27.5	58.8
	Agree	19	36.5	37.3	96.1
	Strongly Agree	2	3.8	3.9	100.0
	Total	51	98.1	100.0	
Missing	System	1	1.9		
Total		52	100.0		

$p = .481$

Table 2.

I believe that bonus schemes can increase work performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	5.8	5.8	5.8
	Disagree	8	15.4	15.4	21.2
	Neutral	16	30.8	30.8	51.9
	Agree	14	26.9	26.9	78.8
	Strongly Agree	11	21.2	21.2	100.0
	Total	52	100.0	100.0	

$p = .011$

Table 3.

I would prefer a reward system based on my individual outcomes rather than based on my team outcomes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	9.6	10.2	10.2
	Disagree	18	34.6	36.7	46.9
	Neutral	19	36.5	38.8	85.7
	Agree	3	5.8	6.1	91.8
	Strongly Agree	4	7.7	8.2	100.0
	Total	49	94.2	100.0	
Missing	System	3	5.8		
Total		52	100.0		

$p = .023$

Table 4.

I am motivated by the achievements of my clients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	3.8	4.2	4.2
	Neutral	4	7.7	8.3	12.5
	Agree	22	42.3	45.8	58.3
	Strongly Agree	20	38.5	41.7	100.0
	Total	48	92.3	100.0	
Missing	System	4	7.7		
Total		52	100.0		

p = .000

Table 5.

Working at the organisation allows me to achieve a good work / life balance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	7	13.5	13.5	13.5
	Neutral	7	13.5	13.5	26.9
	Agree	22	42.3	42.3	69.2
	Strongly Agree	16	30.8	30.8	100.0
	Total	52	100.0	100.0	

p = .000

Table 6.

I have fun while working at the organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	3.8	3.8	3.8
	Neutral	9	17.3	17.3	21.2
	Agree	29	55.8	55.8	76.9
	Strongly Agree	12	23.1	23.1	100.0
	Total	52	100.0	100.0	

p = .000

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A Study on the Chinese Ethical Evolution and Its Effects on SMB in China Today

Kenneth Wall
Institute for Advanced Studies
Colorado Technical University
Colorado Springs, CO 80907, U.S.A.

Hua Lin, Runtong Zhang & Xi Lei
School of Economics and Management
Beijing Jiaotong University
Beijing 100044, China
E-mail: mendson@sina.com

Abstract

As a result of economic reform commencing in 1978 in China, ethical behavior of the Chinese businesses is changing. The influence of Confucianism, Taoism, Sunzi Bingfa, and belief in a Heavenly God is reviewed based on data gathered from small and medium sized business during the Summer of 2006. Most Chinese businesses are small and family-owned, and in part, the emphasis on family ownership comes from the Confucianism beliefs of the importance of family. Taoism and Sunzi Bingfa are traditional Chinese beliefs that influence business decisions to varying degrees. Information was also gathered on the frequency of use of Guanxi and the importance of Face. Guanxi is a term meaning "connections" and has been a very important aspect of doing business in China and may be increasing in recent years. "Face" is a term used to show respect to both subordinates and superiors and has been very important through the ages, but it may be losing some relevance. These aspects of culture are reviewed in consideration of the change from a planned economy to a market based economy.

Keywords: China, Culture, Ethics, Business

1. Introduction

The Chinese economy is evolving and undergoing major change and growth as a result of the conversion from a planned economy to a market economy. It is important to understand the impact of these changes to the society and in particular how conduct of business in China is being impacted.

The growth of the Chinese economy is unparalleled. The framework of Chinese thought must be understood when conducting business in China. It is important to both Chinese and Western business people alike when engaging in business practices. Understanding the cultural and ethical backgrounds of business leaders is paramount when negotiations are progressing to ensure a meeting of the minds.

This research was initiated to examine evolving ethical business practices in China. A brief description of the changes on-going in that economy is presented as a background for understanding the evolving Chinese economy.

The Chinese culture is an ancient one dating back more than 4,000 years. Some aspects of the culture are predominantly Chinese even though other cultures have adopted portions of these Chinese cultural features to a lesser degree. Confucianism and Taoism are amongst the numerous beliefs that are a part of the culture. Sunzi Bingfa teachings of military strategy are applied in business as well as military operations. Guanxi means good connections or relationships and have a substantial impact on the society. "Face" is the term used to describe ones dignity and prestige and is very important. Giving face is an excellent means to improve Guanxi. These considerations provide a conceptual framework for the study of how "Chinese Ethical Evolution in Business" is progressing.

A critical review of literature was conducted by Kenneth Wall that reviews recent publications concerning the Changes in Chinese culture occurring as a result of the economic reforms taking place in China. Excerpts are quoted herein for additional background information as deemed appropriate by the authors.

There has been much literature, especially monthly periodicals, which speculate on the changes in the culture occurring as a result of the evolution of the Chinese economy from planned to market. A primary objective of this research is to verify and quantify those changes as being real or imagined. As Jinglian Wu noted "As China's development is having and will continue to have significant impact to the global economy, people, whatever their attitude toward China, are eager to know and understand how the change and growth were made possible. However, understanding China's economy, particularly its reform and development, is not easy." (Wu, 2005, Preface). When making business decisions in light of a changing economy and the subsequent change in the culture, it is imperative to act from a basis of fact rather than fiction.

The goals of the research are to:

- Identify aspects of the Chinese business culture that are changing.
- Provide a statistical basis for determining how those aspects of the Chinese culture are changing.
- Interpret those changes and provide insights into the impact of those changes in conduct of business in China.

2. Research methodology

To investigate the changes evolving in Chinese business ethics, the researchers prepared a questionnaire that was mailed to over 5,000 businesses throughout China. 106 responses were received by returned mail. 16 of the 106 had not adequately completed the form to include them in the final statistics. The statistics quoted in this research are based on the 90 forms that were deemed representative of the answers to all or most questions.

Four criteria were used for selecting companies to whom the questionnaire was sent.

1) The number of employees were divided into two groups of 0~100 and 101~500 to ensure representation for small and medium size business were included.

2) The business types were based according to the Chinese government's classification: Manufacturer, Sales/Trading/Restaurant, and Service industries (including Information Technology, Tourism, and Entertainment).

3) The ownership types included: Sole Proprietor, Limited Partnership, Corporation, Joint Ventures, and State-owned Enterprises.

4) Location were classified as Coastal province or Inland province

Through the database from Chinese Post office, five thousand companies with the following distribution were selected:

Inland manufacturer (with no more than 100 employees): 241

Inland manufacturer (100~500): 388

Coastal manufacturer (0~100): 500

Coastal manufacturer (100~500): 282

Inland sales (0~100): 695

Inland sales (100~500): 182

Coastal sales (0~100): 205

Coastal sales (100~500): 678

Inland service (0~100): 902

Inland service (100~500): 35

Coastal service (0~100): 731

Coastal service (100~500): 143

Total: 5028

Wrong address: 213

As an example, the process of selection was to list the inland manufacturers with no more than 100 employees and then select over 250 companies at random. Remove those with invalid addresses with a result of identifying 241 companies for mailing. Owners of these companies were targeted for response. A questionnaire with a self-addressed envelope solicited their response with a letter that indicated that they would be informed of the results of the findings.

The topics covered by the questions in the survey were selected as indicative of aspects of culture that are predominantly found in the China and may impact business ethics. Beliefs in Confucianism, Taoism, Sunzi Bingfa, Heavenly Power, Guanxi, and Face were considered aspects of the Chinese culture that may be undergoing change as a result of the conversion from the planned economy to a market economy. These aspects are importance to the Chinese culture and could provide insights as to how Chinese business ethics may be evolving.

Data was gathered at Beijing Tong University and entered into an Excel spreadsheet. Data was analyzed using Excel and Data Desk software by the authors in both China and the United States. These independent efforts provide corroboration of the findings.

The data has been analyzed and the following section has been developed using the results of the analysis. A brief synopsis of the statistic is provided for each of the ethical considerations.

Limitations

The survey was mailed to over 5,000 businesses at random. There were no controls established to ensure representative samples were obtained from the specific groups selected for inclusion in the research. Accordingly, respondents do not necessarily reflect their particular business type or location, thus making correlation with those variables difficult and results tenuous. A sample size of 90 respondents limits the ability to generalize to the whole population of businesses in China.

3. Ethical considerations

Many aspects of a culture influence business ethics. The study of ethics suggests that determining right from wrong may be influenced by a countries culture, which is shaped by philosophical leanings of the society. Six areas of culture were considered in this study to provide insights into the ethical behavior of Chinese businesses. The six areas addressed in this research were selected for their specific relationship to the Chinese culture and they are: Confucianism, Taoism, Sunzi Bingfa, Heavenly Power, Guanxi, and Face. Each is addressed with a brief description and the results of the research findings, which indicate any change in the importance between 1990 and 2006. The importance or frequency of use is for each time period is presented for each ethical consideration. Conjecture as to the reason for the changes are left to the reader, although some ideas are presented in the conclusions.

3.1 Confucianism

Confucianism refers to the system of thought, which was developed about the 6th Century B.C. by Kong Fuzi (Latinized to Confucius). Confucianism is a system of values, which, relates to the whole world and influences the family, society, economics, and the government. The basic ideas evolved through the centuries and were modified for practical applications. There are six basic tenets of Confucianism: compassion, filial piety, righteousness, propriety, loyalty, and reciprocity. Briefly, compassion is the fundamental value, which relates to the way people relate to each other. It is basically the Golden Rule: “Do unto others what you would like for them to do unto you”. Filial piety is the love, care and consideration that a child owes to their parents. A child should sacrifice their own well being for the good of the parents. Righteousness means to act for the greater good of family, society and the nation. Propriety is doing the right thing at the right time. Treating others properly gives rise to harmonious relations. Loyalty to country is similar to Western ideals in regards to country. Loyalty in Confucianism also must be considered with family and friends as well. Reciprocity is the idea that relationships are important and that persons are enmeshed in complex webs of interactions with others.

Confucianism gave the Chinese society a humanistic way of looking at the entire realm of ethical behavior including family, society and nation. Economics, religion, family, government, and education were all included in the philosophy and it lasted for over 4,000 years. Business behavior was strongly influenced by Confucianism. Family owned businesses were passed from generation to generation. The Matriarch or Patriarch of the business was bound by the principles of compassion, righteousness, and reciprocity, as they were responsible for the well being of the business and its employees. Loyalty often meant hiring their children, other family and friends. Propriety was a basis for “face” and reciprocity was a foundation for guanxi, or “relations”.

Insert Table 1 here

Insert Figure 1 here

Based on the authors’ survey, shown as Tab.1 and Fig.1, the importance of Confucianism is on the rise in business from 1990 to 2006. On a scale from 1 to 4, the business respondents rated the importance of Confucianism as 2.53 in 1990 and 3.29 in 2006. This .99 statistically significant increase is consistent with the often, suggested proposition that Confucianism has experienced a resurgence since the establishment of a market economy in recent years. This finding is not necessarily consistent with the seeming materialistic, self-centered ideas of a market economy whereby individuals take care of themselves first and family and others secondly. Importance of the family still exists, especially in the rural areas. Many factory workers provide subsistence living for family members left behind in rural areas, which

may be based in the strong belief in the Confucius virtue of filial piety. Business owners are known to allow workers to return to their homes for brief periods to allow them to care for their families.

3.2 Taoism

Taoism is an ancient religion of China with history dating back to the 6th Century, B.C. "Tao" (pronounced “Dow”) is a force, not a person. Tao refers to a formless non-being and a power which envelopes, surrounds and flows through all things, living and non-living. The Tao regulates natural processes and nourishes balance in the Universe (Schipper, 2000). The harmony of opposites (e.g. no love without hate, no light without dark) is recognized and ambiguity is seen as the natural state. Everything in the universe has its own power or virtue, which brings harmony and a natural order to the world. Humans may realize their inner being as part of the Tao and live a life of harmony. Taoism's focus on nature and the natural order is consistent with both Confucianism and many of the beliefs of Buddhism.

Taoism flourished during the Tang Dynasty and became integrated into the civil life of the Chinese society during the Ming Dynasty. Taoist temples and city gods became a major influence on the life of much of the population of China. Western influence during the Qing Dynasty began the destruction of Taoism. The religion became to be recognized as a feudal superstition. With the relative liberalization began under Deng Xiaoping’s regime, Taoism has begun to function again in China and some of the early Taoist philosophy has migrated to the West (Cheng, 2004).

Taoism emphasizes harmony with nature and within society. This forms a basis in which business should benefit society and greed is discouraged. Businesses should provide the basic needs of society without unordinary benefit to the individual. “Taoism chimes well with a free market economy” ("The ancient art of making money", 2001). It has been suggested that Taoism is resurging in China.

Insert Table 2 here

Insert Figure 2 here

Based on the authors’ survey, shown as Tab.2 and Fig.2, the importance of Taoism is on the rise in business from 1990 to 2006. On a scale from 1 to 4, the business respondents rated the importance of Taoism as 2.30 in 1990 to 3.09 in 2006. This .99 statistically significant increase is consistent with the often, suggested proposition that Taoism has experienced a resurgence in recent years. It is not clear that this resurgence is related to the change from a centrally planned economy to a market economy or it may be a reaction to a new freedom to again practice religion in China. Concern for gaining material wealth is not a tenant of Taoism but has become a powerful influence in the Chinese society. The Taoist ideas of “do nothing to govern” and “keep still to defeat movement” may becoming a more popular thought than occurred during the centrally planned economy prior to 1978.

3.3 Sunzi Bingfa

Sunzi Bingfa is a well-known book on military science in China. The Art of War is one of the most popular military classics in both Asia and the West. Written by Sun Wu (6th cent BC), managers have employed the ideas as a guide for negotiations in the economic arena. Some of the often, business relevant Sunzi Bingfa tenets that should be considered and modified to fit business strategy include:

- All business is based on deception.
- Hold out baits to entice the opponent. Feign disorder, and crush him.
- If your opponent is of ill temper, seek to irritate him. Pretend to be weak, so that he may grow arrogant.
- Attack your opponent where he is not prepared: appear to be coming from a position, which is not expected.
- The successful business negotiator makes many calculations before the negotiation. The negotiator who makes few calculations beforehand will lose at the negotiating table.

Insert Table 3 here

Insert Figure 3 here

Based on the authors’ survey, shown as Tab.3 and Fig.3, the importance of Sunzi Bingfa is on the rise in business from 1990 to 2006. On a scale from 1 to 4, the business respondents rated the importance of Sunzi Bingfa as 2.63 in 1990 to 3.39 in 2006. This .99 statistically significant increase is consistent with the emphasis on conducting business to win. There have been numerous writings with assertions by Western business negotiators that Chinese negotiators are excellent in their craft.

3.4 God

The Chinese have been influenced by the beliefs in many gods. These deities are many and belief in them has varied throughout history. Deities have special powers to help overcome problems and in some cases provide access to immortality. Traditional Christian and Islam belief in God suggests a supreme being created heaven and earth. God is omnipresent, omniscient, all-powerful, loving, and merciful as well as other attributes according to most monotheistic

religions. Christianity and Islam have existed in China for several hundred years. “The first Jesuit mission in China began in 1583 under the leadership of Matteo Ricci, a famous Jesuit from Italy.” (Liu, 2005). 3 to 4 % of the Chinese population are estimated to be Christian ("The world factbook", 2006). Islam was introduced into China during the Tang and Song Dynasties (618-1279).

“Traditionally, the Communist Party allowed membership in five officially approved religions: Buddhism, Taoism, Islam, Protestant Christianity and Catholicism.“ (Elegant, 2006). Liberalization of religion has been a continuing debate within the party but some religious freedom has been granted. “The flowering of Chinese Christianity reflects a wider religious awakening.” (Elegant, 2006) and the belief in a heavenly power appears to be on the rise.

Insert Table 4 here

Insert Figure 4 here

Based on the authors’ survey, shown as Tab.4 and Fig.4, the importance of a heavenly power is on the rise in business from 1990 to 2006. On a scale from 1 to 4, the business respondents rated the importance of a belief in a heavenly power, which can control your fate and help business to succeed as 1.42 in 1990 to 1.58 in 2006. While this less than .90 statistically significant increase in the belief in a heavenly power, it does indicate that there is considerable increase in the belief in a heavenly power. A 2006 rating for a heavenly power of 1.58 remains a relatively low ranking compared to a 2006 Confucianism rating of 3.29 and 2006 rating of Taoism of 3.09. It is not clear how this increase in the belief of a heavenly power is affecting business management, if at all.

3.5 Guanxi

Guanxi means good connections or relationships and may be established through family or friends. Guanxi may be considered a friendship with an expected exchange of favors (Pye, 1992). This concept suggests that a continuing interpersonal relationship exists with favors being traded without a contract. The depth of the relationship varies and thus the quality of the relationship is dependent on personalities. This aspect of Chinese culture has provided the basis for business dealings in China throughout history. As Eric Tsang noted “executives found that the businessmen believed that once good guanxi had been established, a number of benefits would follow.”(Tsang, 1998, p. 67). Guanxi continues to be a major consideration in Chinese business. “In the West, relationships grow out of deals. In China, deals grow out of relationships ”(Vanhonacker, 2004, p. 48). Maintaining relations networks within businesses and with the government is important.

With the economic reforms, some lessening of the importance of guanxi related to dealings with government officials has been suggested. McClenahen argued three reasons for this decline in importance: the Chinese government’s emphasis on the rule of law; procedural safeguards, such as the Administrative Litigation Law and the Licensing Law, designed to curb abuses of power; and the crackdown on corruption (McClenahen, 2004). Guanxi networks permitted legal as well as illegal activities to be conducted often between business partners and government officials. Often, corrupt business practices were overlooked by authorities, as the favors were sufficient to look the other direction when a guanxi partner was acting unethically.

It is apparent that the use of Guanxi is in question. The use of Guanxi may be difficult to measure as various aspects are considered. Guanxi with friends and relatives may be considered acceptable while dealings with government officials in a “shady” manner may be considered differently. The question included in this research survey suggested that dealings with government officials were to be of primary importance.

Insert Table 5 here

Insert Figure 5 here

Based on the authors’ survey, shown as Tab.5 and Fig.5, the frequency of guanxi use is on the rise in business from 1990 to 2006. On a scale from 1 to 4, the business respondents rated the frequency of use rising from 2.95 in 1990 to 3.17 in 2006 with a paired t-test significance of .1093. While this increase is less than .90 statistically significant, the frequency of use of guanxi is considerable in business management in 2006. Other studies have indicated that guanxi use may be on the decline as government crackdowns on corruption has severely limited the opportunity for unethical behavior of officials and has had a positive result in reducing the instances of illegal behavior. There have been suggestions that guanxi use is on the decline while others have suggested that it may be on the increase. Based on this survey, guanxi use is increasing.

3.6 Face

Face is an essential component of the Chinese society. Having face means having a high status in the eyes of one's associates, and is an important to for having personal dignity. “Face” is the term used to describe ones dignity and prestige and is very important (Woo, 1999). The Chinese are acutely sensitive to gaining and maintaining face in all aspects of social and business life. Face is a prized asset, which can be given, lost, taken away or earned. Causing someone to lose face can terminate business deals. One can easily cause someone to lose face by an insult or criticism

in front of others. Just as face can be lost, it can also be given by commending someone in front of their' peers. "Giving face" to an associate by complementing them in front of others or while alone enhances their reputation and prestige (Ambler, 2000), thus giving face is an excellent means to improve guanxi.

Insert Table 6 here

Insert Figure 6 here

Based on the authors' survey, shown as Tab.6 and Fig.6, the importance of "face" is on the decline in business from 1990 to 2006. On a scale from 1 to 4, the business respondents rated the importance of "face" as 3.04 in 1990 to 2.77 in 2006. This .90 statistically significant decrease is consistent with the often, suggested proposition that business people are no longer required to give face to conduct business with "superiors" as contract relationships are of more import than in the past. This apparent reduction in the importance of "face" does not appear consistent with the increase in importance of guanxi as face is often a means to improve guanxi.

4. Conclusions

Since 1990, Chinese business culture is changing based on the results of this survey of small and medium sized businesses. The six aspects of culture considered here indicate that significant increases exist in the importance of Confucianism, Taoism, Sunzi Bingfa, and Guanxi. Belief in a Heavenly Power is increasing to some degree while the importance of Face is decreasing.

Confucianism is increasing in importance in the Chinese business community. There are several tenets of Confucianism that suggest business ethics could be affected. The matriarchs and patriarchs of small companies sometimes take care of their workers at substantial expense. Most often, it is difficult to ascertain whether the true intent of the employers in these cases are compassion or simply a good business decision to ensure employee loyalty and/or necessity to minimize harm to the worker so that they may continue to be productive. Children must show respect and ensure for the well being of their parents. It has been noted that in many factories, the children wage earners send money home to assist in the care of their parents and other siblings. Family loyalty is often observed as positions in companies. This nepotism is found in both urban and rural settings. The concept of reciprocity remains a major influence in Chinese business.

Taoism tenets suggest that business leaders should seek harmony within nature and society. The survey statistics indicate a rise in the belief that Taoism is important. Translating this apparent increase in importance is not obvious. Negotiations with Chinese business leaders may be almost confrontational. Chinese negotiators may be exhibiting the harmonious concept when the word "no" is avoided even when "no" is the true answer to a business idea. Harmony within a guanxi network is consistent with Taoism.

Although Sunzi Bingfa was a well-known book on military science, its' apparent increase in importance appears consistent with Chinese business practice. Deception in business negotiations is commonplace. Appearing to change positions during negotiations by coming full circle from an initial position confuses most Western business leaders. The increase of importance of Sunzi Bingfa in the conduct of Chinese business may be a result of increased dealings with the West and the success that the strategy has achieved.

While not statistically significant to the .90 level, a belief in a heavenly power by Chinese business leaders appears to be increasing. It is not apparent that any conclusion can be reached on the affect of any increase. It has been suggested that an overall increase in spiritual ideas may be encompassing the Chinese society in general.

The use of guanxi is increasing. This is consistent with the findings of increased importance of Confucianism and Taoism. The specific question asked by the survey was directed at the use of guanxi in relation to obtaining influence with government officials or others in positions of authority. It is not suggested that the influence being pursued is an illegal or unethical act. It is important to have connections in high places so that business dealings can be made in a more, timely manner.

The importance of "face" is declining. "Giving face" or "saving face" has always been an important aspect of the Chinese society and very important in business. Showing respect for ones associates has been considered paramount in business dealings. The apparent decline may be a result of dealings in which the relationship is on a more Western business-to-business style in which both parties are attempting to show a less emotional approach to the deal. Especially the younger business negotiators have become somewhat more arrogant and look at contractual arrangements as the real objective as opposed to feeling the need to be subservient to higher ranking authority. It is not a matter of disrespect; it is a matter of establishing an equal footing when conducting business.

These conclusions are those of the authors. These conclusions are based on the data as well as the experiences of the authors and other researchers. It is likely that other interpretations can also be equally valid.

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Table 1. Frequency breakdown of Confucianism

Year		Key				Means (Importance Rating)
		1	2	3	4	
1990	Number	11	31	25	15	2.53659
	Group Count %	13.415	37.805	30.488	18.293	
2000	Number	0	25	41	17	2.90361
	Group Count %	0	30.120	49.398	20.482	
2006	Number	3	13	29	45	3.28889
	Group Count %	3.333	14.444	32.222	50.000	

Note. 1=Not Important, 2=Not Very Important, 3=Important, 4=Very Important

Table 2. Frequency breakdown of Taoism

Year		Key				Means (Importance Rating)
		1	2	3	4	
1990	Number	15	35	24	8	2.30488
	Group Count %	18.293	42.683	29.268	9.756	
2000	Number	6	26	42	9	2.65060
	Group Count %	7.229	31.325	50.602	10.843	
2006	Number	8	13	32	37	3.08889
	Group Count %	8.889	14.444	35.556	41.111	

Note. 1=Not Important, 2=Not Very Important, 3=Important, 4=Very Important

Table 3. Frequency breakdown of Sunzi Bingfa

Year		Key				Means (Importance Rating)
		1	2	3	4	
1990	Number	8	31	19	16	2.63095
	Group Count %	9.524	36.905	34.524	19.048	
2000	Number	2	11	45	16	3.13095
	Group Count %	2.381	13.095	53.571	30.952	
2006	Number	2	9	30	48	3.39326
	Group Count %	2.247	10.112	33.708	53.933	

Note. 1=Not Important, 2=Not Very Important, 3=Important, 4=Very Important

Table 4. Frequency breakdown of God

Year		Key			Means (Importance Rating)
		1	2	3	
1990	Number	55	21	7	1.42169
	Group Count %	66.265	25.301	8.434	
2000	Number	49	29	6	1.48810
	Group Count %	58.333	34.524	7.143	
2006	Number	51	24	14	1.58427
	Group Count %	57.303	26.966	15.730	

Note. 1: I do not believe, I can control my fate myself; 2: Do not care ordinarily, but hope sometimes heavenly power could help me; 3: I believe and remember it all the time.

Table 5. Frequency breakdown of Guanxi

Year		Key				Means (Importance Rating)
		1	2	3	4	
1990	Number	5	24	23	30	2.95122
	Group Count %	6.098	29.268	28.049	36.585	
2000	Number	0	21	31	33	3.14118
	Group Count %	0	24.706	36.471	38.824	
2006	Number	2	23	22	42	3.16854
	Group Count %	2.247	25.843	24.719	47.191	

Note. 1: Never; 2: Sometimes; 3: Infrequently; 4: Frequently

Table 6. Frequency breakdown of Face

Year		Key				Means (Importance Rating)
		1	2	3	4	
1990	Number	8	21	15	40	3.03571
	Group Count %	9.524	25.000	17.857	47.619	
2000	Number	4	25	33	22	2.86905
	Group Count %	4.762	29.762	39.286	26.190	
2006	Number	5	37	22	26	2.76667
	Group Count %	5.556	41.111	24.444	28.889	

Note. 1: Not Important; 2: Sometimes Important; 3: Often Important; 4: Very Important

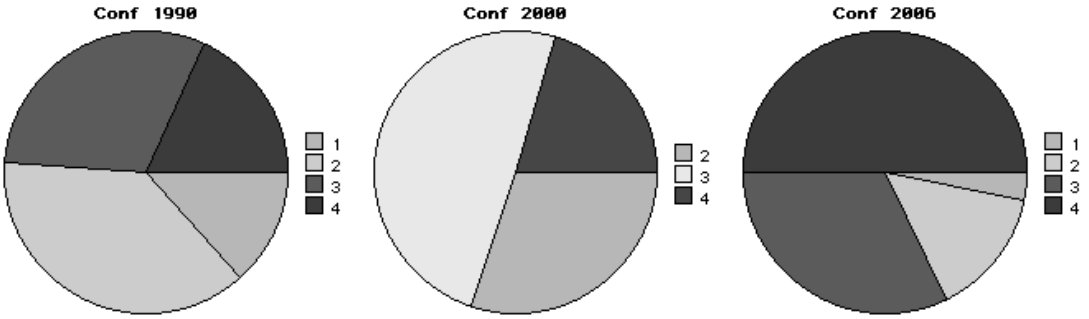

Figure 1. Frequency breakdown of Confucianism

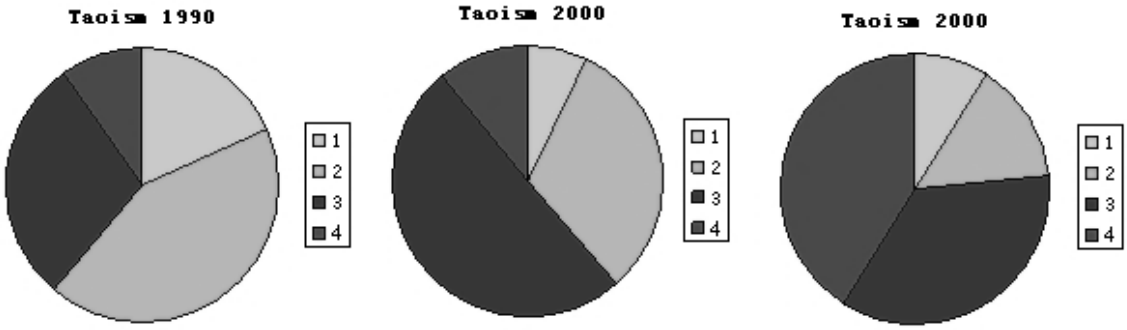

Figure 2. Frequency breakdown of Taoism

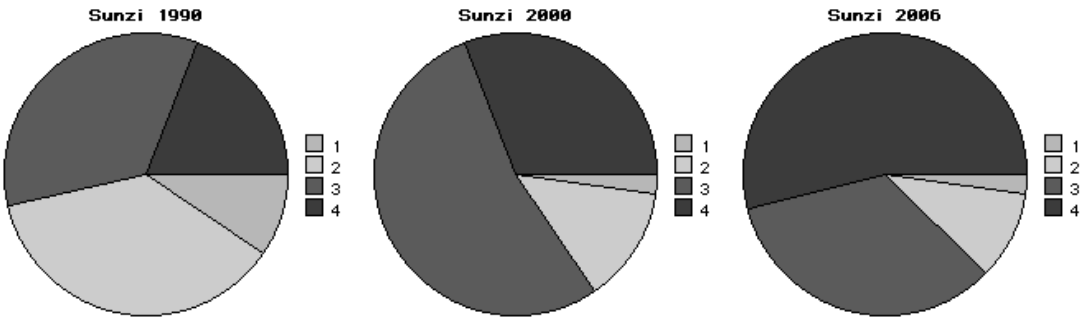

Figure 3. Frequency breakdown of Sunzi Bingfa

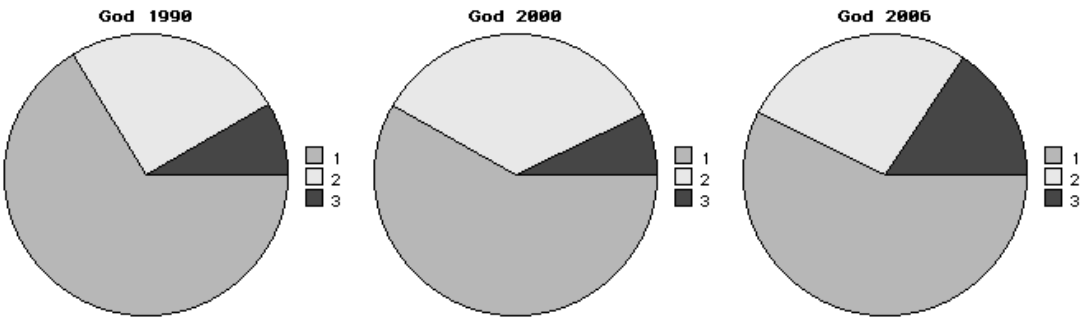

Figure 4. Frequency breakdown of God

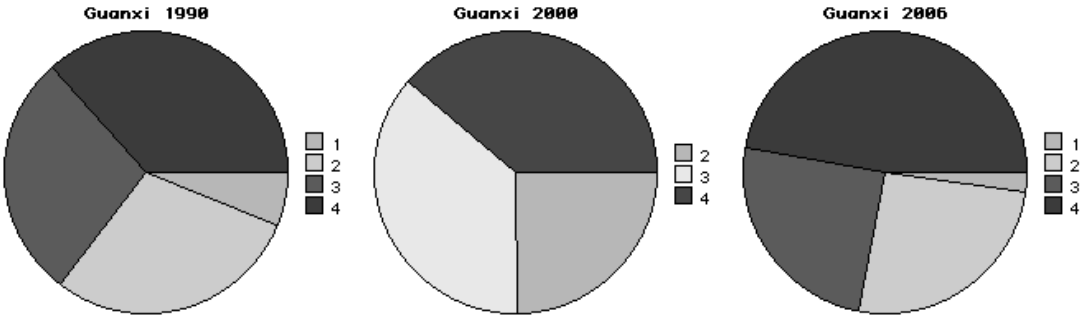

Figure 5. Frequency breakdown of Guanxi

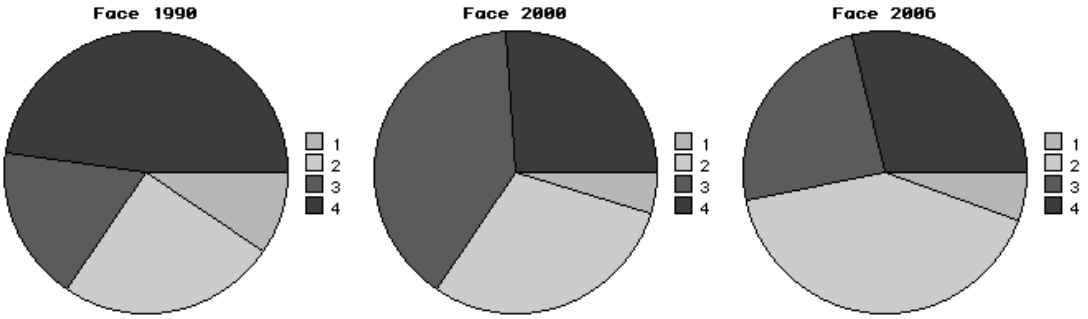

Figure 6. Frequency breakdown of Face

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Study on the Comprehensive Evaluation of the Financial Core Competitiveness for the Listed Companies in Chinese Steel Industry

Yanhui Wang, Yajun Guo & Yanqing Zhuang
School of Business Administration
Northeastern University
Shenyang 110004, China
Tel: 86-24-8368-7530 E-mail: yhwang@mail.neu.edu.cn

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Abstract

The financial management activity is the important part of the enterprise economic activity, and the enterprise core competitiveness is decided by the financial core competitiveness to certain extent, so the scientific measurement of the financial core competitiveness of the enterprise is very important to know the financial management performance of the enterprise and effective form the core competitiveness of the enterprise. In this article, we established a set of the index system which could comprehensively evaluate the financial core competitiveness of the listed company, took 15 listed steel companies in Shenzhen Stock Exchange as the examples to analyze and evaluate the financial core competitiveness of the listed companies, and finally made advices to cultivate and strengthen the financial core competitiveness of the listed company.

Keywords: Financial core competitiveness, Comprehensive evaluation, Listed companies, Steel industry

In China, some scholars had put forward relative financial theories about the accounting core competitiveness, the enterprise financial core ability and the core competitiveness. Wang Yuetang (Wang, 2004, P. 65-68) et al put forward the concept of the accounting core competitiveness, and pointed out the accounting measurement and the report composed the accounting core competitiveness just for the accounting science system. Feng Qiaogen (Feng, 2003, P. 26-27) put forward the core competitiveness-oriented new finance science view, i.e. the core competitiveness finance, and pointed out the core competitiveness finance was a sort of systematical financial control and management method which took the capital investment, the income activity and the relative financial relations of the value chain or the supply chain enterprise group as the research objects, took the market competition as the drive, acquired the enterprise competitive advantage and tried to create values for consumers under the guidance of the economics and the management theory. Zhu Kaixi (Zhu, 2001, P.10) definitely put forward the concept of the enterprise financial core ability. And he pointed out that as the enterprise financial management target, the enterprise financial core ability is the essential target of the enterprise financial management activity, and it is the start and the end-result of the enterprise financial management activity. The financial core ability of one enterprise may be not completely same with the financial core abilities of other enterprise, but they are not copied each other.

Based on different scholars' essential cognitions about the core competitiveness from the integrated view, the knowledge view, the cultural view and the organization view, Huang Jigang (Huang, 2003) put forward that the core competitiveness of the enterprise was formed through the management integration, and it could more significantly realize the dynamic ability that the value demand was hardly simulated by the competitive opponents, and the core competitiveness was generally presented by the technical ability and the management ability or both organic combination of the enterprise. The management ability of the enterprise includes the R&D management ability, the production & manufacturing management ability, the marketing management ability, the financial management ability and the planned organization management ability. Any ability or any multiple abilities in these abilities which are leading for the competitive opponents will compose the core competitiveness of the enterprise which will make the enterprise obtain the advantages of the sustainable competition and the development. Based on the cognition of the core

competitiveness, we think the financial core competitiveness is a series of special, excellent and dynamically developmental enterprise finance competitive ability which takes the knowledge and innovation as the basic core and roots in the financial management system engineering of the enterprise. It is the updating and optimization of the enterprise financial management ability, and it is the core competitiveness of the enterprise.

The establishment of the financial core competitiveness is based on the resources of the enterprise, but the resource doesn't equal to the ability. The management scholar of the ability theory, Christensen pointed out that "the resource itself almost has not the ability of the production, and the ability is generated by the production activity which requires combining and harmonizing the resources". According to Canada doctor Mansour Javidan's view of the core competitive relation, we think the formulation process of the financial core competitiveness is the process which reasonably and effectively organizes and harmonize financial resources and continually innovate in the financial competitive ability according with the practice of the enterprise. In this process, we can treat all problems in the financial core competitiveness domain as the system composed by the interactive functions of various factors, and this system includes four sorts of factor such as the ability resource, the base ability, the ability system and the mechanism and ability status. And the studying ability, the financial relation ability, the financial control ability, the information processing ability and the financial alarm ability are implicit factors to form the base ability of the financial core competitiveness. The base ability acts with relative ability systems and mechanism each other, which is very important to form the financial core competitiveness of the enterprise. The ability status is the dominant factor of the financial core competitiveness, and it includes not only the material entities such as the financial human resource and the asset appropriation which are used to develop the financial management activity, but also the result integrating and innovating in the basic ability of the financial management, i.e. the representation carrier of the financial core competitiveness.

However, when the enterprise tries to exert the idea of the core competitiveness from the view of the financial core ability, the largest difficulties include many problems such as whether does the enterprise have the financial core competitiveness, where is the financial core competitiveness, and how strong is the financial core competitiveness. Through it is very difficult to establish objective evaluation standard of the financial core competitiveness with general meaning, but the enterprise can not avoid the standard when it wants to use it, and it should organically integrate the decomposing measurement and the overall grasp of the financial core competitiveness. Therefore, when we design the evaluation index system, we should start from the formation not from the result of the financial core competitiveness, which will essentially indicate the size and the formation reason of the financial ability of the evaluated enterprise. The concrete design indexes are seen in Table 1.

According to established evaluation index system, we adopt the linearly weighted comprehensive evaluation method to evaluate the financial core competitiveness. The corresponding evaluation index set is called as X = {X1, X2… X10}, where, X1 is the super title financial personnel proportion, X2 is the information-based level of the financial management information system, X3 is the industrial ranking of the total assets, X4 is the industrial ranking of the financing size in recent three years, X5 is the company governance index, X6 is the interior control status, X7 is the value of Z, X8 is the investment growth rate, X9 is the industrial ranking of the cash flow amount, and X10 is the cash dividend payout rate.

We select Shi Donghui's new research results (Shi, 2004, P.41-48) of Shanghai Stock Exchange Research Center, i.e. the Chinese listed company governance index, to reflect the company governance level, Company governance index=35%× values of majority stockholder behavior +25%×values of key personnel's restriction and encouragement +25%×values of the structure and operation of the directorate +15%×values of information transparency, and the concrete composing is seen in Table 2.

The financial alarm ability of the enterprise is finally embodied in the result that the enterprise implements the financial alarm system according with the characters and the requirements, and we select unstable Edward Arman's Z model which can reflect the enterprise financial status. The model use five financial rates to generate the total discrimination value (value of Z) through the weighted integration. The discriminant function is $Z=1.2Y_1+1.4Y_2+3.3Y_3+0.6Y_4+0.999Y_5$, where, Y1 is the rate of the operation capitals and the asset amount, Y2 is the rate of the retained earnings (unappropriated profit) and the asset amount, Y3 is the rate of the earnings before interest and tax and the asset amount, Y4 is the rate of the market value amount of the common stock and the preferred stock and the book debt value amount, Y5 is the rate of the sales amount and the asset amount. Generally, the value of Z is lower, the enterprise is more possible to be bankrupted, and the financial alarm system is not more perfect, the financial alarm ability of the enterprise is lower.

For the industrial ranking of the evaluation index total assets, the industrial ranking of the financing size of various channels in recent years, the investment growth rate, the industrial ranking of the cash flow amount, and the cash dividend payout rate can be directly obtained from the simple computation or the data in the enterprise bulletin and yearly report. For the super title financial personnel proportion, we should enter into the enterprise and obtain the data

through the investigation, and for the information-based level of the enterprise financial management information system, we should retain the experts to research and evaluate it according to the situation whether it implements the manual accounting system or the computer accounting system, or the situation whether it is in the stage of MRP, in the stage of MRP2 or the stage of ERP.

Because of the existing certain limitation (only in small range), in this article, we select 8 indexes in the above design index system as the comprehensive evaluation index of the financial ability of the listed company, and they are the information-based level of the financial management information system, the industrial ranking of the total assets, the industrial ranking of the financing size, the company governance index, the value of Z, the investment growth rate, the industrial ranking of the cash flow amount, and the cash dividend payout rate.

When we establish the evaluation index of the financial core competitiveness, we adopt the classification design, and when we confirm the weights, we adopt the new evaluation index weight method, i.e. the method of G1 put forward by Professor Guo Yajun (Guo, 2002). The method needs not to establish the discriminant matrix and the consistency check, and the computation will be exponentially reduce comparing with the method of AHP, and the confirmed index weight possesses the character of the isotonicity.

For the comparison and the statistics, the evaluated 15 steel enterprises in the article are all listed in the Shenzhen Stock Exchange. The relative data about the listed companies selected in the article are all from the appointed information disclosure websites such as the Juchao Information (http://www.bj.cninfo.com.cn) and the Stock Star (http://www.stockstar.com). The data are from the yearly report of each company in 2003, and we also select relative data in 2001 and in 2002 for the necessary indexes, and the researches are all established on the base of the sufficient trust for the listed companies, and the premise that the relative data are real and reliable, and the researches don't include exceptional situations such as the accounting information distortion.

For the pretreatment of the original data, the total principle is that the qualitative indexes are uniformly translated into the quantitative indexes, and the quantitative indexes are uniformly translated into the non-dimensional and current maximum-sized indexes, and the total value of each index is 10. The concrete operation includes following aspects.

(1) For the industrial ranking of the total assets, the evaluation index uses N/42 to represent the place in the competition of certain company, and uses 1-N/42 to translate it into the maximum-sized index, and multiply with 10, and the final value of the evaluation index will be obtained.

(2) For the industrial ranking of the cash flow amount and the industrial ranking of the financing amount in recent three years, the processing method is same with the ranking index of the total assets.

(3) For the evaluation method of the listed company governance index, first, compute the value of every problem, and the answers of 12 problems in the evaluation system include two sort of selection, i.e. yes or no which are respectively endowed "0" and "1". Second, compute the value of every item. For the majority stockholders' behaviors, the selection, encouragement and restriction of the key personnel, the structure and operation of the directorate, and the information disclosure transparency, we respectively compute the value sums, and divide the problem amount of the item, and multiply 10, so we can obtain the final value of the item. Therefore, the value sum of every item is 10 points. Finally, according to the corresponding weights of various items, we can compute the total values of the company governance index.

(4) For two indexes such as the investment growth rate and the cash dividend payout rate, multiple the computed values with 10, and we can obtain the final evaluations of various indexes.

(5) For the information-based level of the financial management information system, we correspondingly endow the values such as 8-10, 6-8, 4-6, 2-4 and 1-2 points according to the adopted information processing systems including ERP, MRP2 and MRP, and the general computer accounting system and the traditional manual accounting system.

(6) For the value of Z, if it exceeds 2.675, evaluate it by the point in 8.0-10.0, and it is in 1.81-2.675, evaluate it by the point in 4.0-8.0, and it is smaller than 1.81, evaluate it by the point in 1.0-4.0. For example, if the Z value of certain company is 2.42 through the computation, the pretreatment process is $Z= [(2.42-1.81) / (2.675-1.81)] \times (8-4) + 4$.

For the relative importance of the index in the index system, in this article, we designed corresponding investigation questionnaires, and surveyed part of theoretic scholars and financial personnel, and relative masters. In this investigation, we sent out 12 questionnaires and returned 10 effective questionnaires. According to above method, we computed and confirmed the weights of various indexes (seen in Table 3).

By above financial core competitiveness index system through the pretreatment and the weight coefficients confirmed by the method of G1, we could obtain the comprehensive ranking of the financial core competitiveness for 15 steel enterprises (seen in Table 4).

Through the comparison of the values of the financial core competitiveness comprehensive evaluation various indexes of 15 steel enterprises listed in Shenzhen Stock Exchange, we could find that when other 14 steel enterprises still used

the general computer system, the Capital Iron and Steel Company (000959) first used advanced ERP system, which enhanced the information-based level of the financial management information system and made it change from the information reservoir to the information provider and information sharer. Only this index made the Capital Iron and Steel Company rank first in the comprehensive evaluation of the financial core competitiveness. At the same time, the financing ability of the Capital Iron and Steel Company also ranked first in 15 steel enterprises, but it didn't use large scale investment to quickly extend the scale, but it used the financed capitals in the production management by its excellent financial organizational harmony ability (rank second) and the capital utilization ability (rank first), and formed the financial core competitiveness better than other enterprise in the same industry.

Otherwise, the five enterprises which comprehensive evaluation value of the financial core competitiveness ranked in the front were higher than other later five enterprises for five evaluation indexes including the total asset, the financing scale in recent three years, the company governance index, the investment growth rate and the net cash flow.

Therefore, for Chinese listed steel enterprise, to keep higher financial competitive advantage in the drastic market competition, we should continually dig the potentials and keep the leading status in the base resource, the financing ability, the investment ability, the capital utilization ability and the financial organization and harmony ability. For the listed companies in other various industries, for the question how to establish and enhance their financial core abilities, we can analyze and research and put forward corresponding policy advices according to above method.

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Table 1. Evaluation indexes of the financial core competitiveness

	Basic factors	Evaluation factors	Evaluation indexes	Meaning of index
Financial core competitiveness	Ability resource	Financial human resource	Super title financial personnel proportion	Super title financial personnel quantity/ Financial total quantity
		Information processing ability	Information-based level of the financial management information system	Adopted information processing system: popular accounting computer application software, MRP, MRP2 and ERP system
		Asset size	Industrial ranking of the total asset	
		Financial relation ability	Industrial ranking of the financing amount in recent three years	
	Ability system and mechanism	Financial organization and harmony ability	Company governance index	Company governance index=35%× values of majority stockholder behavior +25%×values of key personnel's restriction and encouragement +25%×values of the structure and operation of the directorate +15%×values of information transparency
		Financial control ability	Interior control status	Opinions of interior system report
		Financial alarm ability	Value of Z	Z=1.2×operation capital/ total assets+1.4×retained earnings/ total assets +3.3×profits before interest and tax/ total assets +0.6× the market value of shares / debt amount+0.999×sales amount/ total assets
	Ability status	Investment ability	Investment growth rate	The growth rate of the sum of the building engineering, fixed assets and long-term investment
		Capital exertion ability	Industrial ranking of the cash flow amount	
		Distribution ability	Cash dividend payout ratio	Cash dividend in recent three years/ Cash stock dividend in recent three years

Table 2. Composing of the company governance index

Governance layer	Subdivision index
Majority stockholder behavior (35%)	Whether does the associated trade exist between the majority stockholder and the listed company? Whether do the majority stockholders and their associated parties occupy the capitals of the listed company? Whether does the listed company offer guarantees for the majority stockholders and their associated parties?
Key personnel's selection, restriction and encouragement (25%)	Whether does the general manager generated by the majority stockholders? Whether do the board chairmen or the general manager draw the salaries in the listed company? Whether do the board chairmen or the general manager hold the shares of the listed company? Whether does the listed company evaluate the cash dividend in the yearly distribution?
Structure and operation of the directorate (25%)	Whether does the independent director exist in the directorate of the listed company? Whether do the board chairman and the general manager occupied by same one? Whether does the board chairman or the general manager of the listed company belong to the majority stockholders?
Reserved information disclosure transparency (15%)	Whether do the enrolled accountants bring forth the abnormal reserved opinions in the yearly accounting report? Whether is the evaluation year condemned publicly by the Shanghai Stock Exchange and Shenzhen Stock Exchange because of information disclosure?

Table 3. Evaluation index weights

Name of evaluation factor	Corresponding weight	Name of evaluation factor	Corresponding weight
Financial human resource	0.15	Financial control ability	0.13
Information processing ability	0.13	Financial alarm ability	0.12
Asset size	0.09	Investment ability	0.04
Financial relation ability	0.10	Capital utilization efficiency	0.07
Financial organization and harmony ability	0.14	Distribution ability	0.03

Table 4. Comprehensive evaluation results of the financial core competitiveness

Ranking	Stock code	Stock name	Comprehensive evaluation value	Ranking	Stock code	Stock name	Comprehensive evaluation value
1	000959	Beijing Shougang	5.2811	9	000778	Xinxing Ductile Iron Pipes	3.5785
2	000898	Angang New Steel	4.6482	10	000708	Daye Special Steel	3.4325
3	000932	Valin Steel Tube & Wire	4.5827	11	000890	Fasten	3.4033
4	000825	Taiyuan Steel	4.5406	12	000761	Benxi Steel	3.2730
5	000717	SGIS Songshan	4.5198	13	000961	Dalian Jinniu	2.8626
6	001696	Zongshen Industrial Group	4.4635	14	000569	Great Wall Tech	2.7271
7	000709	Tangshan steel	4.3096	15	000656	ST Dongyuan	2.4216
8	000629	New Steel & Vanadium	4.0934				

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Relationship between Interest Rate and Stock Price: Empirical Evidence from Developed and Developing Countries

Md. Mahmudul Alam (Corresponding author)
CRM, Marketing Division, Grameenphone Ltd
47 Shantinarar, Dhaka 1217, Bangladesh
Tel: 880-1711-503-782 E-mail: rony000@gmail.com

Md. Gazi Salah Uddin
Department of Business Administration
East West University
43, Mohakhali C/A, Dhaka 1212, Bangladesh
E-mail: rimsust2002@yahoo.com

Abstract

Stock exchange and interest rate are two crucial factors of economic growth of a country. The impacts of interest rate on stock exchange provide important implications for monitory policy, risk management practices, financial securities valuation and government policy towards financial markets. This study seeks evidence supporting the existence of share market efficiency based on the monthly data from January 1988 to March 2003 and also shows empirical relationship between stock index and interest rate for fifteen developed and developing countries- Australia, Bangladesh, Canada, Chile, Colombia, Germany, Italy, Jamaica, Japan, Malaysia, Mexico, Philippine, S. Africa, Spain, and Venezuela. Stationarity of market return is tested and found none of this stock market follows random walk model, means not efficient in weak form. To investigate the reasons of market inefficiency, relationship between share price and interest rate, and changes of share price and changes of interest rate were determined through both time series and panel regressions. For all of the countries it is found that interest rate has significant negative relationship with share price and for six countries it is found that changes of interest rate has significant negative relationship with changes of share price. So, if the interest rate is considerably controlled for these countries, it will be the great benefit of these countries' stock exchange through demand pull way of more investors in share market, and supply push way of more extensional investment of companies.

Keywords: Efficient market hypothesis, Random walk model, Market return, Interest rate, Investment, Panel

1. Introduction

In prospects of overall economy, Ologunde, Elumilade, and Asaolu (2006) mentioned that share market makes it possible for the economy to ensure long-term commitments in real capital. For that reason, level of efficiency measurement of the stock market is very important to investors, policy makers and other major players, who ensure long-term real capital in an economy. A mature of the stock market efficiency level is perceived across the globe as a barometer of the economic health and prospect of a country as well as a register of the confidence of domestic and global investors.

Interest rate is one of the important macroeconomic variables, which is directly related to economic growth. Generally, interest rate is considered as the cost of capital, means the price paid for the use of money for a period of time. From the point of view of a borrower, interest rate is the cost of borrowing money (borrowing rate). From a lender's point of view, interest rate is the fee charged for lending money (lending rate).

Good investors always look for investing in an efficient market. In an inefficient market few people are able to generate extra ordinary profit causes of confidence losses of general people about the market. In such cases, if the rate of interest paid by banks to depositors increases, people switch their capital from share market to bank. This will lead to decrease the demand of share and to decrease the price of share and vice versa. On the other way, when rate of interest paid by banks to depositors increases, the lending interest rate also increases lead to decrease the investments in the economy

which is also another reason of decreasing share price and vice versa. So, theoretically there is inverse relationship between share price and interest rate.

This paper examines the weak form efficiency of stock market for fifteen developed and developing countries, where the random walk theory is tested, that assumes consecutive price changes are independent and identically distributed over time so that past values of the index cannot be used to forecast the current values. To investigate the reasons of market inefficiency, this paper further investigates the dimension of relationship between Share Price and Interest Rate, and Changes of Share Price with Changes of Interest Rate.

2. Review of empirical evidence

The findings from the empirical testing of the efficient market hypothesis (i.e., random walk) with stock prices have been mixed. Early studies by Fama (1965), Samuelson (1965), and Working (1960) could not reject a random walk. Shiller (1989) indicated that there are reasons that the random-walk behaviour of stock prices should hold, and there is plenty of evidence suggesting that stock prices do follow a random walk. An early rejection of a random walk was found by Niederhoffer & Osborne (1966). Poterba & Summers (1988) argued that there is little theoretical basis for strong attachment to the null hypothesis that stock prices follow a random walk. Lo & MacKinlay (1988) investigated the sampling distributions of variance ratios over different sampling intervals and found that stock returns do not follow a random walk. Claessens (1995) in a world bank study reported significant serial correlation in equity returns from 19 emerging markets and suggested that stock prices in emerging markets violates weak form EMH. Poshakwale (1996) found the evidence of non-randomness stock price behavior and the market inefficiency (not weak-form efficient) on the Indian market. Khababa (1998) has examined the behavior of stock price in the Saudi Financial market seeking evidence that for weak-form efficiency and found that the market was not weak-form efficient. He explained that the inefficiency might be due to delay in operations and high transaction cost, thinness of trading and illiquidity in the market.

While working on Johannesburg Stock Exchange (JSE), Jammine and Hawkins (1974), Hadassin (1976) and Du Toit (1986) reject week-form efficiency, but Affleck-Graves and Money (1975), Gilbertson and Roux (1977, 1978) found week-form efficiency; Knight and Afflect-Graves (1983) rejected semi-strong form efficiency but Knight, Afflect-Graves and Hamman (1985) showed semi-strong form efficiency; Gilbertson (1976) found evidence supporting strong-form efficiency, but Knight and Firer (1989) rejected the strong-form efficiency. Given the mixed evidence on efficiency of JSE, Thompson and Ward (1995) showed that there are some share price dependencies but too small to profitably exploited and concluded that JSE is "operationally efficient" that means only a small group of investors are able to outperform the market.

Although some studies (Balaban 1995, Urrutia 1995, Grieb & Reyes 1999, Kawakatsu & Morey 1999) support non randomness of emerging markets' stock prices, some other studies related to these same markets (Butler & Malaikah, 1992, and Panas, 1990) do not. Harvey (1993) stated that stock returns of emerging countries are highly predictable and have low correlation with stock returns of developed countries. He concluded that emerging markets are less efficient than developed markets and that higher return and low risk can be obtained by incorporating emerging market stocks in investors' portfolios.

The relationship between stock prices and interest rates has received considerable attention in the literature. Fama (1981) argues that expected inflation is negatively correlated with anticipated real activity, which in turn is positively related to returns on the stock market. Therefore, stock market returns should be negatively correlated with expected inflation, which is often proxied by the short-term interest rate. On the other hand, the influence of the long-term interest rate on stock prices stems directly from the present value model through the influence of the long-term interest rate on the discount rate. Rather than using either short-term or long-term interest rates, Campbell (1987) analyzed the relationship between the yield spread and stock market returns. He argues that the same variables that have been used to predict excess returns in the term structure also predicts excess stock returns, deducing that a simultaneous analysis of the returns on bills, bonds and stock should be beneficial. His results support the effectiveness of the term structure of interest rates in predicting excess returns on the US stock market. Kaul (1990) studied the relationship between expected inflation and the stock market, which, according to the proxy hypothesis of Fama (1981) should be negatively related since expected inflation is negatively correlated with anticipated real activity, which in turn is positively related to returns on the stock market. Instead of using the short-term interest rate as a proxy for expected inflation, Kaul (1990) explicitly models the relationship between expected inflation and stock market returns. Zhou (1996) also studied the relationship between interest rates and stock prices using regression analysis. He found that interest rates have an important impact on stock returns, especially on long horizons, but the hypothesis that expected stock returns move one-for-one with ex ante interest rates is rejected. In addition, his results show that long-term interest rate explain a major part of the variation in price-dividend ratios and suggests that the high volatility of the stock market is related to the high volatility of long-term bond yields and may be accounted for by changing forecasts of discount rates.

Lee (1997) used three-year rolling regressions to analyze the relationship between the stock market and the short-term interest rate. He tried to forecast excess returns (i.e. the differential between stock market returns and the risk-free short-run interest rate) on the *Standard and Poor 500* index with the short-term interest rate, but found that the relationship is not stable over time. It gradually changes from a significantly negative to no relationship, or even a positive although insignificant relationship. Jefferis and Okeahalam (2000) worked on South Africa, Botswana and Zimbabwe stock market, where higher interest rates are hypothesized to depress stock prices through the substitution effect (interest-bearing assets become more attractive relative to shares), an increase in the discount rate (and hence a reduced present value of future expected returns), or a depressing effect on investment and hence on expected future profits. Harasty and Roulet (2000) worked on 17 developed countries and showed that stock prices are cointegrated with earnings (a proxy for dividends) and the longterm interest rate in each country (except the Italian market for which the short-term interest rate was used). Spyrou (2001) also studied the relationship between inflation and stock returns but for the emerging economy of Greece. Consistent with Kaul's results, Spyrou (2001) found that inflation and stock returns are negatively related, but only up to 1995 after which the relationship became insignificant.

Arango (2002) found that some evidence of the nonlinear and inverse relationship between the share prices on the Bogota stock market and the interest rate as measured by the inter bank loan interest rate, which is to some extent affected by monetary policy. The model captures the stylized fact on this market of high dependence of returns in short periods. These findings do not support any efficiency on the main stock market in Colombia. Hsing (2004) adopts a structural VAR model that allows for the simultaneous determination of several endogenous variables such as, output, real interest rate, exchange rate, the stock market index and found that there is an inverse relationship between stock prices and interest rate. Zordan (2005) said that historical evidence illustrates that stock prices and interest rates are inversely correlated, with cycle's observable well back into the 1880's; more relevant to the period subsequent to World War II. From the late 1940's to the mid 1960's, inflation was low, and interest rates were both low and stable. Stocks did well during this period, both in nominal and real terms. The inverse relationship between interest-sensitive asset classes like stocks, bonds, and real estate and commodity prices has been known through history. That relationship can be observed in the 1877 to 1906 cycle, the 1906 to 1920 cycle, the 1920 to 1929 cycle, the 1929 to 1949 cycle, and the 1949 to 1966 cycle. Uddin and Alam (2007) examines the linear relationship between share price and interest rate, share price and changes of interest rate, changes of share price and interest rate, and changes of share price and changes of interest rate on Dhaka Stock Exchange (DSE). For all of the cases, included and excluded outlier, it was found that Interest Rate has significant negative relationship with Share Price and Changes of Interest Rate has significant negative relationship with Changes of Share Price.

As different study shows mixed results, this study will test the random walk model and check the effects of Share Price on Interest Rate and Changes of Share Prices on Changes of Interest Rate, both in time series and panel approach, for fifteen developed and developing countries.

3. Data, model and methodology

The sample includes fifteen countries' monthly observations from January 1988 to March 2003. The data - "Schedule Banks Fixed (3-6) Mos." and "Stock Exchange Index"- is taken from International Financial Statistics (IFS). As representative of interest rate data, Bank Deposit Rate is used because deposit rate usually refers to rates offered to resident customers for demand time or savings deposits. Also as representative of share price, share market index is considered because it is considered as less risky return from market. Based on economic condition, geographic locations and data availability in IFS, fifteen countries were selected. Out of fifteen countries, seven are developed countries (Australia, Canada, Germany, Italy, Japan, South Africa, Spain) and eight are developing countries (Bangladesh, Chile, Colombia, Jamaica, Malaysia, Mexico, Philippine, Venezuela). Selected countries are also geographically well distributed, where four from Asia (Bangladesh, Japan, Malaysia, Philippine), three from Europe (Italy, Germany, Spain), three from North America (Jamaica, Canada, Mexico), three from South America (Chile, Colombia, Venezuela), one from Africa (South Africa), and another one is Australia.

To test the randomness of market, the tools of stationarity of share prices is tested by using market returns. Market returns (R_t) are calculated from the monthly price indices such as follows:

$$R_t = Ln\ (PI_t / PI_{t-1}) \quad (1)$$

Where, R_t = market return at period t; PI_t = price index at period t; PI_{t-1}= the price index at period t-1; ln = natural log

Here the linear relationship between the dependent and the independent variables was determined through panel approach for the regression analysis and inferences were drawn based on the regression analysis.

$$Y_{1it} = \beta_{0i} + \beta_{1i} X_{1it} + u_{lt} \quad (2)$$

In equation-2, it is regress Share price (Y_1) on Interest Rate (X_1) to look at how prevailing Interest Rate influences the Price of Stock Market.

$$Y_{2it} = \beta_{0i} + \beta_{1i} X_{2it} + u_{it} \quad (3)$$

In equation-3, it is regressed Changes of Share Price (Y_2) on Changes of Interest Rate (X_2) to look at how prevailing Changes of Interest Rate influences the Changes of Price of Stock Market. Changes of Share Price and Changes of Interest Rate are calculated from monthly Share Price and monthly Interest Rate such as follows:

$$Y_2 = 100 * [Y_{1(t)} - Y_{1(t-1)}] / Y_{1(t-1)} \quad (4)$$

$$X_2 = 100 * [X_{1(t)} - X_{1(t-1)}] / X_{1(t-1)} \quad (5)$$

Where, Y_2 = changes of share price at period t; $Y_{1(t)}$ = share price at period t; $Y_{1(t-1)}$ = share price at period t-1; X_2 = changes of interest rate at period t; $X_{1(t)}$ = interest rate at period t; $X_{1(t)}$ = interest rate at period t-1.

4. Empirical result and analysis

4.1 Market efficiency test

The statistical output of unit root test for individual market suggests that there are serial dependencies of return of all Stock Exchanges. ADF calculated values are significant at 99% confidence level for all 10 degrees of freedom (lags) for all 15 countries suggest that none of these market follows random walk model (Table-1: Eq-1), means none of these market is efficient in week form.

<< Table 1>>

4.2 Panel data analysis on interest rate & share price

The probability of F test for no fixed effects cannot be accepted at 0.000 significant levels both for one way and two way fixed effects model, that means there are fixed effects. At a very low (0.0001) significance level (Table-2: Eq-2), it is found that Interest Rate (X_1) has significant relationship on Share price (Y_1) and the coefficient of independent variable, -2.08 for one way fixed effect and -0.95 for two way fixed effects, shows there is a negative relationship between the two variables. The coefficient of determination (R^2) indicates that 37% of the total variation in the dependent variable is account for by the independent variable by one way fixed effect, while 56% of the total variation in the dependent variable is account for by the independent variable by two way fixed effects.

<< Table 2>>

The probability of m-test cannot be accepted at 98% confidence levels for one way and at 0.000 significance level for two way random effects model, which means fixed effects is more appropriate than random effect. But for reporting it is mentioned that at a very low (0.0001) significance level (Table-3: Eq-2), it is found that Interest Rate (X_1) has significant relationship on Share price (Y_1) and the coefficient of independent variable, -2.06 for one way random effect and -1.18 for two way random effects, shows there is a negative relationship between the two variables.

<< Table 3>>

4.3 Panel data analysis on changes of interest rate & changes of share price

The probability of F test for no fixed effects cannot be accepted at 97% confidence interval for one way and at 0.00 significance level for two way fixed effects model, that means there are fixed effects. At a very low (0.006) significance level (Table-4: Eq-3), it is found that Changes of Interest Rate (X_2) has significant relationship on Changes of Share Price (Y_2) and the coefficient of independent variable, -0.03 for one way fixed effect and -0.02 for two way fixed effects at (0.06) significance level, shows there is a negative relationship between the two variables. The coefficient of determination (R^2) indicates that only 1% of the total variation in the dependent variable is account for by the independent variable by one way fixed effect while 15% of the total variation in the dependent variable is account for by the independent variable by two way fixed effects.

<< Table 4>>

The probability of m-test cannot be rejected at (0.41) significance levels for one way and cannot be accepted at (0.068) significance level for two way random effects model, that means one way random effect is better than fixed effect and fixed effect is better than two way random effects. At a very low (0.007) significance level (Table-5: Eq-3), it is found that Changes of Interest Rate (X_2) has significant relationship on Changes of Share Price (Y_2) and the coefficient of

independent variable is -0.03 for one way random effect and at a very low (0.002) significance level two way random effects shows a negative relationship (coefficient is -0.03) between the two variables.

<< Table 5>>

4.4 Country-wise time series analysis on interest rate and share price

Individual country wise OLS (Table-6: Eq-2) shows (except Malaysia and Philippine) 13 countries data are significant at a very low (0.0001) significance level that Interest Rate (X_1) has significant relationship on Share price (Y_1), where except Japan other 12 countries' coefficient of independent variable shows there is a negative relationship between two variables.

<< Table 6>>

4.5 Country-wise time series analysis on changes of interest rate and changes of share price

Individual country wise OLS (Table-7: Eq-3) shows 6 countries' - Bangladesh, Colombia, Italy, Japan, Malaysia, S. Africa- data are significant at 95% confidence interval where change of Interest Rate (X_2) has significant relationship on change of Share Price (Y_2) and the coefficient of independent variable shows there is a negative relationship between two variables.

<< Table 7>>

5. Conclusion

This study examines the market efficiency of fifteen countries and also looks about the effect of interest rate on share price and changes of interest rate on changes of share price. The randomness of stock return is the basic assumption of Efficient Market Hypothesis that is violated for all countries' Stock Exchange, means these markets are not efficient in weak form. In overall, the theoretical argument of negative relationship between stock price and prevailing interest rate is not rejected. Individual country result is mixed for both developed and developing countries. Interestingly, for Malaysia it is found that Interest Rate has no relation with Share price but Changes of Interest Rate has negative relationship with Changes of Share Price. In case of Japan, it is found that Interest Rate has positive relationship with Share price but change of Interest Rate has negative relationship with change of Share Price. Four countries like Bangladesh, Colombia, Italy, and S. Africa shows negative relationship for both Interest Rates with Share price and Changes of Interest Rate with Changes of Share Price. Eight countries like, Australia, Canada, Chile, Germany, Jamaica, Mexico, Spain, and Venezuela has significant negative relationship between Interest Rates and Share price but no relationship between change of Interest Rate and change of Share Price. So, except Philippine all other countries show significant negative relationship either Interest Rates with Share price or Changes of Interest Rate with Changes of Share Price or both. So, if the interest rate is considerably controlled in these countries, it will be the great benefit for their Stock Exchange through demand pull way of more investor in share market, and supply push way of more extensional investment of companies.

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Table 1. Unit Root Test: t-Value of ADF for Share Price [for 10 leg period] (Eq-1)

Lag Period	1	2	3	4	5	6	7	8	9	10
Australia	-9.29*	-7.67*	-6.98*	-6.54*	-6.00*	-4.85*	-4.64*	-4.33*	-3.94*	-4.22*
Bangladesh	-8.62*	-6.70*	-6.03*	-6.32*	-6.16*	-4.66*	-4.41*	-4.48*	-4.35*	-4.29*
Canada	-8.85*	-7.13*	-6.97*	-6.32*	-5.25*	-4.46*	-4.31*	-3.87*	-3.40*	-3.38*
Chile	-8.45*	-6.27*	-6.67*	-5.44*	-5.01*	-4.18*	-3.89*	-3.65*	-3.25*	-3.14*
Colombia	-7.79*	-7.06*	-5.83*	-4.82*	-4.13*	-3.93*	-3.92*	-3.84*	-3.63*	-3.40*
Germany	-8.37*	-6.77*	-5.55*	-5.15*	-4.62*	-4.32*	-3.98*	-3.78*	-2.61	-2.15
Italy	-8.20*	-6.29*	-6.08*	-5.79*	-5.50*	-5.33*	-4.18*	-3.14*	-3.08*	-2.62
Jamaica	-7.63*	-6.07*	-5.57*	-4.96*	-4.56*	-5.13*	-4.80*	-4.88*	-4.63*	-4.11*
Japan	-8.28*	-7.30*	-5.79*	-5.46*	-5.41*	-4.53*	-4.53*	-4.05*	-3.69*	-3.44*
Malaysia	-7.96*	-7.66*	-6.68*	-6.12*	-5.63*	-4.18*	-3.88*	-3.38*	-3.40*	-3.62*
Mexico	-9.05*	-7.30*	-6.84*	-5.94*	-6.16*	-5.18*	-4.73*	-4.16*	-3.23*	-3.35*
Philippine	-11.09*	-9.18*	-7.60*	-6.20*	-5.88*	-4.77*	-4.60*	-4.30*	-4.33*	-4.48*
S. Africa	-9.01*	-7.03*	-7.38*	-6.48*	-5.89*	-5.71*	-4.92*	-4.76*	-4.69*	-3.86*
Spain	-9.29*	-6.98*	-6.33*	-6.36*	-5.54*	-4.99*	-4.59*	-3.80*	-3.11*	-2.81
Venezuela	-9.31*	-7.50*	-6.19*	-5.48*	-4.91*	-4.58*	-4.19*	-3.95*	-3.98*	-4.08*

* Significant at 99% confidence level

Table 2. Stock Prices Regressed on Interest Rate (Eq-2)

Method	Model	Coefficient	t-Value	p-Value	R^2	F-Value	F-Prob.
One-way Fixed Effect	Constant	110.86	32.7	0.0001	0.37	88.94	0.0000
	Interest Rate	-2.08	-23.97	0.0001			
Two-way Fixed Effect	Constant	93.83	11.94	0.0001	0.56	13.93	0.0000
	Interest Rate	-0.95	-10.72	0.0001			

Table 3. Stock Prices Regressed on Interest Rate (Eq-2)

Method	Model	Coefficient	t-Value	p-Value	R^2	m-Value	m-Prob.
One-way Random Effect	Constant	95.09	15.53	0.0001	0.17	5.64	0.0180
	Interest Rate	-2.06	-23.85	0.0001			
Two-way Random Effect	Constant	84.73	14.61	0.0001	0.07	111.56	0.0000
	Interest Rate	-1.18	-13.82	0.0001			

Table 4. Changes of Stock Prices Regressed on Changes of Interest Rate (Eq-3)

Method	Model	Coefficient	t-Value	p-Value	R^2	F-Value	F-Prob.
One-way Fixed Effect	Constant	2.52	3.88	0.0001	0.01	1.86	0.026
	Interest Rate	-0.03	-2.76	0.0057			
Two-way Fixed Effect	Constant	0.46	0.20	0.8390	0.15	2.26	0.000
	Interest Rate	-0.02	-1.86	0.0633			

Table 5. Changes of Stock Prices Regressed on Changes of Interest Rate (Eq-3)

Method	Model	Coefficient	t-Value	p-Value	R^2	m-Value	m-Prob.
One-way Random Effect	Constant	1.10	4.81	0.0001	0.003	0.687	0.407
	Interest Rate	-0.03	-2.70	0.0069			
Two-way Random Effect	Constant	1.10	3.78	0.0002	0.002	3.33	0.068
	Interest Rate	-0.03	-2.26	0.0241			

Table 6. Country wise Stock Prices Regressed on Interest Rate (Eq-2)

Country	Model	OLS	t-Value	p-Value	R^2
Australia*	Constant	96.81	46.401	0.0001	0.54
	Interest Rate	-3.95	-14.54	0.0001	
Bangladesh*	Constant	244.07	12.19	0.0001	0.20
	Interest Rate	-14.38	-6.71	0.0001	
Canada*	Constant	76.17	32.64	0.0001	0.37
	Interest Rate	-4.78	-10.23	0.0001	
Chile*	Constant	112..58	26.93	0.0001	0.31
	Interest Rate	-1.97	-8.97	0.0001	
Colombia*	Constant	174.30	19.53	0.0001	0.39
	Interest Rate	-3.48	-10.84	0.0001	
Germany*	Constant	78.26	22.31	0.0001	0.28
	Interest Rate	-6.16	-8.43	0.0001	
Italy*	Constant	92.92	51.26	0.0001	0.81
	Interest Rate	-9.15	-28.04	0.0001	
Jamaica*	Constant	102.29	15.85	0.0001	0.23
	Interest Rate	-2.20	-7.38	0.0001	
Japan*	Constant	87.86	34.55	0.0001	0.26
	Interest Rate	10.45	7.99	0.0001	
Malaysia	Constant	74.41	11.51	0.0001	0.02
	Interest Rate	2.02	1.84	0.0670	
Mexico*	Constant	75.69	23.70	0.0001	0.39
	Interest Rate	-1.32	-10.85	0.0001	
Philippine	Constant	96.04	14.75	0.0001	0.004
	Interest Rate	-0.49	-0.90	0.3670	
S. Africa*	Constant	142.63	17.99	0.0001	0.33
	Interest Rate	-5.32	-9.44	0.0001	
Spain*	Constant	98.14	49.86	0.0001	0.81
	Interest Rate	-7.50	-27.50	0.0001	
Venezuela*	Constant	95.36	12.63	0.0001	0.17
	Interest Rate	-1.51	-5.99	0.0001	

* Alternative is acceptable at 95% confidence level.

Table 7. Country wise Changes of Stock Prices Regressed on Changes of Interest Rate (Eq-3)

Country	Model	OLS	t-Value	p-Value	R^2
Australia	Constant	0.57	1.94	0.054	0.005
	Interest Rate	0.07	0.91	0.363	
Bangladesh*	Constant	0.53	0.68	0.497	0.022
	Interest Rate	-0.85	-2.00	0.047	
Canada	Constant	0.49	1.51	0.132	0.008
	Interest Rate	-0.03	-1.18	0.238	
Chile	Constant	1.64	3.74	0.0002	0.021
	Interest Rate	-0.02	-1.94	0.054	
Colombia*	Constant	2.00	3.01	0.003	0.025
	Interest Rate	-0.27	-2.16	0.032	
Germany	Constant	0.48	1.10	0.275	0.002
	Interest Rate	0.07	0.60	0.546	
Italy*	Constant	0.32	0.73	0.465	0.023
	Interest Rate	-0.27	-2.07	0.040	
Jamaica	Constant	2.27	3.22	0.002	0.021
	Interest Rate	-0.21	-1.94	0.054	
Japan*	Constant	-0.34	-0.94	0.350	0.024
	Interest Rate	-0.03	-2.10	0.037	
Malaysia*	Constant	0.71	1.43	0.156	0.032
	Interest Rate	-0.24	-2.44	0.016	
Mexico	Constant	2.47	3.43	0.001	0.003
	Interest Rate	-0.05	-0.77	0.441	
Philippine	Constant	0.74	0.64	0.525	0.013
	Interest Rate	0.14	1.51	0.133	
S. Africa*	Constant	0.90	2.53	0.012	0.060
	Interest Rate	-0.25	-3.36	0.001	
Spain	Constant	0.62	1.38	0.169	0.005
	Interest Rate	-0.08	-0.90	0.369	
Venezuela	Constant	2.61	2.19	0.030	0.009
	Interest Rate	-0.10	-1.28	0.203	

* Alternative is acceptable at 95% confidence level.

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Leader-Member Exchange and Organizational Citizenship Behavior: the Mediating Impact of Self-Esteem

Noormala Amir Ishak
Faculty of Business Management
Universiti Teknologi MARA
40450 Shah Alam, Selangor, Malaysia
Tel: 60-3- 5544 -4692 E-mail: noormala317@salam.uitm.edu.my

Syed Shah Alam (Corresponding author)
Faculty of Business Management
Universiti Teknologi MARA
40450 Shah Alam, Selangor, Malaysia
Tel: 60-3- 5544- 4708 E-mail: syedshah@salam.uitm.edu.my

Abstract

The aim of this study was to examine the influence of leader-member exchange (LMX) from the perspectives of superior as well as subordinates on organizational citizenship behavior (OCB). Self-esteem was also examined as a mediator variable. Data were gathered from a sample of 300 non-supervisory employees and their 118 superiors, that represented banking organizations situated in the Klang Valley of Malaysia. The analysis indicated that superior-LMX had positive impact on OCB, but the impact of subordinate-LMX was not significant. Contrary to what was hypothesized, self-esteem did not influence both superior-LMX and subordinate-LMX relationships with OCB. Key implications of the survey findings both for theory and for practice are discussed, potential limitations are specified, and directions for future research are suggested.

Keywords: Leader member exchange, Citizenship behavior, Klang Valley, Malaysia

1. Introduction

As the world moves toward a single market system, enhancing an organization's competitive ability is increasingly critical and behaviors, which may improve individual and organizational efficiency, become more valuable. Customer service organizations such as banks are often seen as strong and profitable business institutions. The banks are now demanding employees who are "good citizens"--individuals willing to extend themselves to help coworkers and employers (Sloat, 1999). In order to be competitive, the banks need to ensure that their employees are sensitive, thoughtful, and effective when carrying out their work. They need to be encouraged to show their fullest potential. Employees who go the extra mile by performing spontaneous behaviors that go beyond their role prescriptions in assisting customers are especially valued by the management. This phenomenon is critical for organizational effectiveness because managers cannot foresee all contingencies or fully anticipate the activities that they may desire or need employees to perform (Katz & Kahn, 1966; Organ, 1988a). Doing jobs beyond what is required without expecting to be rewarded is what we refer to in this study as "Organizational Citizenship Behavior" (hereinafter, OCB; see Organ, 1988a).

Although there have been many studies of OCB in organizations, but there is a dearth of research on the linkage of leader-member exchange (hereinafter, LMX) from the individual perspectives of supervisors (superior-LMX) and subordinates (subordinate-LMX) separately with OCB where the effect of self-esteem, as a mediator, is included. Given this lack of information, attempts are made to answer four questions. Does quality of subordinate-LMX influence his or her OCB? Does quality of superior-LMX influence subordinate's OCB? Does subordinate's self-esteem mediate the relationship between quality of subordinate-LMX and OCB? Does subordinate's self-esteem mediate the relationship between quality of superior-LMX and OCB?

2. Theoretical framework and development of hypotheses

This study conceptualizes the subordinate-LMX and superior-LMX relationships with five types of OCB--altruism, courtesy, conscientiousness, sportsmanship, and civic virtue. Further, we believe that this relationship is mediated by self-esteem, as depicted in Figure 1 below.

2.1 Organizational Citizenship Behavior (OCB)

In recent years, much interest in OCB has been shown. OCB has been said to enhance organizational performance because they lubricate the social machinery of the organization, reduce friction, and increase efficiency (Bateman & Organ, 1983; Smith, Organ, & Near, 1983). OCB represents individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization (Organ, 1988a). Most OCB actions, taken singly, would not make a dent in the overall performance of the organization (Organ, 1988b). The effect will be seen with the aggregate summation of OCB performed across time and across persons in the group, department, and organization. The most critical element is that these behaviors are defined at face value. OCB are behaviors that are clearly observable by peers, supervisors, or researchers.

Originally, Smith et al. (1983) proposed a two-dimensional model of OCB: altruism and generalized compliance (later called conscientiousness). Altruism refers to behaviors that are voluntary--for example, being cooperative, helpful, and other instances of extra-role behavior-- helps a specific individual with a given work-related problem. Generalized compliance refers to those behaviors that are impersonal that does not provide immediate aid to any particular individual but is indirectly helpful to other people in the organization. It places priority on arriving to work on time, not taking too many breaks, or not leaving early. Later, Organ (1988a) expanded the taxonomy of OCB to include altruism (narrower than the altruism of Smith et al., 1983), conscientiousness (narrower than generalized compliance), sportsmanship, courtesy, and civic virtue. Courtesy refers to behaviors that are directed to the prevention of future problems. It is different from altruism because altruism is helping someone who has a problem, while courtesy is helping to prevent problems, performing thoughtful or considerate gestures towards others. Sportsmanship describes those individuals who tolerate the annoyances that are inevitable in the workplace. The behavior demonstrates tolerance of less than ideal conditions at work without complaining. Finally, civic virtue consists of those behaviors that are concerned with the political life of the organization (e.g., attend meetings, engage in policy debates, express one's opinions in implementing a new policy, etc.).

2.2 Leader-Member Exchange (LMX) and Organizational Citizenship Behavior (OCB)

A review of the research reveals that relative to perceived organizational support, LMX is a better predictor of OCB (Settoon, Bennett, & Liden, 1996). Deluga (1994) found a positive relationship between employee OCB and the quality of LMX. LMX describes how leaders develop different exchange relationships over time with their various subordinates as they influence each other (Farouk, 2002). LMX research shows that subordinates reporting high-quality LMX not only assume greater job responsibilities but also express contributing to other units (Liden & Graen, 1980). Hence, the quality of the LMX influences levels of delegation, responsibility, and autonomy and in turn, employees perceive greater latitude, decision influence, and feelings of contribution (Gomez & Rosen, 2001). These feelings of contribution may be those that are beyond the job prescribed in their job descriptions and are referred to as OCB. Liden and Maslyn (1998) found a four-dimensional LMX model comprising of contribution, loyalty, affect, and professional respect. We expect the higher the LMX on each of these dimensions, the higher the subordinates will be in performing OCB. Hence, the hypotheses:

Hypothesis 1: Subordinate-LMX has a significant positive relationship with OCB.

Hypothesis 2: Superior-LMX has a significant positive relationship with OCB.

2.3 Leader-Member Exchange (LMX) and Self-Esteem

People attach greater value to the way they are treated (Tyler & Folger, 1980). There has been relatively little research examining the relationship between LMX and self-esteem. However, considerable conceptual work suggests that higher LMX employees should have higher levels of self-esteem. Korman (1970) pointed out that one of the ways self-esteem can be derived is from social rewards and feedback from others about one's performance. Thus, having superiors treating subordinates this way makes them feel good about themselves and affects their self-esteem. Self-esteem means a global evaluation of the self, and it is typically measured by the degree to which the person endorses various evaluative statements about self (Baumeister & Tice, 1985). We thus hypothesize that:

Hypothesis 3: Subordinate-LMX has a significant positive relationship with self-esteem.

Hypothesis 4: Superior-LMX has a significant positive relationship with self-esteem.

2.4 Self-Esteem and Organizational Citizenship Behavior (OCB)

Self-esteem is both conscious and unconscious. It can lead to the most fundamental methods for helping people. It

begins in childhood and is developed through experiences of what we can do and what we cannot do. Korman (1970) through his "self-consistency" theory suggested that work behavior is based on implementation of a self-concept. This theory predicts that, all other things being equal, the more a person perceives himself or herself to be competent, skilled, or qualified for a particular job, the higher will be his performance on this job (Weiner, 1973). It is expected that only high self-esteem employees will have the emotional stamina to perform OCB under difficult and challenging situations (Tang & Ibrahim, 1998). There is widespread acceptance of the psychological importance of self-esteem. Although there have been equivocal findings regarding the effects of self-esteem on performance, there has been evidence that mood as one type of job satisfaction, is positively correlated with performance (Kramer, Newton, & Pommerenke, 1993). We expect therefore, self-esteem to be related to OCB, as one type of performance outcome.

Hypothesis 5: Self-esteem has a significant positive relationship with OCB.

To date, there has been little effort made to study the potential mediating effect of self-esteem at the individual level, relating to quality of LMX and OCB. Due to the dearth of studies relating self-esteem to organizational behavior literature, we will here investigate the mediating influence of self-esteem on the relationships between quality of LMX and OCB. The following hypotheses are conjectured:

Hypothesis 6: Subordinate's self-esteem mediates the relationship between subordinate-LMX and subordinate's OCB in such a way that the impact of subordinate-LMX on OCB will be smaller (partial mediation) or nonsignificant (full mediation) in the presence of self-esteem.

Hypothesis 7: Subordinate's self-esteem mediates the relationship between superior-LMX and subordinate's OCB in such a way that the impact of superior-LMX on OCB will be smaller (partial mediation) or nonsignificant (full mediation) in the presence of self-esteem.

This study employs social exchange theory to investigate the connection between quality of leader-member exchange (LMX), self-esteem, and OCB. Social exchange theory has been the primary framework for understanding OCB (Konovsky & Pugh, 1994; Organ, 1988a; Smith et al., 1983). People always seek to reciprocate those who benefit them (Adams, 1965; Blau, 1964) to reciprocate the support from the organization, the employee may do so via job performance, but such performance may be limited up to a certain extent only since organization has strict contracts. Thus, the exchange that takes place will be more of an ambiguity thus allowing discretionary acts to be carried out by employees. OCB, from a social exchange theory perspective, becomes an outlet for these positive feelings. When a supervisor engages in helping behavior toward an employee, the employee incurs obligations to repay the supervisor so that the exchange is mutually beneficial. Social exchange relationships have an implicit understanding that a history of extra-role efforts will over time be recognized, appreciated, and rewarded.

3. Method

A cross-sectional research design was used to examine the relationships between quality of LMX, self-esteem, and OCB. Data were collected through printed questionnaires personally administered at various banks situated in Klang Valley. The design partly avoids common method variance bias because measurements of subordinate's OCB and measurements of quality of superior-LMX were obtained from superiors and measurements of quality of subordinate-LMX and self-esteem were taken from the subordinates.

3.1 Sample and Procedure

The population was from non-supervisory employees, employed in the domestic commercial banks situated in Klang Valley. The assumption here is that the job descriptions for non-supervisory employees in all domestic commercial banks in Malaysia are similar, have minimal variation in formal responsibility, have no supervisory duties, thus can be considered as a homogenous group. Letters seeking for permission to carry out the survey at the various bank branches were sent to each of the ten domestic commercial banks. All letters were addressed to the central offices. Once the banks indicated their interest to participate in the study, the researcher contacted by phone eighty branches from participating banks and provided them with a description of the research project. Appointments were made to visit the branches to personally deliver the set of printed questionnaires to the Branch Managers or the Assistant Branch Managers. A package with two survey questionnaires––one questionnaire (Set A) was to be answered by the subordinate and another one (Set B) to be answered by the superior in charge of the subordinate––was distributed to participating banks.

The managers were requested to distribute four questionnaires at random to their subordinates and four questionnaires to the officer/s supervising the subordinates. An envelope was also attached to each of the questionnaire. Instructions were written on the envelope for the respondents to place the questionnaire into the envelope and to seal it before giving it back to the manager in charge. The subordinates were not made aware that their respective superiors were evaluating them. The superiors were requested to participate in this study because they are the best persons to observe the employee's daily performance; they authorize the employee's job performance and give instructions, inspect job progress, coach, and advise; and they are the experts in the job requirements as laid down in the employee's job

descriptions. We presume that superiors' evaluations on their subordinates here are reasonably good measures of objective performance.

The subordinates were given questionnaire items measuring their self-esteem and quality of subordinate-LMX. The superiors were given questionnaire items rating the subordinates' OCB and quality of superior-LMX.

A total of 320 non-supervisory employees located in Klang Valley were randomly selected for participation in the study. The managers were requested to assist in the distribution of the questionnaires. The "drop-off" and "pick-up" method were employed and arrangements were made for the questionnaires to be collected from the managers two weeks from the date of the "drop-off". Of the questionnaires distributed to 320 non-supervisory employees, 315 were returned, yielding a response rate of 98%. From this total, only 300 responses were deemed usable for analysis. The total of 300 responses comprised of subordinates and we found that 118 subordinates gave responses on the questionnaires relating to these subordinates. Only surveys for which we received both the superior's and the subordinate's responses were included in the analyses.

The demographic characteristics of the respondents showed that 197 (66%) of the non-supervisory employees were females and 103 (34%) were males. Most of the respondents were married (55%), aged below 30 years (79%), highest qualifications were MCE (Malaysian Certificate of Education) (66.7%), and had been in the current position for a period of between four to seven years (46.3%). In terms of ethnicity, the sample consisted of Malays (76.7%), Chinese (10.3%), Indians (9.3%) and others (3.7%).

A total of 118 superiors returned the questionnaires given to them. The reason why we had only 118 supervisors vis-à-vis 300 subordinates was because some of these subordinates reported to the same superiors. Thus, we encountered situations where one particular superior had to answer more than one questionnaire relating to each of the subordinates being supervised by him or her. Each questionnaire was paired with its respective questionnaire answered by their subordinates. This was done through identification of the initials scribbled by the managers before they distributed the questionnaires. 44.7% of the superiors were males and 55.3% were females. Majority of them were married (81.9%), aged between 31 years to 40 years (52.1%), had qualifications of bachelor's degrees (27.7%), had been working in the banks for more than seven years (71.8%) and were Malays (65.4%).

4. Measures

4.1 Organizational Citizenship Behavior and In-role Behavior

Previous studies have examined the construct of OCB based on either the leader's reports or peer's reports. This study examined OCB from the standpoint of the subordinate's superior. Superiors have also been the source of choice in OCB literature (Bateman & Organ, 1983; Organ & Konovsky, 1989; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Smith et al., 1983). Thus, if superiors see early attendance as an extra-role behavior, a subordinate who comes to work earlier than usual is said to engage in OCB regardless of how the subordinate sees his/her behavior (Morrison, 1994). The 24-item OCB scale developed by Podsakoff et al. (1990) was utilized to assess five dimensions of OCB proposed by Organ (1988a). These dimensions were altruism, conscientiousness, courtesy, sportsmanship, and civic virtue. Support for this scale has been cited by several previous studies of OCB (Moorman, 1991; Nasurdin, 2000; Niehoff & Moorman, 1993; Rioux & Penner, 2001). The item ratings were obtained from a 7-point Likert-type ranging from 1= "Strongly Disagree" to 7= "Strongly Agree". The ratings indicated the extent that each of the behaviors was characteristic of the employee's behavior.

Previous research suggested that OCB measures may assess in–role performance (Schnake 1991). Thus, in-role behavior scale was included in the questionnaire as a control variable so as to isolate variance in OCB measures that was not associated with performance of in-role behaviors (Moorman et al., 1993). This approach was used instead of including in-role behavior in the criterion set because the theory supporting OCB-predictor relationships was not applicable to in-role behaviors; thus in-role behaviors were not expected to be related to the predictors (Williams & Anderson, 1991). The in-role items were adapted from Williams and Anderson (1991). The 7-item in-role scale and the 24-item OCB scale were together submitted to a principal components analysis with varimax rotation (N = 300). Factors with eigenvalues greater than or equal to 1.00 were selected. Within a particular factor, items were chosen if their factor loadings were greater than or equal to 0.35. Referring to Hair, Anderson, Tatham, and Black (1998), the cut-off point of 0.35 is acceptable for a sample size of 250 and above. Most part of the items loaded cleanly into the five factors explaining a total of 69.94% of the variance. All extracted items had factor loadings greater than .35. Ten items such as--"He/she attends meetings that are not compulsory, but are considered important", "He/she adequately completes assigned duties", and "He/she is aware of how his/her behavior affects other people's jobs"--were dropped from the measure due to cross factor loadings. ". Factor 1 was made up of five of the original altruism items. The name "Altruism" was thus retained. Factor 2 also contained all the five original items of sportsmanship. The name for this factor was thus maintained as "Sportsmanship. Factor 3 comprised four items reflecting in-role behaviors. This factor is named "In-role". Factor 4 had two items reflecting courtesy, one item reflecting civic virtue and one item

reflecting conscientiousness. The common thread across the items was to always consider others and not to create problems with them. Hence, we named this factor as "Courtesy". Factor 5 composed of three items from the original civic virtue items and one item on conscientiousness. This factor was named "Civic Conscious". The "Conscientiousness" items from the original OCB scale loaded in both Factor 4 and Factor 5. Factor 4 (Courtesy) had one conscientiousness item, "He/she does not take extra time for breaks" and Factor 5 (Civic Conscious) had also one conscientiousness item, "He/she is confident that if he/she does his/her job honestly, he/she will be rewarded accordingly." The other conscientiousness items were dropped from further analysis due to cross loadings. The coefficient alphas for the OCB dimensions were: altruism .92, sportsmanship .89, courtesy .67, civic conscious .74, and in-role .90.

4.2 Leader-member Exchange

The quality of LMX was measured using the 12-item LMX questionnaire that was adapted from Liden and Maslyn (1998). Four dimensions made up LMX: contribution, loyalty, affect, and professional respect. Quality of LMX was looked at from the views of the subordinates and their superiors; thus we ran factors identified for quality of subordinate-LMX and quality of superior-LMX separately.

Factor analysis was carried out on the superior-LMX items and one factor emerged with eigenvalues greater than 1.00, explaining a total variance of 57.34%. All of the items were retained. We named this factor "LMX". This factor encompassed all the four dimensions of LMX found in past LMX literature. The coefficient alpha of the scale was .93. This is comparable to those reported by Liden and Maslyn (1988) that showed reliability coefficients ranging from .80 to .92.

Factor analysis was also carried out on the subordinate-LMX items and two factors emerged with eigenvalues greater than 1.00, explaining a total variance of 69.20%. Factor 1 had eight items, which was named "Devoted Appreciation". These items were reflected in the original "Affect" and "Professional Respect" in the original LMX items. Factor 2 consisted of two items, which were similar to the original items of "Contribution". The name was thus maintained. Two items — "My supervisor defends my work, actions to his/her superior even without complete knowledge of the issue" and "I do not mind working my hardest for my supervisor" were dropped due to cross-loadings. The two factors: devoted appreciation and contribution, documented coefficient alphas of .94 and .51 respectively. Factor 2 (Contribution) was eliminated from our analysis from hereon due to the low coefficient alpha.

4.3 Self-esteem

In this study, self-esteem was hypothesized to mediate the link between LMX and OCB. A mediating variable is an independent variable that explains all the variance in a dependent variable previously explained by another independent variable in a model. Once a mediator is introduced, there should be no unique variance explained by the first independent variable (Baron & Kenny, 1986). If employees felt the presence of self-esteem, the effect of LMX on OCB became non-significant.

Self-esteem was assessed by responses to the Rosenberg Self-Esteem Scale (1965). This measure of self-esteem is a reliable global measure (Rosenberg, 1979) and has received more psychometric analysis and empirical validation than any other self-esteem measure. It is considered to measure enduring or trait self-esteem. One of its greatest strengths is the amount of research that has been conducted with a wide range of groups on this scale over the years. This Rosenberg Self-Esteem Scale, in the strictest, most parsimonious sense, measures willingness of the individual to endorse favorable statements of him or herself. Ten items indicate this construct. Respondents respond by indicating degree of agreement or disagreement on a 7-point scale.

A principal varimax rotation was carried out and two factors emerged with eigenvalues greater than 1.0 explaining a total of 52.79% of the variance. Although the two factors had eigenvalues above 1.0, only Factor 1 was taken to represent the self-esteem measure. This factor seemed to contribute a significant percentage of variance compared to the other. Furthermore self-esteem measure by Rosenberg is an established measure that has always been unidimensional and the difference in eigenvalues between Factor 1 and Factor 2 was quite significant. The coefficient alpha of the scale was .64.

4.4 Demographic Variables

Age, tenure, and gender were also added as control variables to prevent potential confounding effects. By including them as controls, we ensured that we obtained the effects of the focal independent variables even when considering the effects of these specified control variables.

5. Results

Table 1 reports the means, standard deviations, and zero-order correlations for all variables. We can see that the coefficients of Pearson's correlations were wide ranging (-.05 to 0.73) across all variables in the sample. Subordinate's devoted appreciation was significantly correlated with all variables, except courtesy. Superior's LMX was significantly

correlated with all variables with the only exception of self-esteem. Self-esteem was found to correlate significantly with only one variable involved in the study--subordinate's devoted appreciation. In-role behavior correlated significantly with all of OCB dimensions, devoted appreciation, and LMX but not with self-esteem. In summary, we saw that self-esteem correlated with most of the other variables at very low correlation levels. Not surprisingly, most research evidence from field studies had similarly reported a large number of low, bivariate correlations between self-esteem and measures of job characteristics, behaviors, and attitudes (Tharenou & Harker, 1982).

Our findings from Table 2 indicated the results of two hypotheses. Contrary to expectation, subordinate-LMX (devoted appreciation) was not found to have significant relationship with OCB. Thus, Hypothesis 1 was not substantiated. It was however found that LMX, which was taken from the perspective of the superior, was positively related to all four of the OCB dimensions. These dimensions were altruism, sportsmanship, courtesy, and civic conscious. Thus, Hypothesis 2 was fully supported. In essence, the results showed that quality of superior-LMX was more influential to the subordinates to perform OCB compared to the quality of subordinate-LMX which they, the subordinates themselves, have over their superiors.

Table 3 and Table 4 show the results of the tests required for mediated regression analyses. Three conditions for mediation were examined (Baron & Kenny, 1986). The first condition is that the predictors must be significantly related to the mediating element. The second condition is that the predictors must relate to the criterion in the absence of the mediator. The final condition is that, when both the predictors and mediator element are included, the direct relationship between predictors and criterion should become significantly smaller (partial mediation) or non-significant (full mediation). We regressed the mediator (self-esteem) on the predictors (devoted appreciation, contribution, and LMX). We found that only the beta weight ($\beta = .20$) for LMX was significant for self-esteem but not for devoted appreciation. Thus no support was provided for Hypothesis 3 but support was found for Hypothesis 4.

Next, we regressed the criterion on the self-esteem (Table 4). There had to be a significant relationship between the two in order to proceed to the next step of mediation testing. It was however evidenced that self-esteem did not have any significant relationship with OCB dimensions (Table 4). Hypothesis 5 was thus not substantiated.

These regression equations had provided the tests of the linkages of the mediational model. The conditions for mediation had not been met. It was not required for us to further proceed with testing the effect of self-esteem on the relationships between the predictors and the criterion. We thus concluded that the predictors (except contribution) did not cause self-esteem and that self-esteem did not cause the criterion. Both Hypothesis 6 and Hypothesis 7 were not supported.

6. Discussion and Conclusion

There are several implications for supervisors and organizations. From a theoretical perspective, the study looked at the impact of quality of LMX coming from two different perspectives: the superior-LMX and the subordinate-LMX. By looking at both perspectives, we could understand better the many complexities relating to the study of LMX in relation to OCB. Self-esteem was also included to see how it influenced the relationships between LMX and OCB. However results from this study did not support the hypotheses that subordinate-LMX and superior-LMX were associated with OCB through the mediation of self-esteem.

Practitioners can also benefit from the study through the understanding of how relationships portrayed by the superiors can play a major part in influencing subordinates to perform work that goes beyond their job scope without expecting to be rewarded.

In a nutshell, the results from this study help us to understand the importance of good leader-member relationship shown by the superiors to the subordinates. We found evidence in the present study that superior-LMX has direct effect to making employees perform beyond their job scope. This is especially true when the subordinates see their superiors giving them support and encouragement to them at work. In an environment in which relationships are important, superiors' emotional support and guidance appeared to assist subordinates in attaining higher levels of performance. Interestingly, when subordinates demonstrate good leader-member relationship towards their superiors, this somehow has no bearing towards making the subordinates perform OCB. Subordinate-LMX did not appear to be related to OCB. Future research is thus needed to more fully understand the role of subordinate-LMX and OCB.

The effect of self-esteem as a mediator in the relationships between subordinate-LMX with OCB and superior-LMX was not evidenced. It is plausible to say that self-esteem seems to be more closely related to motivational concerns to protect oneself rather than being affected by social elements (Schroth & Shah, 2000). However, in defense of the social exchange theory, it can be argued that subordinate-LMX and superior-LMX may affect other types of self-esteem.

The main weakness of the study is that the results pertaining to LMX and OCB may be susceptible to common method variance. Another weakness of our study was the cross-sectional design, which does not allow for an assessment of causality. As a consequence, our results are mute where issues of causality are concerned.

These limitations aside, the results of this study highlight the important and complex role of understanding LMX and OCB in the Malaysian scenario. We also envision several other avenues for future research. The most obvious avenue is to explore the relationship between subordinate-LMX and OCB and also the relationships between self-esteem and other organizational variables. It is our firm belief that the pursuit of this line of research will greatly benefit our understanding of the reciprocity that functions in relationships.

In conclusion, the results of the study suggest that within the framework of social exchange theory, superior-LMX directly influence subordinate's OCB and that subordinate-LMX does not. Superiors through their supervisory relationships seem to have a strong influence on subordinates to perform OCB. It may be because the quality of relationships from the superiors causes the subordinates to identify with and be more involved in their work. It has been said that it is primarily the superior who explains the organization to the employee and explains the employee to the organization (Farouk, 2002). The results also reveal that the subordinate's own LMX towards the superiors do not influence them in performing OCB. The influence of self-esteem is also examined as a mediator in these relationships. Self-esteem signifies an attitude that evaluates the self. Much research has found self-esteem to cause and predict behavior (1989). Interestingly, we do not find this true in this study. Self-esteem does not influence (mediate) the relationships between superior-LMX, subordinate-LMX and OCB. In our view, this result should in no way diminish the value or importance of studies using self-esteem as a variable of interest. Individual differences in responses to self-esteem may be far more social than has been assumed.

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Table 1. Descriptive Statistics, Cronbach's Coefficient Alpha, and Zero-order Correlations of All Study Variables

VARIABLES	DEVAPP	LMX	ESTEEM	INROLE	ALTRUISM	SPORTS	COURTESY	CIVIC
				Subordinate LMX				
DEVAPP	**.94**							
				Superior-LMX				
LMX	.23**	**.93**						
				Mediating Variable				
ESTEEM	.14*	.06	**.65**					
				Control Variable				
INROLE	.17**	.64**	-.003			**.90**		
				OCB Dimensions				
ALTRUISM	.19**	.73**	.01	.55**	**.92**			
SPORTS	.14*	.42**	-.05	.39**	.39**	**.89**		
COURTESY	.09	.53**	.04	.52**	.44**	.33**	**.67**	
CIVIC	.12*	.59**	.04	.52**	.50**	.39**	.42**	**.74**
M	5.04	4.93	5.78	5.48	5.28	5.34	5.12	5.17
SD	1.14	0.91	0.73	0.84	1.04	1.17	0.93	0.92

Note. $N = 300$; * $p < .05$; ** $p < .01$; Diagonal entries indicate Cronbach's coefficients alpha; DEVAPP = Devoted Appreciation; LMX = Leader-Member Exchange; ESTEEM = Self-Esteem; INROLE = In-Role Behavior; ALTRUISM = Altruism; SPORTS = Sportsmanship; COURTESY = Courtesy; CIVIC = Civic Conscious

Table 2. Summary of Linear Regression Analysis for OCB with Predictors

	ALTRUISM		SPORTS		COURTESY		CIVIC	
	R^2	**β**	R^2	**β**	R^2	**β**	R^2	**β**
	.70		.27		.38		.54	
Control variable								
INROLE		.18**		.18*		.31**		.27**
TENURE								.15*
				Subordinate Leader-Member Exchange				
DEVAPP		.03		.07		-.05	.43	-.01
				Superior Leader-Member Exchange				
LMX		.70**		.35**		.37**		.53**

Note. $N = 300$; *$p < .05$, **$p < .01$. DEVAPP = Devoted Appreciation; LMX = Leader-Member Exchange; ALTRUISM = Altruism; SPORTS = Sportsmanship; COURTESY = Courtesy; CIVIC = Civic Conscious; INROLE = In-Role Behavior; TENURE = Tenure.

Table 3. Mediator Regressed on Predictors

Variables	R^2	Standardized Coefficients (β)
Mediator: Self-esteem	.09	
Control Variable: In-role Behavior		-.14
Predictors:		
Devoted Appreciation		.10
LMX		.20*

Note. $N = 300$; *$p < .05$, **$p < .01$

Table 4. Criterion Regressed on Mediator (Self-esteem)

Variables	R^2	Standardized Coefficients (β)
Criterion: Altruism	.41	
Control Variable: In-Role Behavior		.63**
Age		.14*
Self-esteem		.05
Criterion: Sportsmanship	.20	
Control Variable: In-Role Behavior		.43**
Self-esteem		-.02
Criterion: Courtesy	.29	
Control Variable: In-Role Behavior		.53**
Self-esteem		.05
Criterion: Civic Conscious	.29	
Control Variable: In-Role Behavior		.53**
Self-esteem		.07

Note. $N = 300$; *$p < .05$, **$p < .01$.

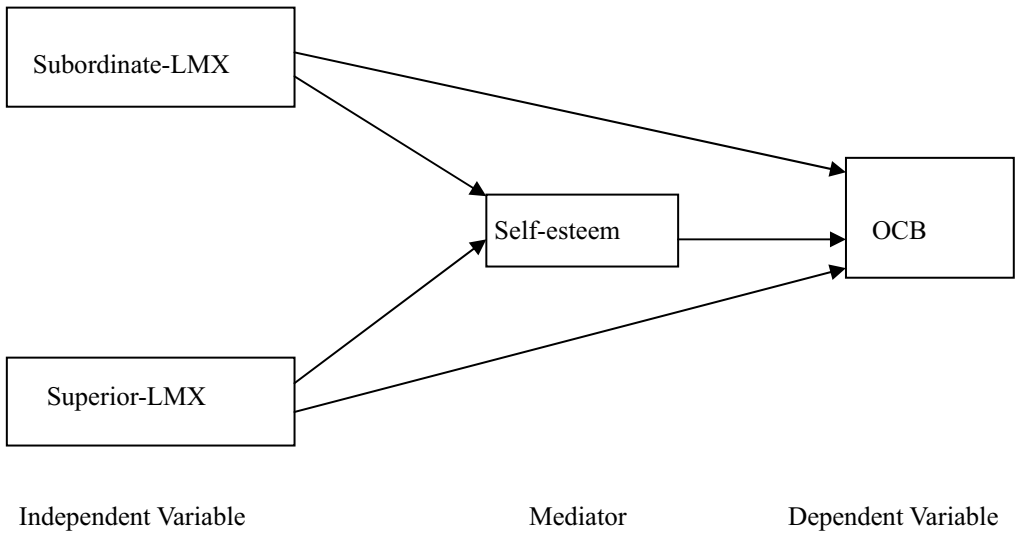

Figure 1. Theoretical Framework

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Shandong Agricultural Products Exports: Growth, Problems and Countermeasures

Bing Li
School of International Trade
Shandong Economic University
Jinan 250014, China
School of Int'l Trade and Economics
University of Int'l Business and Economics
Beijing 100029, China
E-mail: libingchina@sina.com

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Abstract

This paper analyses the reasons of the export growth for the Shandong agricultural products which can be attributed to the Shandong agricultural export enterprises' efforts and Shandong provincial government's strong supports. Though Shandong agricultural products exports achieved a big success all over the China, there are still some internal problems and external constraints that hinder its further and sustainable developments. Existing main problems for the exports of Shandong agricultural products include poor export product structure, too concentrated specific export markets, small enterprise scale, disordered competition among Shandong enterprises and seriously lagged behind agricultural products branding and marketing network construction. The external constraints for the exports of Shandong agricultural products such as the fast appreciation of the RMB, the rise in the cost of domestic production, new form of international trade protection from EU and Japan and some unexpected events against the normal development of Shandong agricultural exports. Therefore, it is essential to put forward countermeasures to further improve the quality of agricultural products, establish the multi-level export promotion system, foster leading enterprises, support brand-building, maintain the key markets and expand new markets, absorb more FDI and establish more trade associations to develop Shandong regional agricultural products exports in a sustainable way.

Keywords: Export trade, Shandong agricultural products, Sustainable development

1. Introduction

Shandong is a major provincial exporter of agricultural products, whose agricultural products exports are about 1/4 of the China's total exports. From the "10th Five-Year Plan" period to 2007, Shandong agricultural exports grew from UDS2.79 billion to USD9.35 billion with average annual growth rate of 20% or more. Shandong ranks the biggest exporter for eight consecutive years in China and the proportion of Shandong's agricultural exports in the total provincial agricultural output amounted to more than 15%.

In 2007, agricultural exports in Shandong Province maintained sustained growth after successfully overcoming the trade technical barriers and the influences of national foreign tax rebate policy adjustment under the background of the appreciation of the RMB and the pressure of rising production costs. According to the data issued by the Office of the Shandong Foreign Trade and Economic Cooperation, farm produce in Shandong Province have been exported to 165 countries and regions by the end of 2007. Shandong province's agricultural exports have been pulling GDP growth by 2%, providing jobs for more than 16 million people, contributing up to 25% to the farmer's income growth.

2. Reasons of export growth for Shandong agricultural products

The export growth of Shandong agricultural products can be attributed to the Shandong agricultural export enterprises' efforts and Shandong provincial government's strong supports.

Following the principle of "unification, simplification, coordination and selection", Shandong agricultural enterprises

have developed standardized production bases rapidly and the number of the bases has reached over 1,700 in 2007. The testing passing rate of the agricultural products in the standardized production bases and pollution-free, green food production bases has exceeded above 97%. There are 110million Chinese Mu agricultural exports enterprises' own vegetable bases, 372 scaled poultry farms, 174 pigs and cattle farms, 16 rabbit production fields, 20 sea water products centers which have basically formed a strong standardization bases system.

Leading export enterprises have strengthened agricultural scientific and technological innovation, which has become an important way to enhance the core competitiveness of enterprises in coping with the increasingly fierce competition. Shandong Province currently has more than 30 state-level agricultural industrialized excellent enterprises, such as Lu Hua Group, the Jin Luo Group, Ling Hua Group, the West Wang Group and Feng Xiang Group, which all have played a leading role in the development of Shandong rural economy with their specific and scientific advantages.

Shandong provincial government also provides strong supports to improve the agricultural export policy system. In September 2006, Shandong provincial government issued a "Further Opening up Agriculture Industry" official file. In October, the provincial government formulated and implemented "Shandong Province Agricultural Products Quality and Safety Supervision and Management Regulation", which became the first administrative regulation for the local government to regulate the export of agricultural products on quality and safety.

Shandong provincial government, in recent years, has implemented the regional animal and plant diseases and insect pests control system, strengthened no-provision animal disease model zone construction, further promoted the "company + base" business model of agricultural products exports, and helped agricultural products export enterprises establish a free-cultivation and free-breeding bases to improve export competitiveness of agricultural products.

Shandong Inspection and Quarantine Bureau has invested over RMB80 million to purchase laboratory equipment to strengthen infrastructure construction and do research and training which provide a strong technical guarantee for the export of agricultural products. In 2006, in response to the Japanese "the Positive List System", the said Bureau actively carried out multi-residue detection technology research and developed more than nine residual gas chromatography and mass spectrometry detection methods, and tested a variety of 251 kinds of pesticide residues in one-time testing.

3. Main problems and constraints of Shandong agricultural products exports

Though Shandong agricultural products exports achieved a big success all over the China, there are still some problems and constraints that hinder its further and sustainable developments.

3.1 Existing main problems for the exports of Shandong agricultural products

The first problem is that export product structure is still not optimized yet. The export consists of too many primary products which have small margin of added value. In recent years, restructuring of agricultural products always heads for the increase of quantity, not much for increase of quality. Many such low-quality products are not suitable for market development and having little profit margin.

The second problem is that Shandong agricultural export market is still relatively too concentrated to specific countries. Japan is the largest agricultural exporting country for Shandong Province, accounting for 40% of total Shandong's agricultural export. In 2004, Shandong exported USD1.28 billion to Japan, accounting for 37% of total provincial agricultural export. In 2006, Shandong exported USD2.87 billion to Japan, accounting for 35.5% of the total exports. In 2007, the amounts went USD2.85 billion, 30.8% of the total. Although the share dropped, Japan market is still the largest export market for Shandong Province. EU, the United States and South Korea are the other major agricultural export countries and regions for Shandong. The changes on agricultural imports policy in these countries shall have a great impact upon the export of Shandong agricultural products.

The third problem is that the enterprise scale of Shandong province is still small and competition is in disorder. The general small-scale agricultural products enterprises and the rapid expansion of the same companies lead to intensified competition and cause the serious damages to interests of agricultural industry. According to WTO commitments, China gradually granted the import and export licenses to all businesses. The number of enterprises joined the team of agricultural exports reached 20,000 in 2007, but the small-scale enterprises' average export value was only about USD1 million while the enterprises with an export value of over USD10 million are less than 3% of the total enterprises.

The fourth problem is that agricultural products branding and marketing network construction are seriously lagged behind. Shandong domestic enterprises export largely depended on foreign sales agents and foreign marketing. Although the scale of agricultural exports continues to expand, OEM production is currently the main way of export due to absence of brand building. This caused the lack of well-known brand in the international agricultural products market and not only resulted in Shandong Province agricultural exports meager profits, but also caused Shandong Province exports of agricultural products strong dependence on foreign investors.

3.2 Existing main constraints for the Shandong agricultural products exports

The appreciation of the RMB is a major external constraint against Shandong agricultural products exports. Since RMB exchange rate formation mechanism reform in 2005, the flexibility of the RMB exchange rate is growing rapidly. On April 10, 2008, the exchange rate of RMB against the U.S. dollar broke 7, appreciation about 18.2 % compared to that before the reform. Currently RMB continues to remain strong. Because agricultural production and processing enterprises have low levels of overall profit margin, the appreciation of the RMB further reduced the profit margin of the export of agricultural products.

The increased production cost is the second main constraint. On one hand, because of the increased prices of oil, fertilizer, farm diesel and plastic materials, the costs of agricultural cultivation, breeding, fishing and transportation go up and these pull the agricultural raw materials prices up accordingly. For example, mackerel fish price rose from RMB2,000/ton by the end of 2004 to RMB10,000/ton in 2007. On the other hand, as a labor-intensive industry, because of tight labor and employment supply, wages of migrant workers rose, too. This greatly affected the products processing enterprises. The average wage in Yantai Long Da Group has been rising from RMB500 in 2002 to RMB1,000 in 2007, which shall add more than RMB100 million on annual wage spending.

The increased international agricultural trade protection is the third major constraint. In contrast to China's gradual opening up its domestic market according to WTO requirements, the international agricultural trade protection has become increasingly popular. Countries all over the world use the issues around the ecological environment, animal welfare, intellectual property, quality standards, and other forms of social responsibility to protect its agriculture. In 2006, the implementation of "New Food Law" of EU and "Positive List System" of Japan had had the greatest impacts on China's export. In June, 2006, China's total agricultural products exports to Japan were USD596 million, USD131 million less than that in the same period 2005, down 18%. In the same month for Shandong Province, the exports to Japan was USD215 million, down 7.8%. As a No.1 leading agricultural products exporter, Shandong Province is faced with an unprecedented pressure on exports of agricultural products.

Some other unexpected factors constitute other constraints. "Paper Stuffed Steamed Bread," and the "Poisonous Dumplings" events triggered Japanese consumers doubts and worries on Chinese-made products. Some Japanese companies even reject China's food shelving,. Those are unexpected factors which caused Shandong agricultural exports to the Japanese market decline in the second half of 2007.

4. Countermeasures for Shandong Agricultural Products Exports

Shandong agricultural products exports are faced with many problems and constraints, but there are still some necessary countermeasures that can be adopted to keep the sustainable developments of Shandong agricultural products exports.

4.1 The quality and safety of Shandong agricultural products should be further improved

The quality and safety of agricultural products are the keys to keep the export sustainable development for Shandong Province. Improving the quality and safety of agricultural products exports not only can deal with the current positive list system of Japan, but also can strengthen the core competitiveness of Shandong agricultural products in the future. Measures should be taken to support enterprises obtaining ISO22000 certification and HACCP certification. System of quality tracing back should be established to promote the setting of good agricultural products practices. Central test laboratory should be established for the regional testing convenience and good regulation.

4.2 The multi-level export promotion policies system should be established

In order to implement the national and Shandong Province's guidance upon expanding agricultural opening to the outside world and promoting agricultural exports, successful experience of exporting agriculture abroad should be studied carefully to construct and further improve the multi-level system of export promotion policies. Shandong provincial government should establish and expand the finance, taxation and insurance mechanism to strengthen the support of the agricultural products exports.

4.3 New sectors development should be accelerated

Following the changes of demand in high-end markets, Shandong should not only continue to develop traditional sectors in aquatic products, vegetables, animal products, fruits and other traditional agricultural exports on the basis of comparative advantages, but also accelerate the development of new sectors in flowers, seeds and edible fungi. Thus a new export structure of mutual promotion and coordination of traditional and new sectors could be set up.

4.4 Cultivation a number of leading enterprises should be the focus

Flexible mechanism and efficient functioning are the essences of agricultural industry management which focuses on the leading role played by the leading enterprises. The measures should be taken to further support and nurture a number of leading enterprises with wide association of industries, high technology, strong international competitiveness, good efficiency and mass job creating functions.

4.5 Brand-building and intellectual property right protection should be promoted

Independent brand is a powerful weapon for the expansion of exports and it is conducive to the maintenance of old customers and new market development. It is necessary to actively promote the changes from OEM production to independent brands production. Focuses should be put on brand-building in large enterprises which should be supported to develop their own products intellectual property rights and conduct trade mark registration and product quality certification abroad.

4.6 Marketing maintenance and diversification should be paid same attention

Shandong should continue to maintain and explore key markets such as Japan, the European Union, the United States and other agricultural products export areas, which are the high-end market with high prices and good profit return. Shandong should also develop emerging markets in South Asia, the Middle East, Latin America, Russia and other regions to diversify the market structure to ensure the sustainable development and avoid market risks.

4.7 FDI in agriculture industry should be strengthened

Foreign-invested enterprises in Shandong Province play a big role in promoting agricultural exports. In future, Shandong Province should further strengthen the foreign direct investment in agriculture industry and optimize the agricultural FDI structure and quality to attract more FDI in agriculture and in promoting the agricultural products exports.

4.8 New key products trade associations should be established

Following the successful experiences of forming garlic and rabbit meat export associations, new trade associations on aquatic products, poultry meat, vegetables, fruits, peanut and other key export products should be established to guide the development of agricultural industry and prevent the disorderly competition by the domestic enterprises in the international market.

5. Conclusions

Through the analysis of Shandong agricultural products, it is clear that there are still some problems and constraints in Shandong agricultural products exports. Therefore, it is essential to put forward countermeasures to further improve the quality of agricultural products, establish the multi-level export promotion system, foster leading enterprises, support brand-building, maintain the key markets and expand new markets, absorb more FDI and establish more trade associations for the sustainable development of Shandong regional agricultural products exports.

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Knowledge Management Based on ERP

Qian Feng
Business school
Nanjing University
E-mail: seuq@vip.sina.com

Yuanyuan Huang
School of Economics and Management
Southeast University
Nanjing 211189, China
E-mail: huangyuanyuan88122@163.com

Abstract

In an information explosive era, knowledge management has become a hot field in enterprise informatization. In order to adapt to the competitive environment, it is now an urgent task to add knowledge management to ERP system and integrate learning and innovation on the platform of enterprise information system based on ERP. This paper focuses on knowledge management based on ERP and introduces a knowledge management system: KRM.

Keywords: Knowledge management, ERP, KRM

In an information explosive era, the large amount of data and information which is too much rather than too little, makes identifying and extracting useful information to be a formidable task, and has become a burden on the users' information systems. Consequently, the needs of information have been transformed into a thirst for knowledge, making knowledge management a hot field in enterprise informatization. To adapt to the competitive environment, companies should learn to absorb knowledge with high efficiency. And it is of great importance to add knowledge management to ERP system and integrate learning and innovation on the platform of enterprise information system based on ERP.

1. Development of KRM System

In the era of knowledge economy, knowledge has become companies' important strategic resource, making the focus of management onto effective identification, acquisition, developing, decomposition, use, storage, sharing and transformation of explicit knowledge and tacit knowledge, and using of collective intelligence to enhance crisis management and innovation. Hence, companies hope to strengthen the control of knowledge flow and management of organization while controlling fund flow and logistics, which induces the generation of KRM.

KRM, Knowledge & Resource Management, deriving from ERP, is a new enterprise information management system that effectively integrates knowledge management thought, which emphasizes applying knowledge to all processes in the company in order to run a synchronous operation of the enterprise as a whole. Through organic integration of intranet and internet access management, business model and control, and earning system, and with core of parallel processing of knowledge flow, fund flow and logistics, KRM provides companies with the best practice and management model, and ecological management system characterized by continuous integration of resources, optimization of processes, and promotion and sharing of knowledge, and consequently leads to sustainable improvement of enterprise performance and market competitiveness.

2. Concept of KRM System

Deriving from ERP, KRM is a developed ERP, a ERP in the era of knowledge economy. KRM, whose core ideas are knowledge management, management plug-in, atomization task and authorization &control, puts knowledge flow, fund flow and logistics on the same height, so as to make overall planning of them, rationally use human resource and material resource, effectively protect enterprise resources, build an enterprise information management system in line with knowledge management, and finally enhance the core competitiveness.

In an information society, mining, maintaining and developing knowledge flow are the core of enterprise development,

indicating that knowledge management is infiltrated into the management of resources, both of which are indispensable. KRM effectively transforms implicit knowledge into visible resources, and furthermore interest of companies. The "plug and play" management plug-in not only "tailors", but also betters "clothing with the body length", adapting to sustainable development. The standardized plug-in, complexly designed but easily used, cures the exclusive knowledge and experience of companies and transforms personal resources into enterprise resource, making them to the height of management system, and consequently placing companies in an secured mechanism. Meanwhile, atomization task successfully disassembles business processes into unsubdivisional sub-units, achieves the overall adjustment through partly atomization, and makes the whole system flexible and adaptable on a stable base. Based on atomization task, authorization infiltrates management into every corner of companies, fulfill atomically control of processes, and makes allocation and control of resources evidence-based.

3. ERP is a process of knowledge management

ERP, itself represents a management process, manages all resources and potential knowledge in these resources. We discuss the specific aspects listed below:

(1) In sales management, knowledge management and data mining techniques can be used to manage the marketing knowledge and support decision-making of sales.

(2) In supply chain management, breaking through the boundaries of organizations to manage knowledge within cooperative organisation throughout the whole supply chain will maximize benefit of all organizations in the supply chain.

(3) In the products developing process, the use of knowledge management will enhance the cooperation of functional departments, save costs of research and development, shorten developing cycle, and thus increase profits.

4. KRM: Knowledge Management System Based on ERP

KRM system is a system based on business system and financial system, aiming at optimizing and integrating of all aspects of corporate resources, such as information, human resources, materials, funds, equipments, time, techniques, etc, strengthening financial management of enterprises, improving efficiency of funds operating, establishing supply chain within enterprises, suppliers and customers that forms cooperation among functional departments of supply, production, storage, sales and finance, and fulfilling integration of business and financial processes. The remote communication mechanism of KRM constructs trans-regional and highly transparent work environment, realizes inventory transparency, inter-organization sharing of information and distribution between different districts, and integrates all business activities of companies into standard information management system, and consequently helps senior managers analyze and process massive, complex and dynamic information timely and accurately ,transforming business management into scientific management from experience management and producing a qualitative leap of management tools and levels.

4.1 KRM remedies the deficits of ERP system

4.1.1 KRM realizes the transmission and transition of knowledge

KRM focuses on the transmission of key knowledge in business processes and posts. Practice has proved that the transmission of knowledge can help companies record some tacit knowledge in organizational culture and behaviour. Knowledge resources in companies exist in two ways: explicit and implicit. For explicit knowledge, its character of easily acquired determines that knowledge transmission system just needs to transmit it to the specific people. However, massive tacit knowledge is hard to be observed, not to say exchanging and sharing. Hence, what needs to do first is to externalize tacit knowledge by transmission, that is to make person who masters the knowledge a trainer in order to share his knowledge and finally achieve sharing and transition of internal knowledge.

4.1.2 KRM system merges knowledge flow into business process reengineering, puts it on the same height with fund flow and logistics, and integrates them together

Traditional ERP system only integrates information flow, fund flow and logistics together, excluding knowledge management, which blocks development of companies in knowledge economy. KRM system claims promotion of knowledge flow to the height of material resources, driving business process reengineering with knowledge and securing the operation of processes with system. Knowledge, experience and know-how accumulated in the long-term operation are precious treasures, which is irreplaceable by any standard process or inherent procedure. The most brilliant details summarized in operation, which should be mined and cured according to KRM system, compose the core competitiveness - knowledge flow. It is worth noting that the curing is developing with the changing of market environment and improvement of allocation of internal resources.

4.1.3 KRM system overcomes the dependence on individual possessors of knowledge in knowledge economy, ensuring the survival of companies with system

Enterprise is the only carrier of development of companies and resources such as customers, technology, procedures and so on, demanding a system independent from other carriers. KRM system relies on the workflow management system to completely record the overall work process, and meanwhile knowledge concerned with customers, technology and so on can also be managed and controlled through some appropriate softwares for the business to invoke at any time. As a system effectively integrating the whole management system by sharing and transmission of knowledge rather than an independent one, KRM system remedies deficits of enterprise management system, which is based on ERP.

4.1.4 KRM system possesses a perfect financial control system

In knowledge economy, financial management is no longer just playing the traditional function of accounting afterwards. In order to give full play of it, computer management information system named KRM system emerges as the times require.KRM system sets up a supervision point on every key link in the occurring and developing of business, detects and controls every process by using financial accounting and balancing method, making every business department and decision-making department discover and modify abnormal factors timely.

4.2 KRM system takes the advantages of ERP system

4.2.1 KRM system enhances the core competitiveness of enterprises

KRM system mines, maintains and develops the core competitiveness by using of plug-in technology and loading atomic characteristics and rules of companies to the original system. Utilizing ERP system, KRM system comprehensively collects and analyses information and financial data in operating, provides decision-making support timely and responds to market information rapidly. Thus, the building of this value-added information system which maintains great potential will enhance the ability of adequately responsive to the changing market.

4.2.2 KRM system achieves the integration of internal management

Utilizing remote communication network, fully making use of ERP system and eliminating the isolation of information in companies, KRM system fulfills real-time transmission of data and supervision of business processes, making headquarters know about conditions in every department dynamically, and promoting the operation of internal logistics and fund flow.

4.2.3 KRM system allocates resources effectively and supports refinement

Through the entire process supervision of production, supply, marketing, personnel, finance, and material and use of record and job responsibilities, KRM system reflects the differences and proposes the corresponding settlement timely. And decision-making system based on data warehousing not only considers the internal financial information, but also takes full account of the external environment-related information, providing a scientific basis for decision-making. Besides, the breakdown of management object and assessment and evaluation from subsidiary to department and even individual, support the refinement of management.

As Mr Wang Minghui, president of Yunnan Baiyao, said:"Since the introduction of KRM system, we have restructured our business processes, made full use of knowledge flow, and strengthened the management of supply chain. As a result, we make a breakthrough of the key issues on long-term development and comprehensively promote operation quality, management level and developing potential. Yunnan Baiyao, the old state-owned enterprise, is now full of vigor and vitality." The true value of KRM system is beyond the measure of money. With the fierce competition of external environment and elevation of internal management, knowledge and resources management has become an irresistible trend.

Due to full consideration of the actual needs of enterprises, beginning with the most important part, utilizing information technology to enhance efficiency and reduce costs while maintaining and developing the core strengths, and making knowledge management system developing and functioning under an effective control of the business, KRM system will be valued and accepted by more and more enterprises. The implementation of KRM system will be an inevitable choice during the construction of enterprise informatization.

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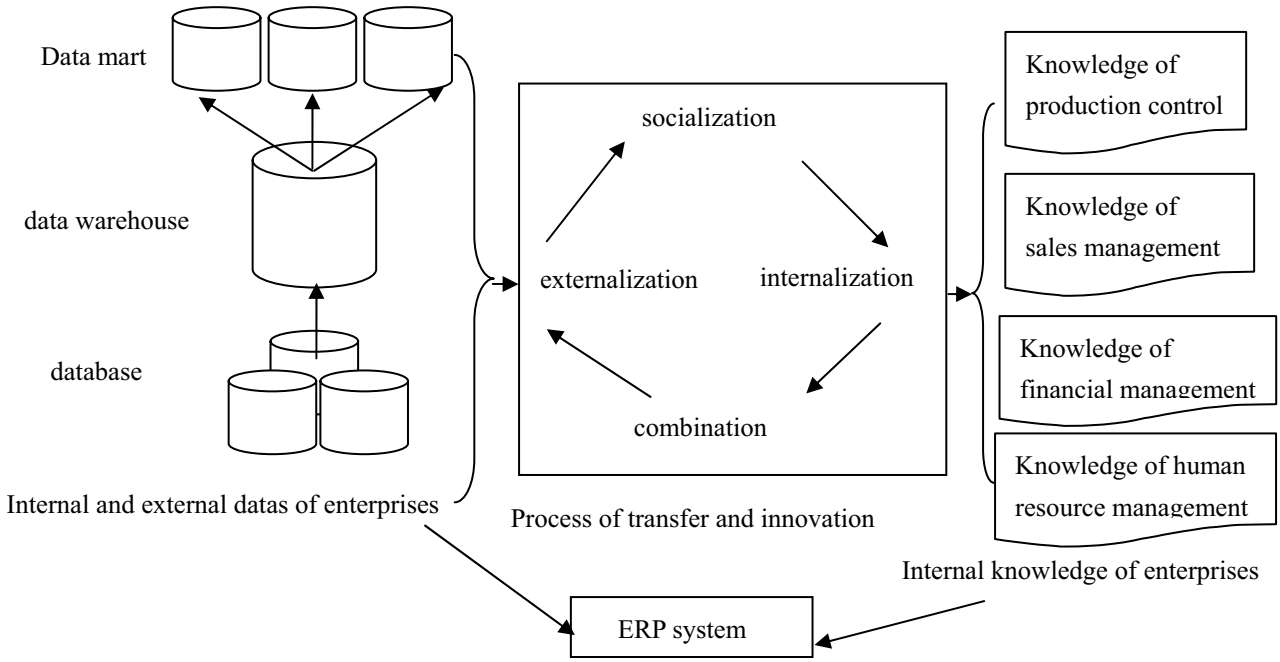

Figure 1. Framework of ERP based on innovation and enterprise function

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On the Added Value of Firm Valuation by Financial Experts

Dan Elnathan
School of Business
The College of Management
Rishon Lezion 75190, Israel
E-mail: danel@colman.ac.il

Ilanit Gavious (Corresponding author)
Guilford Glazer School of Business and Management
Ben-Gurion University
PO Box 653, Beer-Sheva 84105, Israel
Tel: 972-8-6477538 E-mail: madaril@bgu.ac.il

Shmuel Hauser
ONO Academic College and Guilford Glazer School of Business and Management
104 ZAAL st., Kiryat ONO 55000, Israel
E-mail: shauser@ono.ac.il

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Abstract

This paper is motivated by the recent concern raised by the SEC and other Securities Commissions around the Globe that financial analysts are not impartial. The question addressed is whether expert valuations provide unbiased information to shareholders and other stakeholders, and contribute to full disclosure. We examine the added value of expert valuations and their relationship to insider holdings based on a unique sample of 44 closely held companies listed on the TASE that were appraised by financial experts for transactions outside of the Exchange. These valuations are part of the full disclosure requirements in the case of extraordinary transactions. Each expert valuation is assessed on the basis of pre- and post-valuation data. Our key findings are: (1) expert valuations are 29% higher than market values and significantly affected by insider holdings; (2) there is a systematic upward bias in cash flow and cost of capital figures projected by experts; (3) expert valuations are not impartial; while they are supposed to provide an independent expert opinion, they are in fact biased towards majority shareholders who hired them to value the firm; (4) in the short-run investors respond cautiously to expert valuation; in the long-run, however, the over-valuation appears to be followed by destruction of value that is related to the firm's ownership structure.

Keywords: Insider holdings, Firm valuation, Financial experts, Insiders

1. Introduction

A recent IOSCO (International Organization of Securities Commissions) press release notes that securities analysts play an important role in global markets by helping investors make sense about information of publicly traded companies. However, these securities analysts are frequently "sell-side" analysts and therefore were criticized in many countries because conflict of interests can potentially bias their research and recommendations. According to Jensen (2005), in many cases when managers chose to defend unjustified overvaluation of their firm they ended up destroying part or all of the core value of the firm. (Note 1)

Valuation of companies represent the "state of the art" in modern finance and accounting because of the need to resolve theoretical and empirical problems related to the analysis of financial statements, estimation of the cost of capital and prediction of future cash flows. Extant research does not thoroughly examine the whole range of factors that influence the valuation results (see, e.g., Bowers, 2002). In this paper we use a unique sample of 44 closely held firms listed on the Tel Aviv Stock Exchange (TASE) that were valuated by financial experts and for which a comprehensive data set was carefully gathered. (Note 2)

The purpose of the paper is to examine the added value of expert valuations of companies that were performed in the course of transactions such as mergers, acquisitions and private placements. In such cases, the Israel Securities Authority (ISA - Israeli SEC) requires a full disclosure of the transaction including a justification for the price of transaction to take place if it differs from market price. Customarily, majority shareholders that are on the sell or buy side of the transaction commission an expert valuation to justify the transaction price. The need for such non-routine expert valuations is often argued to be driven by management's perception that full disclosure (argued by some to simply be sophisticated data manipulation) of the procedure underlying the transaction would justify the price agreed upon for the transaction. Also, it appears that management considers the expert valuation as a hedge against possible litigation by outside shareholders. Both arguments rely on an implicit assumption that the experts performing such valuations are impartial, have superior information, and possess better capabilities to interpret it. These assumptions are examined in the study.

We question the benefits of such valuations of firms as part of the full disclosure requirements in the case of extraordinary transactions, under the notion of an efficient market hypothesis. (Note 3) Following the concern raised by IOSCO, the main hypothesis raised in this study is that these experts are not impartial; while they are supposed to provide an independent expert opinion, they seem to be, in fact, biased towards majority shareholders who hired them to value the firm.

The study expands on the existing literature. Its principal contributions lie in the comprehensive examination of a broad range of factors that influence the valuation results, including insider holdings and specific factors that characterize the company being valuated. For that purpose, each of the 44 firm valuations was examined meticulously, including use of alternative valuation methods and a retroactive analysis based on actual data, using the Discounted Cash Flows (DCF) method.

The paper proceeds as follows. Section 2 contains our literature review and Section 3 outlines the research design. In Section 4 we present the data. The first important finding is that, on average, expert valuations of companies are 29% higher than their stock market values.

In Section 5, we examine the hypothesis that the discrepancy between expert valuation and market value depends mainly on insider holdings. We also examine whether the discrepancy is influenced by the identity of the parties involved in the transaction, expert's reputation, the sector in which the company operates, firm size, share's liquidity and market trend. The main finding is that the discrepancy is primarily influenced by insider holdings and by the identity of the party to the transaction that commissioned the valuation.

In Section 6, we examine the hypothesis that the added value of expert valuations lies in their ability to obtain the required information (including inside information) from the company, and use it competently in their valuations. Our tests include reconstruction of expert valuations, where we employ the DCF method ex-post, using the realized cash flows and cost of capital for years subsequent to the valuation date. This allows us to test directly the forecasting errors experts made in their prediction of the company's future cash flows and cost of capital. The main findings are: (1) a systematic upward bias in the experts' estimated cash flows and cost of capital; and (2) on average, the value obtained by the experts was about 50% higher than ex-post value calculated based on realized cash flows and cost of capital. These results reject the hypothesis that experts possess superior information or capabilities to interpret it. On the other hand, the findings seem to support the claim that the added value of valuations for outside shareholders is limited, and that such valuations are intended mainly to appraise the value of the firm for the majority shareholders involved in the transaction. Thus, expert valuations do not seem to provide public shareholders and other stakeholders with unbiased information that contributes to full disclosure of such transactions as per ISA requirements. Based on these findings, we consider the observed price premium (29% divergence) to be "control premium". This conclusion gains further support in Section 7.

In Section 7, we examine the impact of expert valuations on share prices. Despite the 29% discrepancy between companies' expert valuations and their market value, on average, share prices did not change on the days surrounding the publication of valuation results. We find, however, that the change in share price depends on the size of the discrepancy and on share's liquidity, suggesting that outside investors react cautiously to the valuation results. This may indicate that outside investors are aware of the fact that the added value reflects primarily control premium. We also find support to Jensen's (2005) claim that unjustified overvaluation of firms contributes to the destruction of their values in the long-run.

Summary and conclusions are presented in Section 8. The various findings are consistent with the findings of DeAngelo (1990), and of other studies, that transactions such as takeovers, mergers and acquisitions are generally made at a price different from the prevailing market price. The findings cast doubt on the objectivity of financial experts and therefore on the benefits of expert valuations as part of the full disclosure requirements.

2. Literature review

Many of the studies dealing with the valuation of companies relate to routine valuations of companies whose shares are traded on the exchange (e.g., O'Brien, 1998; De Bondet and Thaler, 1990; Lim, 2001). These valuations are performed regularly by "sell-side" analysts employed by investment banks as part of their services to clients. Unlike these studies, we focus on expert valuations commissioned by interested parties (buyers or sellers) as part of the process required for execution of transactions that take place outside the exchange.

Additional studies focus on several important aspects of valuations such as the role of accounting data (e.g., Givoly and Hayn, 2000; Barth et al., 1998; Francis and Schipper, 1999); models for equity evaluation (e.g., Ohlson, 1995; Ang and Liu, 2001); the use of multiples (Liu et al., 2002); and governance structure premium (e.g., Smith and Amoako-Ado, 1995; Hauser and Lauterbach, 2004). Many of these issues have been addressed in DeAngelo (1990). She investigates the discrepancy between the market value of companies and their intrinsic value in corporate control transactions. The latter usually takes place according to a value significantly different from market value (e.g., Comment and Jarrell, 1987; DeAngelo et al., 1984). DeAngelo (1990) finds that corporate control transactions have premiums of 50%+ above pre-offer stock price. Brigham and Gapenski (1996), for comparison, report average premium of about 30% (20%) in hostile tender offers (friendly mergers). They also report buyouts with premiums ranging from 60% to over 100%. According to DeAngelo (1990), a company's market value differs from its intrinsic value because the former is based on market assessment of managers' inside information, and not on the actual inside information that managers have; hence the need for independent expert valuations. However, according to DeAngelo (1990) there is a snag. Some claim that these experts are "rubber stamps" to a price already determined by the company's directors.

The methods used to value public companies include discounted cash flows (DCF), multiples of market price to accounting information, net asset value, and market value based on comparable transactions. According to DeAngelo (1990), despite its prominence in the finance literature, the DCF method is not the only one that is being used because it has several weaknesses. The main weakness lies in the method's sensitivity to assumptions regarding future profitability and the cost of capital. In their valuations, the experts may assign a greater weight to management's (relative to their own) estimates of future cash flows and cost of capital. DeAngelo argues that in order to increase the objectivity of their valuations, financial experts are supposed to base their analyses also on data obtained from external sources and avoid using a single valuation method. Specifically, she examines which valuation methods were used by four different experts who provided fairness opinions for corporate control transactions. She finds significant discrepancies between values obtained according to different methods of valuation, and that the results of DCF are highly sensitive to the assumptions regarding the terminal value. These issues are being examined here. The paper expands on DeAngelo's 1990 study and others. It contributes to the literature by systematically examining a whole range of factors that influence the experts and their valuation results, as well as exploring the added value of these expert valuations.

3. Research methodology

In the first phase of the study, we examine the effect of a broad range of factors on the discrepancy between the company's expert valuation and its market value. We employ specific factors that characterize the valuated company (size, industry, corporate governance), factors related to the transaction for which an expert valuation was commissioned (type of transaction, transaction with insiders vs. transaction with outsiders), factors related to the expert valuation itself (valuation method, expert's reputation), and market factors (market trends). We then seek to investigate whether the demand for expert valuations of closely held companies stems from the need to value the control premium for the majority shareholders involved in the transaction. To that end, we perform Theil's analysis of variance by forming two groups of variables: (1) corporate governance (represented by the percentage holdings of insiders and a dummy variable for transactions with current insiders); (2) firm's-specifics variables that characterize the company, the transaction and the market at time of transaction – valuation method, industry sector, size, market trend, trading volume and expert's reputation.

In the second phase of the study, we move to explore whether the discrepancy between expert valuations and market values derives also from the superior ability of experts to obtain information and use it competently. We estimate experts' prediction errors based on the differences between predicted and realized free cash flows (FCF) and cost of capital for each company during the five years following the expert valuation. Then, we use these figures to compare the value obtained by the expert to that obtained by reconstruction of the companies' value using DCF method. Calculation of realized FCF for each of the five years subsequent to the expert valuation is shown in Appendix. Starting in the sixth year we estimate a normalized level of FCF that would grow at a constant rate to perpetuity. (Note 4)

The normalized level of FCF is determined based on four different alternatives: (1) FCF in the fifth year; (2) average FCF in the fourth and the fifth year; (3) average FCF in the third, fourth and fifth year (4) average FCF in all five years. All FCFs used to calculate the normalized level of free cash flows are adjusted as follows: cash flows from discontinued operations are deducted; investments in fixed assets are adjusted to the amount of depreciation and amortization in those years; and investments in working capital are adjusted to the long-term growth rate. (Note 5) The realized cost of capital was estimated based on the Capital Assets Pricing Model (CAPM), as CAPM is the model used by the experts in their valuations. (Note 6)

Weights of equity and debt for the calculation of cost of capital are based on the company's average capital structure during the five years following the disclosure of the expert valuation. Systematic risk was estimated using the market model in three ways: (1) estimate of industry β versus the market; (2) assuming that β = 1; and (3) estimate of the company's β versus the market. In addition, we used the cost of capital employed by the expert in his valuation. β was estimated based on share prices and the corresponding share indices, in the five years following publication date of the expert valuation. Discounting the firm's free cash flows at the firm's cost of capital results in the firm's value of operation (the enterprise value). To obtain the equity value we added the firm's non-operating assets and deducted its financial liabilities, as valuated by the experts. (Note 7)

The third stage of the analysis investigates whether and how investors in the stock market are influenced by expert valuations. We use an event study methodology to examine investors' response to the publication of expert valuation reports. We estimate the abnormal returns using the market model, $\varepsilon_{it} = R_{it} - \alpha_i - \beta_i R_{mt}$, where R_{it} is the rate of return on day t for firm i, R_{mt} is the rate of return on day t of the market index, and ε_{it} is the abnormal return for firm i on day t. α and β are estimated using transaction data for the 210 trading days up to 30 days prior to the announcement day of the transaction for which the expert valuation was commissioned. In order to examine the effect of expert valuation on share prices around the time the valuation was publicized ("Day 0"), we calculated the average abnormal return and the average cumulative abnormal return for the period starting 30 days preceding the date of publication and ending 30 days following that date. We also examine to what extent the abnormal returns are influenced by the publication of expert valuation reports and the degree of share liquidity. The range of 30 days preceding publication was determined because during the process of preparing the reports of the prospective transactions and expert valuations to the ISA and the TASE, corrections and clarifications are frequently required before it is released to the public. Thus it is expected that if such influence on share prices exists, it will be present during the period directly preceding the publication. Finally, from a long-term perspective, we calculate abnormal returns in the 3 years that followed the date the expert valuation was published. To test the hypothesis raised by Jensen (2005) that there are agency costs attached to firms that are substantially overvalued, we examine the effect of ownership structure (insider holdings) on the extent of market value destruction throughout the years subsequent the expert valuation.

4. Data

The sample includes all 44 valuations that were performed by financial experts for firms whose shares have been acquired during the period of 1991 through 1999. Specifically, these valuations were related to 23 mergers and acquisitions and 21 private placements. The data include the documented valuations submitted by the valuator to the person or body who commissioned it. The documents generally contain all the details needed for the valuation: the company's industrial sector; the purpose of the valuation (the transaction for which the valuation was commissioned); the parties involved in the transaction and the nature of their relationship prior to and after the transaction; whether the transaction is with majority shareholders; and, who commissioned the valuation (buyer or seller). We also include a variable to indicate the expert's reputation, proxied by a dummy variable that equals '1' if the valuation was performed by one of three experts that together performed over 50% of the valuations in the sample, and at least three valuations each. The dummy variable equals '0' if it was performed by an expert that provided no more than two valuations in the sample. In addition, we examine the assumptions, analyses and forecasts employed by the experts in their valuations; the method or methods of valuation employed and the values obtained according to each method; the final value that was determined for the company and the method or methods selected to determine it; and sensitivity tests of the results obtained.

We also draw information from the financial statements published by the companies, starting from the year in which the valuation took place and continuing in each of the five following years. These figures serve to estimate, ex post, the forecasting errors made by the experts.

The market value and trading volume of the companies' shares are extracted from trading guides published by the TASE and the ISA. Missing data is taken from Predicta Ltd. Market value and trading volume are calculated on the basis of the average share price and shares' trading volume, during the 90 trading days prior to the date of valuation. To test the robustness of the results we also estimate market price based on the five days preceding the valuation date.

In order to identify the exact date on which the results of the expert valuations were disclosed to the public, we collected the immediate reports submitted by the companies to the TASE, the ISA and the press regarding the

transaction for which the valuations were commissioned. These reports are required by law and have to be filed with the authorities immediately following significant events concerning the transactions. This information was found at the TASE library and from the database in the Yif'at Capital Disk Co.

Finally, we used the ISA database of daily share prices, general share index and the sector index of the valuated company, starting a year prior to publication of valuation results and ending five years following that date. These figures are used for the event study to examine investors' response to the valuation results, and for estimating, ex post, the experts' forecasting errors of firms' cost of capital.

Insert Table 1

Table 1 describes the results of the expert valuations in the sample. The main finding is that the value of companies as calculated by the experts is 29% higher than their market value (*MV(-90)*). This result does not change when market value is estimated on the basis of average share prices during the five days prior to publication date of the valuation results (*MV(-5)*). The difference between *MV(-90)* and *MV(-5)* is insignificant (p-value=0.963). (Note 8)

We also calculate a weighted average of the discrepancy between expert valuations and market values, using size (total assets) weights. Remarkably, the result remains unchanged (a 28% discrepancy). We point out that in only 23% of the cases, the expert valuation was lower than the market value of the company. Specifically, we find that in 34 cases, expert valuations were 46.0% higher than firms' market values, on average, compared with 10 cases in which expert valuations were 29.8% lower than firms' market values. Of the latter 10 cases, 9 were commissioned by insiders-buyers.

It should also be emphasized that in almost all of the 44 transactions, the actual price of the deal was identical to that of the expert valuations. More specifically, in 43 out of the 44 expert valuations, the transaction price was equal to the expert valuation. In one case, the transaction price was 6.5% lower than the expert valuation (57 compared with 61 millions of NIS). Hence, these valuations were the ending point when they were reported to the public, rather than the starting point, for the negotiations between the parties selling and those buying. In other words, since the expert valuation is meant to provide justification for the transaction price, his preliminary valuation is, in fact, indirectly part of the negotiations and he or the parties involved may change their final valuation prior to reporting it to the public. This finding was also observed by DeAngelo (1990) who argued that financial experts rely too heavily on the information gathered from insiders. (Note 9)

In the following section we shall examine the factors that influence the valuation results, including the effect of insider holdings and specific factors related to the valuated company.

5. Factors that may influence the discrepancy between companies' expert valuation and market value

In this section we examine the hypothesis that the discrepancy between the company's expert valuation and its market value is a function of specific factors that characterize the valuated company, including insider holdings. Table 2 presents the results.

Insert Table 2

The first finding is that the discrepancy between expert valuation and market value does not depend on the valuation method used by the expert, the industrial sector in which the company operates, expert's reputation, size of the company, transaction type or market trends. Notably, when we differentiated between the results of valuations that relied on a single method (DCF, net asset value, comparable transactions of other firms, or multiples), and the results of valuations that were obtained from averaging the results of several methods, the discrepancies in the latter were significantly lower (p-value=0.081, not tabulated) than those obtained by a single method. This finding is consistent with DeAngelo's (1990) claim that experts' objectivity requires them to rely on more than one method in their valuations.

When relating valuation results to market trends, the differences – though insignificant – indicate that the discrepancy between expert valuation and market value is larger (smaller) when the market is trending downwards (upwards). We also analyze the results according to the expert's reputation. Although there is no statistically significant difference between the results, we find that for the more reputable experts, the discrepancy in the valuations was lower (24%) relative to the group of 13 experts who performed a total of 24 valuations (32%). A possible explanation is the tendency of the former to base their valuations on more than one method whereas the latter usually do with one.

The most important finding concerns the influence of insider holdings on the discrepancy between expert valuation and market values. The results indicate that in companies where the holdings of majority shareholders are relatively high (higher than the median), the discrepancy between expert valuation and market values is approximately 37%, compared with 21% in companies where the holdings of majority shareholders is relatively low (p-value=0.07). This finding raises the possibility that the need for expert valuation stems from the need to appraise the firm's value for the majority shareholders involved in the transaction, and as such, these valuations are not intended for outsiders; i.e., outsiders should not be affected by the expert valuations in their decision making. We shall see below that share prices did not increase in response to the experts' upward estimated value suggesting that the added value of the expert valuations is in

appraising the premium of control that is not necessarily reflected in the price observed in the market. Thus, investors in the market seem to realize that the valuations are aimed at the majority shareholders that are involved in the transactions. This explanation gains further support from the fact that the bias in expert valuations is greater in transactions involving insiders-sellers with outsiders than in transactions involving private placements to insiders-buyers. In transactions with insiders-buyers the bias was (13.2%) and significantly lower (p-value=0.045) than in transactions involving insiders-sellers (47.5%). This finding is mainly affected by who commissioned the valuation. It appears that smaller bias in transactions involving private placements to insiders is when these insiders-buyers commissioned the valuation and the larger bias in transactions involving insiders-sellers with outsiders is when the insiders-sellers commissioned the expert valuation. (Note 10) These findings also support DeAngelo's (1990) claim that financial experts rely too heavily on the information gathered from those insiders.

At this stage, we further examine the hypothesis that the demand for expert valuations of closely held companies stems from the need to value the control premium for the majority shareholders involved in the transaction. This premium reflects, *inter alia,* the additional value that majority shareholders are willing to pay for the ability to control the company's activities (Hauser and Lauterbach (2004)). In such cases, an expert valuation is required if share prices in the market do not include the control premium. The market value may include control premium if investors consider the possibility of future contests for control that may lead to a demand for their voting rights by the parties interested in acquiring control of the company. According to Smith and Amoako-Ado (1995), the higher the probability investors attribute to such event, the higher the control premium embedded in the shares' market price. In Israel, because of the prevailing concentrated insider holdings of closely held firms, there are almost no such contests for control and therefore the control premium finds expression only in transactions with insiders (Hauser and Lauterbach (2004)) and in transactions with outsiders who acquire control of the company.

To estimate the overall impact of insider holdings together with other variables that characterize the company under valuation, we perform Theil's analysis of variance by forming two groups of variables. Insider holdings are represented by the percentage holdings of insiders and a dummy variable for transactions with current insiders, which is assigned the value of 1 when the transaction was with an insider on the buy-side and 0 otherwise. In the second group we include firm's-specifics variables that characterize the company and the transaction - valuation method, industry sector, size, market trend, trading volume and expert's reputation.

Insert Table 3

The results, presented in Table 3, indicate that the discrepancy between expert values and market values is significantly affected by insider holdings. We find that this discrepancy is smaller for insiders-buyers. As a robustness check, we repeat the Theil's analysis without grouping the control variables. In this setting of multivariate framework the relative importance of the key individual variables is assessed, as these variables may not be independent. The results obtained are qualitatively the same.

The findings are consistent with the assumption that share prices in the market reflect their value to the marginal investor, who trades on the exchange but who is not involved in any other aspect of the firm's activity. The results also correspond to the findings of Hauser and Lauterbach (2004) that the value of voting rights derives mainly from their value to majority shareholders. We tend to conclude, therefore, that expert valuations are primarily intended for majority shareholders and not for outside shareholders. This finding gains further support in the following sections.

6. Does the added value of the experts derive from their superior information about companies?

In this section, we examine the hypothesis that the discrepancy between expert valuations and market values derives also from the superior ability of experts to obtain information and use it competently. According to DeAngelo (1990) this discrepancy may be due to the difference between market expectations and management expectations regarding future cash flows. Hence, the added value of expert valuators depends to a large extent on their ability to gain complete access to inside information from the company and to use it efficiently.

We estimate experts' prediction errors based on the differences between predicted and realized free cash flows and cost of capital for each company during the five years following the expert valuation. Then, we use these figures to compare the value obtained by the expert to that obtained by reconstruction of the companies' value using DCF method.

Insert Table 4

Table 4 presents the forecasting errors of cash flows and cost of capital, based on a partial sample of 15 expert valuations that used the DCF method. The results show that the cash flow estimates have an upward bias compared to the actual figures. In all years, the realized cash flows were consistently smaller than those estimated by the experts. Specifically, about 50% of the companies valuated had negative cash flows, compared to the forecasted positive cash flows, indicating a systematic bias in the forecasts. It is possible, however, that the results simply indicate that the experts do not have an advantage over other investors in obtaining or utilizing more efficiently the information disclosed to the public. It should also be noted here that one seemingly drawback of this analysis is the fact that it relies

on relatively small number of observations and that the entire market was surprised by the poor ex-post performance. We argue that overwhelming evidence that in practically all years the cash flows were biased upwards shadows this drawback of our analysis, particularly when combined with the all other results reported in the paper.

The results of Table 4 also show that forecasted cost of capital is biased upward. (Note 11) The bias in the cost of capital estimate may reflect the ambiguity with which the experts regard their own forecasts. However, since expert valuations were higher than market values, we shall see below that the influence of the upward bias in cash flow estimates was dominant.

We turn now to calculating the realized value of all 44 companies in the sample at the time the expert's valuation was published. The valuations were reconstructed for each company on the basis of the realized cash flows and cost of capital ($V_{REALIZED}$). The results of these valuations were compared to the expert valuations (V_{EXPERT}). Table 5 displays the results.

Insert Table 5

We find that the realized value is about 50% lower than the value of the companies as calculated by the experts. Specifically, more than half of the companies had negative cash flows in the five years subsequent to the expert valuation. In these cases we assigned zero to the company's value. The results reject DeAngelo's (1990) hypothesis that the discrepancy between expert valuation and market value can be explained by the superior information that the experts possess and their ability to use it competently. These findings cast doubt on either the experts' objectivity or their superior ability in appraising the value of public firms.

7. The impact of expert valuations on share prices

7.1 A Short-Term Perspective

Are investors in the stock market influenced by expert valuations? If DeAngelo (1990) is correct in claiming that there is a discrepancy between the expectations of the market and those of management, than share prices are expected to change if investors recognize the superior ability of the experts to forecast companies' future cash flows and cost of capital.

Insert Table 6

Table 6 displays cumulative abnormal returns (CAR) surrounding the publication date of the expert valuations. We find that CAR is insignificantly different from zero indicating that, on average, investors did not respond to information revealed when expert valuations were disclosed to the market, in spite of the 29% divergence between the expert valuation and the market values of the companies. This finding is consistent with the findings presented earlier. They may be regarded as another piece of evidence to support the hypothesis that the expert valuations are aimed at estimating the control premium for the majority shareholders involved in the transaction. As such, they are not intended for outside shareholders, those not part of the control group, who limit their investment decisions to trading on the exchange. Our finding that there was no significant change in share prices around the time of publication of expert valuations, combined with the finding of a systematic upward bias in the expert valuations – and with the experts' bias being particularly towards majority shareholders who hired them to value the firm – seem to suggest that the outside shareholders recognize that expert valuations are of limited importance to them since they are aimed at the parties involved in the transactions. This leads us to conclude that the above mentioned discrepancy may be interpreted as "control premium".

In order to test whether share prices are influenced by the size and direction of the discrepancies between expert valuation and market values, and the degree of share liquidity (Amihud and Mendelsohn, 1987), we estimated the following regression equation:

$$CAR(-30,30) = -0.0534 + 0.01658\frac{V_{EXPERT}}{MV} - 0.0084 Volume \qquad R^2 = 0.173 \qquad (1)$$

(p-value) (0.081) (0.003) (0.032)

Equation (1) reveals, as expected, that the cumulative abnormal return is higher when the discrepancy between expert valuation and market value is greater, and the liquidity of the stock is lower. Indeed, we find that when discrepancy between expert valuation and market value exceeds 29%, CAR (-30, 30) =5.21% compared with CAR (-30, 30) =-7.86% when this discrepancy is lower than 29% (the difference is significant at 0.02 level). The influence of liquidity on share price is related, *inter alia,* to the possibility that for thinly traded shares, whose market value may not reflect their "true" economic value, investors attribute greater importance to expert valuations. (Note 12)

7.2 A Long-Term Perspective

In this subsection we test the hypothesis raised by Jensen (2005) that there are agency costs attached to firms that are substantially overvalued since managers may fail to deliver the performance required to support that value. In such cases, market disappointment results in firm's value destruction. According to Jensen (2005) the problem lies, to a large extent, in the insider holdings system. To test this hypothesis we estimated the change in market values over the years. In Table 7, we present evidence that supports the hypothesis. Market values appear to decline by over 50% in the 3 years that followed the date the expert valuation was published. Prior studies on long-run underperformance for mergers and acquisitions document either negative or insignificant long-term abnormal returns (see, for example, Loughran and Vijh, 1997; Sudarsanam and Mahate, 2003; Conn et al., 2005; Alexandritis et al., 2006). Whereas the lowest returns documented in these studies reach around -20% three years from the time of transaction, in our study negative abnormal returns for the same period reach around -56%. We conclude that our finding of long-term underperformance is only partially related to the underperformance effect typical to transactions such as mergers and acquisitions. Notably, most of the underperformance presented in Table 7 seems to be related to value destruction that is explained by agency costs attached to overvalued firms (Jensen, 2005).

We also estimated a regression model to examine the effect of ownership structure on the extent of market value destruction. We find,

$$CAR_{0,3-years} = -1.258 + 0.963 Insider\_Holdings \qquad R^2 = 0.087 \qquad (2)$$

(p-value) (0.011) (0.052)

where, $CAR_{0,3-years} = \ln\frac{MV_{3-years}}{MV_{(-90)}} - \ln\frac{S_j}{S_0}$, is the percentage change in market values minus the general share index return in the 3 years that followed the publication of the valuation. The positive coefficient seems to suggest that the more closely-held is the firm, the lower is the value destruction (higher *CAR*). However, given that in most of our sample firms (40/44), insiders hold more than 50% of the firm's equity, the results suggest that in firms in which insiders holdings are in the lower 50%, the value destruction is higher. One possible explanation is that the interests of insiders who have a higher (lower) percentage of holdings are more (less) aligned with those of outside shareholders. In the former firms, insiders have higher control but their motivation to expropriate firm's assets is lower than in the latter firms since they represent the vast majority of shareholders. Indeed, we find that in the 22 firms with the highest holdings of insiders, 85% on average, $CAR_{0,3\text{-}years}$=-38.5%, whereas in the other 22 firms, in which insiders' holdings were 59%, $CAR_{0,3\text{-}years}$=-73.4%, on average. Hence, it appears that insider holdings have significant effect on firms' value destruction.

Insert Table 7

8. Summary and conclusions

The difficulty in valuating companies stems from the need to deal with conceptual and empirical issues that relate to financial statements' analysis, expectations regarding the companies' profitability, and their cost of capital. In this study we examine the added value of expert valuations of closely-held companies whose shares are listed on the TASE and whose insider holdings is typical to most firms listed in European and Asian exchanges, and small firms in the US. The empirical work is based on a comprehensive data set of 44 companies that were valuated for transactions carried out outside the exchange. Each expert valuation was thoroughly examined, including the use of alternative methods to those employed by the experts, and by *post factum* reconstruction of the data.

The principal findings are that the discrepancy between expert valuations and market values is 29% and that insider holdings are the dominant factor explaining this discrepancy. The discrepancy does not depend on the valuation method and the industry sector of the company. We also find that despite the size of the discrepancy, on the average, share prices did not change significantly following the publication of expert valuation results. These findings correspond to the findings of DeAngelo(1990) that in corporate control transactions, share prices agreed upon for the transactions usually differ from the market price of the company. The results gain farther support from the ex-post analysis of valuations, where we find that the experts systematically bias upwards their estimates of future cash flows and cost of capital. We also find that the ex-post values of the companies valuated were 50% lower than the value determined in the expert valuation. The fact that there is no significant change in share prices around the time of publication of expert valuation results, combined with the finding of a systematic upward bias in the expert's valuation, seem to suggest that in the short-run outside investors recognize that expert valuations are of limited importance to them since they are

aimed at the parties involved in the transactions. In the long-run, however, we find that firms that were overvalued by experts, lost on average over 50% of their values supporting Jensen's argument that when managers cannot deliver the performance required to justify firms' value, disappointed investors appear to destruct firms' value. These findings cast doubt on the ability of experts to be objective and therefore on the benefits of expert valuations as part of the full disclosure requirements.

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Notes

Note 1. In announcing the publication of the principles for addressing analyst conflict of interests, US SEC commissioner, Roel C. Campos, stated: "IOSCO members understand that investor confidence is fundamental to strong, healthy financial markets. When investors come to believe that analysts offering supposedly independent research are really little more than marketers for investment bank, this confidence suffers."

Note 2. The sample represents a norm in most countries since many small firms in the US, and most publicly traded firms outside of US, are closely held by a small group of majority shareholders.

Note 3. In 2001, the ISA considered prohibiting the use of expert valuations in such cases but did not apply it eventually.

Note 4. The normalized level of FCF is needed for calculation of a firm's terminal value. We conduct sensitivity analyses for the firms' expected growth rate for perpetuity using various growth rates from 0% to 4% (see Sougiannis and Yaekura (2001)). We report here only the results based on 2% growth. The results are essentially the same when other growth rates are used.

Note 5. The normalized flow of investments in fixed assets is supposed to be at least as large as the depreciation and amortization expenses (See Kaplan and Ruback, 1995). Also, the investment in working capital should be adjusted to the growth rate to perpetuity, which is typically lower than the growth rate during the years for which the estimation is carried out. We test and find that using actual free cash flows, without adjusting to investments in fixed assets and working capital, (but instead assuming that the investment amounts in the years following the expert valuation are representative), does not change the results qualitatively.

Note 6. See Beninga and Sarig (1997), pp. 297-301.

Note 7. The value of non-operating assets and financial liabilities can theoretically be estimated using discounted cash flows, but typically the non-operating assets are estimated using their market (realization) value and financial liabilities are estimated using their book value. We do not calculate the economic value of the financial liabilities, but rely on the expert valuation, since we do not have the detailed maturity dates of the liabilities for the sample companies. Additional adjustments to the realized equity value include deduction of the value of minority interests and a discount for holdings companies. The discount for holdings companies is taken based on the discount rate estimated by the experts. The value of minority interests is calculated as follows. In case that the subsidiary company was (not) separately evaluated by the experts, we calculate the value of minority interests as the product of the minority's percentage holdings and the expert value (market value) of the subsidiary company. In case that the subsidiary company is neither traded on the exchange nor it was evaluated by the experts, we estimate its value based on an average of the values obtained by multiplying the company's reported earnings before extraordinary items (book value of equity) by the earnings (book value) multiple in its industrial sector.

Note 8. The date of publication was on average 50 days following the announcement of the up-coming transaction. This may explain why both *MV(-90)* and *MV(-5)* include investors' response to the transaction itself.

Note 9. It should be noted that whenever an extraordinary transaction is considered, the ISA requires a full disclosure on the nature of the transaction and the way the price was determined. As a result, in all such transactions, in practice, at least one of the parties involved hires an expert to provide a valuation that justifies the transaction price. Usually that party will be an interested party (holding at least 5% of the company's shares). Since the ISA examines the expert valuation, and often times makes comments on that valuation which may actually lead to changes in the valuation, the transaction price agreed upon by the parties is reported to the public together with the final valuation. As a result, almost always the transaction price will be in line with the expert's valuation. Since the expert valuation is meant to provide justification for the transaction price, he is, in fact, indirectly part of the negotiations. In fact, often he will be invited to the ISA together with the selling and buying parties to respond directly to the inquiries of the ISA officials. Hence, the valuation made by the expert is an important benchmark for the transaction price that will eventually be agreed upon by the parties involved. Notably, since the ISA may address questions to the expert and may consider asking for another expert's opinion, the expert is supposed to be committed to an objective valuation. This "objective" valuation is the subject of investigation in this paper. In rare cases, these valuations are not reported to the public, if the expert valuation did not justify the transaction price and the deal was called off by the parties involved.

Note 10. Outsiders commissioned only 9 valuations.

Note 11. The results do not change qualitatively when we estimate the cost of capital in other ways, among them: estimating β against industry index or assuming that $\alpha = 0, \beta = 1$.

Note 12. We examined the possibility that other variables representing company characteristics also influence share prices, and did not find such influence.

Table 1. Discrepancy between expert values and market values

	Mean	**Median**	**SD**
V_{EXPERT}	945	92	2318
MV	818	71	2188
BV	521	61	1260
% holdings of majority shareholders	0.723	0.715	0.177
Ln(V_{EXPERT}/MV(-90)) – simple average	0.288	0.269	0.431
	(0.000)	(0.000)	
Ln(V_{EXPERT}/MV(-5)) – simple average	0.279	0.273	0.392
	(0.000)	(0.000)	
Ln(V_{EXPERT}/MV(-90)) – weighted average	0.280		
	(0.036)		
Ln(V_{EXPERT}/MV(-5)) – weighted average	0.270		
	(0.038)		

The figures presented here are based on 44 valuations of companies listed on the TASE. V_{EXPERT} represents the expert valuation. MV (-90) and MV (-5) represent the average market value during 90 and 5 trading days prior to the date of valuation, respectively, in millions of NIS. (During the sample period, FX rate was in the range of 2.2-4 NIS per 1 $US). BV represents book value of equity. Values in brackets represent the p-value for the t-test (Wilcoxon test) that the mean (median) value differs significantly from zero. The discrepancy between expert's value and market value is measured by the percentage difference between V_{EXPERT} and MV. The percentage holdings by majority shareholders represent the total holdings of all interested parties. Among them are shareholders holding at least 5%, management and directors, all required by law to report their holding to the ISA and the TASE. Weighted average uses Total Assets weights.

Table 2. Factors influencing the discrepancy between market value and expert valuation

	No. Of Companies	Mean	Median
By Valuation Method			
Discounted Cash Flow (DCF)	12	0.344	0.406
Multiplies (P/E)	3	0.398	0.346
Net Assets Value	15	0.383	0.298
Market Value (MV)	6	0.267	0.244
Weighted Average of Various Valuation Methods	8	0.076	0.136
Test for the differences between means & medians		(0.600)	(0.494)
By industry Sector			
Financial	3	0.109	0.364
Commerce and Services	9	0.173	0.244
Real Estate	7	0.474	0.463
Manufacturing	12	0.248	0.233
Investments and Holdings	13	0.345	0.273
Test for the differences between means & medians		(0.611)	(0.693)
By Size			
Large Companies	22	0.263	0.269
Small Companies	22	0.316	0.298
Test for the differences between means & medians		(0.349)	(0.322)
By Transaction type			
Mergers and Acquisitions	23	0.206	0.216
Private Placements	21	0.377	0.346
Test for the differences between means & medians		(0.191)	(0.162)
By Market Trends			
Bull Market - until 1/94	12	0.264	0.249
Bear Market - since 1/94	32	0.353	0.393
Test for the differences between means & medians		(0.274)	(0.400)
By Expert's Reputation			
More reputable	20	0.245	0.262
Less Reputable	24	0.324	0.282
Test for the differences between means & medians		(0.275)	(0.318)
By Transactions with insiders			
Insiders in private placements	20	0.132	0.241
Insiders-sellers with outsiders	24	0.475	0.450
Test for the differences between means & medians		(0.007)	(0.016)
By percentage holdings of insiders			
Large	22	0.365	0.347
Small	22	0.211	0.256
Test for the differences between means & medians		(0.070)	(0.097)

In this table we present the discrepancy between Market Value (MV) and Expert Valuation (V_{expert}), in %, by various categories. Values in brackets give the p-value to the t-test (or the Wilcoxon signed ranks test) for comparison between means (medians) of the different groups. In the categories of valuation methods and sector we used the ANOVA and Kruskall-Wallis test. The "high" and "low" categories are determined relative to the median value. The following

hypotheses concerning the various variables were examined: (1) for firm size: the discrepancy is smaller for smaller firms; (2) for market trends: the discrepancy is smaller in a bull market; (3) for expert's reputation, the discrepancy is smaller for the more reputable experts relative to the less reputable experts; (4) for insider transactions: the discrepancy is larger in transactions with outsiders; (5) for holding percentage of insiders: the discrepancy is larger when majority shareholders have a larger holding percentage.

Table 3. Theil's analysis of variance of factors influencing the discrepancy between expert valuation and market value

Explanatory Variables Groups	**Marginal Contribution of Each Factor to the Total Variance**
	Proportion of Variance (R^2) in %
1. Ownership Structure	0.160
F	8.006
	(0.007)
2. Control Variables – Firm's specifics	0.289
F	0.781
	(0.672)
3. Joint Effects	0.061
4. R^2	0.510
	(0.016)

This table uses Theil's analysis of variance to examine the influence of insider holdings and specific company factors, on the discrepancy between expert valuation and market value, by computing and analyzing (V_{EXPERT} / MV). Lines 1-3 represent the explanatory contribution of the group of variables to the total variance of the premium, discounting the influence of other explanatory variables. The calculation was done in three stages: (1) R_n^2 was calculated by running a linear regression between the dependent variable and all the independent variables; (2) $R_{n-h_j}^2$ was calculated by running a linear regression between the dependent variable and all explanatory variables except the variables h_j; (3) Calculation of the relative contribution of a group of variables by subtracting $R_{h_j}^2$ from R_n^2. Line 4 is the R_n^2 of the linear regression between the price premium as the dependent variable and all explanatory factors. Line 3 is the difference between Line 4 and the sum of proportions in lines 1 and 2. The group of ownership structure contains a dummy variable for transactions with insiders-buyers and outsiders-sellers, which is assigned the value of 1, and the value of 0 otherwise. In the second group we include control variables that characterize the company - valuation method, industry sector, size, market trend, trading volume and expert's reputation. Numbers in parenthesis are p-values.

Table 4. Experts' forecasting errors in estimates of free cash flows and cost of capital

	Mean	SD	Minimum	Maximum	Percentile		
					25%	Median	75%
Forecasting Errors of Cash Flows							
Cash Flow in Year 1							
Forecast	27605	77563	-17414	303094	1183	7080	12900
Realized	14573	82508	-49205	305363	-2552	-67	8700
Cash Flow in Year 2							
Forecast	36485	108152	254	426316	1788	6291	20754
Realized	-12995	150228	-477058	296125	-17025	-1300	19079
Cash Flow in Year 3							
Forecast	44561	13395	1290	526728	2336	6261	20754
Realized	-58929	298428	-112877	158627	-3289	3515	18771
Cash Flow in Year 4							
Forecast	65121	174928	1171	638421	2653	7840	22477
Realized	-46511	166125	-598445	23200	-9514	-619	3043
Cash Flow in Year 5							
Forecast	84400	226199	1044	761582	4600	8639	20754
Realized	-7044	8742	-21160	5050	-14100	-3192	-360
Normalized Cash Flow from Year 6							
Forecast	82708	266501	618	1042008	3519	7557	13836
Realized, Method 1	-64634	257789	-995954	24300	-3179	182	5334
Realized, Method 2	-33330	137690	-530258	20000	-3210	-195	8935
Realized, Method 3	-7426	42459	-158186	23000	-2786	380	7767
Realized, Method 4	3978	6891	-1290	20200	-238	219	10489
Forecasting Errors of Cost of Capital							
Forecast	0.100	0.022	0.060	0.150	0.080	0.100	0.115
Realized	0.084	0.035	0.040	0.180	0.060	0.070	0.105
	(0.065)					(0.016)	

The Table presents comparison between realized free cash flows (FCF) and expert's forecasts based on the 15 expert valuations that used the DCF method. The FCF are in thousands of NIS. The normalized FCF starting from the sixth year was calculated in four alternative ways: (1) FCF during the preceding year; (2) Average FCF during the preceding two years; (3) Average FCF during the preceding three years; (4) Average FCF during the preceding five years. Figures in brackets represent the p-value for testing the hypothesis that there is no difference between the means (t-test) or between the medians (Wilcoxon test). Realized cost of capital is calculated using the CAPM model on the basis of data for the five years following date of publication of the report. Risk-free rate was estimated according to the average yields of government bonds of up to 10 years to redemption.

Table 5. Forecasting errors in expert valuation based on ex-post data

	Normalized Cash Flow according to			
	Preceding 1 Year	**Preceding 2 Years**	**Preceding 3 Years**	**Preceding 5 Years**
$\ln\left(\frac{V_{REALIZED}}{V_{EXPERT}}\right)$	-0.500	-0.424	-0.423	-0.540
	(0.006)	(0.002)	(0.002)	(0.001)

The table is based on the reconstruction of the 44 valuations in the sample using the DCF method. The forecasting errors are calculated as the percentage divergence between the value determined by the expert (V_{EXPERT}) and realized value ($V_{REALIZED}$). Realized value of each company is calculated based on realized free cash flows during the five years following the publication of the expert valuation report, a normalized free cash flow starting from the sixth year, and the actual cost of capital of the companies. Actual cost of capital is calculated using the CAPM model on the basis of data for the five years following date of publication of the report. β in the model is estimated on the basis of monthly data for the same period. Figures in brackets represent the p-value for the sign test that the median is significantly different from zero.

Table 6. Cumulative abnormal returns surrounding the publication date of the expert valuations

	T_1, T_2				
	-30,0	-30,10	-30,20	-30,30	-1,1
Mean	0.0133	0.0057	0.0088	-0.0116	0.0028
p-value	(0.58)	(0.72)	(0.16)	(0.67)	(0.77)

The cumulative abnormal return (CAR) is calculated according to the market model estimated using share prices over a period of 180 days - 210 up to 30 trading days preceding the date of announcement of the transaction for which the valuation was commissioned. T_1 and T_2 represent the event window. Values in brackets represent the p-value for a t-test that examines the hypothesis that the mean is insignificantly different from 0.

Table 7. The impact of expert valuations on market values: a long-term perspective

J=1	**J=2**	**J=3**
-0.204	-0.403	-0.559
(0.006)	(0.000)	(0.000)

This Table presents the average excess returns (CAR) calculated as follows:

$$CAR_{0,3-years} = \ln\frac{MV_j}{MV(-90)} - \ln\frac{S_j}{S_0}$$

where MV_j is firm's market value j years from the time the expert valuation was published, j=1,2,3, S_j is general stock index at time j. Numbers in parenthesis are p-values.

Appendix: Calculation of Free Cash Flows (FCF)

The actual FCF that were used in Section 6 were calculated using the following procedure. Free cash flows are those generated by the operating activities of the company and are free for distribution to the debtors, owners of convertible securities, or shareholders. We calculate the free cash flows of the companies in Real terms (i.e. Adjusted to the CPI in the month of the valuation by the expert) based on the information in the financial statements, which were published in the periods following the valuation by the expert as follows:

Cash flows from operating activities (1)

\+ Financing expenses, after tax (2)

\+ / - Special items, after tax (3)

\- Investments in Fixed Assets (4)

(1) Cash flows from operating activities are taken from the statement of cash flows in the financial statements.

(2) In an unlevered valuation, the enterprise (operating activity) and the debt are valuated separately. The value of the operating activities is calculated by discounting the cash flows from operating activities, that is – the net operating cash flows before financing expenses and the associated tax shield. Therefore, the financing items have to be isolated from the cash flows from operating activities. Besides the financing expenses that are required to pay for the financial obligations of the firm, financing revenues from financial assets are also isolated. The reason is that the financial assets are valuated separately from the operating activities and are included in the non-operating assets of the firm, or subtracted from its financial obligations.

(3) We also isolate from the cash flows from operating activities those cash flows stemming from revenues and expenses incurred not in the course of the ordinary operating activities of the firm (non-operating items) and special (extraordinary) items. We do not isolate cash flows from discontinued operations. Whether the expert predicted the discontinuation of the operations or not, it is still relevant to compare and contrast the expert's predictions regarding those operations to the actual results, just as we do for the continuing operations.

(4) From the cash flows from operations we subtract the cash flows used for investment in fixed assets that are necessary for continued operations. Those investments can be made in order to maintain current level of activity or in order to expand the operations and grow. Investments in fixed assets can also be made as the company is substituting labor with capital assets. When analyzing this item it is critical that we distinguish between assets that are being used in the operating activities of the firm and non-operating assets. At this stage only the first type is taken, since these assets are the ones that generate operating cash flows. By contrast, the investment in non-operating assets does not affect the operating results of the firm. Non-operating Assets usually include holdings in subsidiaries and affiliated companies, and real estate assets that are not used as part of the ordinary operating activities of the firm, but instead are held for development and/or resale in the future. The valuation of the non-operating assets is conducted separately from the valuation of the operating activities. In the event that these assets yield cash flows, we isolate these cash flows from the "cash flows from operating activities" item as part of the extraordinary items' adjustment (see (3) above).

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Causality between Exchange Rates and Stock Prices: Evidence from Malaysia and Thailand

Ai-Yee Ooi (Corresponding author)
School of International Business and Finance Labuan
Universiti Malaysia Sabah
11700 Jalan Sg. Pagar, Labuan F.T, Malaysia
Tel: 60-87-466713 E-mail: ooiaiyee@yahoo.co.uk

Syed Azizi Wafa Syed Khalid Wafa
School of International Business and Finance Labuan
Universiti Malaysia Sabah
11700 Jalan Sg. Pagar, Labuan F.T, Malaysia
Tel: 60-87-460473 E-mail: sazizi@ums.edu.my

Nelson Lajuni
School of International Business and Finance Labuan
Universiti Malaysia Sabah
11700 Jalan Sg. Pagar, Labuan F.T, Malaysia
Tel: 60-87-460481 E-mail: nlajuni1978@yahoo.com

Mohd Fahmi Ghazali
School of International Business and Finance Labuan
Universiti Malaysia Sabah
11700 Jalan Sg. Pagar, Labuan F.T, Malaysia
Tel: 60-87-466715 E-mail: mohdfahmi_ghazali@yahoo.com

Abstract

This study analyses the causal relationship between exchange rates and stock prices for Thailand and Malaysia. By using daily data from 1993 to 2003, this study attempts to examine the relationship between exchange rates and stock prices in Thailand and Malaysia during pre and post financial crisis. The paper also investigates the long-run relationship between the above-mentioned variables using Johansen-Juselius (1990) cointegration test and short-run dynamic causal relationship by using Toda-Yamamoto (1995) procedure. Likewise, variance decompositions (VDCs) analysis is employed to improve the predictable portion of exchange rate (stock price) changes on the forecast error variance in stock prices (exchange rates). Data from Thailand demonstrates the results predicted by the portfolio balance approach: stock prices lead exchange rates in both pre-crisis and post-crisis periods; however, Malaysian findings support portfolio approach in post-crisis.

Keywords: Exchange rates, Stock prices, Johansen-Juselius cointegration test, Granger-causality test, Toda-Yamamoto's procedure, VDCs, Thailand, Malaysia

1. Introduction

In the early 1990's, Asian Economy greatly attracted international fund managers or lenders to invest their capital in Asian markets. Unfortunately, the crash in Thailand's financial system in 1997 caused sheer panic and huge capital outflow from the Asian region leading to the Asian Currency crisis. The Asian crisis proper began in Thailand in July 1997. From 1996-1997, the property and stock market bubbles in Thailand burst. At the same time, the exchange rates in Asian countries also experienced a drastic fall. The collapse of stock prices and exchange rates spread widely to all the Asian countries. However, in Malaysia and the Philippines, generally regarded as having escaped lightly, the decline in exchange rates were not worse than Thailand and South Korea. Adding the fall in stock market to the fall in the exchange rates to get a broader measure impact, Malaysia was put as the worst group of affected countries, with the Philippines just behind. In short, the conventional understanding that only South Korea, Thailand, and Indonesia were badly affected is not actually true by these measures. In actual fact, Malaysia and the Philippines were hurt almost as much. Even Japan, Hong Kong and Singapore suffered badly from the substantial hits.

Many researchers argue that the crisis had brought about a contagious effect, that is when a country's currency falls; the neighboring countries' currency would fall too. Edwards (2002) stated that "contagion reflects a situation where the effect of an external shock is larger than what was expected by experts and analysts". Therefore, it indicates that contagious effects are entirely different from normal transmissions of shocks across countries. When the Thai currency depreciated, commodities in Thailand would be cheaper than in Malaysia. Consequently, Malaysia would devalue its ringgit in order to compete with Thailand. When speculators had the opportunities, they short sell the ringgit (Mohamad, 2000) and this eventually deteriorated the East Asian economy.

On another viewpoint, some other researchers such as Mishkin (2000) have proposed that the actual cause of the Asian financial crisis lies right in the inherent structural weaknesses of the debt markets of the affected countries themselves. It was observed that many large Asian corporations were financing their investments and projects primarily from bank loans, and hence, were highly geared from their large debt to capital ratios. Though this strategy of high gearing allows them to invest much more as compared to relying on pure equity alone, it is also these very high levels of debt themselves that create vulnerability to negative macroeconomic shocks such as drops in aggregate demand, rising interest rates, or even currency devaluation, which all ultimately caused reduced cash flows that worsened the crisis.

Instead of hunting for the cause of the crisis, this study will focus mainly on finding the direction of interdependence between exchange rates and stock prices in Malaysia as well as in Thailand, with the hope that our empirical findings can give some information to the policy makers. Many researchers study the causal relationship between exchange rates and stock prices. In particular, Abdalla and Murinde (1997) examined the exchange rate-stock price relationship in India, Korea, Pakistan and Philippines. The studies conclude that there is unidirectional causality from exchange rate to stock returns. The findings of this relationship in foreign exchange and stock exchange markets lend great significance in policy matters. Pan et al. (2000) found that the daily exchange rate Granger-cause daily stock price based on the data from seven East Asian countries namely Hong Kong, Japan, Korea, Malaysia, Singapore, Taiwan and Thailand. They report that the impact is even stronger after the Asian currency Crisis. Wu (2001) employed cointegration analysis to provide evidence that Singapore currency's appreciation against the US dollar and Malaysia ringgit and depreciation against the Japanese yen and Indonesian rupiah have positive long-run effects on stock prices.

This paper differs from other studies: here we examine the impact between Malaysia and Thailand only by using the two currencies (MYR and THB) converts alternatively (numerator and denominator) for foreign exchange rate. The purpose in using only MYR and THB for foreign exchange rates is to examine the direct shock from either Malaysia or Thailand. From this method, we can determine and prove that there is bidirectional causal relationship between Malaysia and Thailand foreign exchange rates. Malaysia and Thailand are located near to each other and are within the Southeast Asia region. In addition, Malaysia shares some partnerships with Thailand in the political, economic and business sectors. These are the reasons that this study only examines MYR and THB for foreign exchange rates. We also conduct an in-depth study on how the exchange rate of both countries is related to the stock prices (vice versa). If the exchange rate market is found to lead the corresponding stock market, then the government should control the exchange rate in its government policy. In addition, the main concern of domestic economic policy is to stabilize stock market when there is a lead of stock market to exchange market.

Figure 1 shows the Thailand Stock Prices (SETI) fluctuations from 1 November 1993 to 31 August 2003. There was a big decline from 1996 to 1998 due to the Asian crisis. After the crisis, fluctuations in stock prices seem to be stable. In Thailand stock prices exhibit a decreasing pattern until 1998 but exhibit an increasing trend after that. Malaysian stock prices also faced the same problem between 1997 and 1998 but became more stable after 1998 (Figure 2). In the pre-crisis period, prices exhibit an increasing trend; however, during the crisis period they exhibit a decreasing pattern. After the crisis the prices continue to exhibit an increasing trend.

From the Figure 3, we can see that Thailand exchange rate is stably fluctuated from 1993 until 1996 and 1999 until 2003. The exchange rate is Thai baht per Malaysia ringgit. Between the periods 1996 to 1998, the trend seems to be

aggressively increasing and decreasing. In Figure 4, Malaysia exchange rate also has the same condition. The Malaysian exchange rate is per Thai baht. The graph shows that there is an increasing trend before 1997 and after 1998. During 1997 until 1998 the exchange rate fluctuated upward and downward aggressively.

This study attempts to broaden the existing literature on the relationship between exchange rates and stock prices in Malaysia and Thailand during the 1997 currency crisis. Moving from the previous study, this research employs the combinations of (MYR/THB) for Malaysia and the (THB/MYR) for Thailand, both based on daily spot exchange rates. The purpose of using two different currencies (MYR and THB) between two countries (Malaysia and Thailand) is to examine whether these two different currencies will affect the relationship between stock prices and exchange rates in and between the two countries. More specifically, this study aims to investigate the relationship between exchange rates and stock prices in Malaysia and Thailand in the long run by employing Johansen's multivariate cointegration test, as well as to study the dynamic causal relationship between these two variables and to examine the momentum of adjustment in this causal relationship through variance decompositions.

2. Literature review

Prior to the Asian financial crisis, numerous studies have been carried out on the relationship between stock prices and exchange rate for a range of countries, both developed countries and developing countries. The empirical research of causal linkages between stock prices and exchange rates is still received special attention from many researchers, market regulators and policy-makers because of its relevant for policy implications. In fact, investors, who deal directly with the stock market and currently face integrated financial markets, are interested in the interaction between the involved variables that can be profitably exploited.

Among the example studies include the works by Abdalla and Murinde(1997), Granger, Huang and Yang (2000), Gunduz and Hatemi-J (2002), and Hatemi-J and Irandoust (2002). Most of the studies used Granger causal relationship between the two markets and the results show that traditional and portfolio approaches have supportive evidences. Abdalla and Murinde (1997) indicated that exchange rates lead stock prices in India, Korea, Pakistan and the Philippines. Hatemi-J and Irandoust (2002) found that changes in stock markets lead exchange rates which support the portfolio approach. Baharumshah et al. (2002) suggested that the stock market is an important determinant of exchange rate. However, Bahami-Oskooee and Sohrabian (1992) and Canova and De Nicolo (2000), failed to show any common trends between the exchange rate and the stock market. In another study, Granger, Huang and Yang (2000) investigated East Asian countries using recent Asian flu data, came to a conclusion that in South Korea the exchange rate changes lead stock markets while in the Philippines the opposite relation is found. They also found that data from Hong Kong, Malaysia, Singapore, Thailand and Taiwan indicate feedback relations, whereas those of Indonesia and Japan fail to reveal any recognizable pattern. Nieh and Lee (2001) indicated that there is no long-run significant relationship between stock prices and exchange rates in the G-7 countries and short-run significant relationship has only been found for one day in certain G-7 countries.

Bahmani-Oskooee and Sohrabian (1992) and Granger et al. (2000) stress the importance of the portfolio approach to analyzing the relationship between stock prices and exchange rates. This suggests that a rise in stock prices increases the domestic wealth of investors, facilitating a rise in the demand for money. Following the consequent rise in interest rates, capital is attracted into the domestic economy appreciating the domestic currency. This approach assumes there is a negative relationship between stock prices and exchange rates, with causality running from the stock market to the foreign exchange market. Given the speed with which international financial markets interact, the relationship implied by the portfolio approach should occur almost instantaneously. This explanation is the most relevant to this relationship during a currency crisis. Kasman (2003) indicated that stock indices of ISE and exchange rates move together in the long-run.

The asset market approach, at other extreme, indicates no relationship at all between exchange rate and stock prices as it treats exchange rate as an essential part of the price of an asset in terms of foreign currency. The major factors that change current exchange rate may not be the same for future exchange rate movements (i.e., currently exchange rate movement may be affected by export performance of a country, but in some future year exchange rate may be affected by some sudden supply shock, political events, productivity loss, war, stock market crash, hyper inflation or by other policy variables). Thus there should not be any causal relationship between these two variables (Muhammad and Rasheed, 2003). In the study by Kaminsky et al. (1998), stock prices are found to be the fourth best predictor of currency crises, of the variables used and the fourth best in terms of the persistence of the signal. In addition stock prices have an average lead-time of 14 months in advance of the currency crisis, measured from when the first signal occurs.

In retrospect of the literature, a number of hypotheses support the existence of a causal relation between stock prices and exchange rates. For instance, 'goods market approaches', Dornbusch and Fischer (1980) suggested that changes in exchange rates affect the competitiveness of a firm as fluctuations in exchange rate affects the value of the earnings and cost of its funds as many companies borrow in foreign currencies to fund their operations and hence its stock price. Ma

and Kao (1990) found that a currency appreciation negatively affects the domestic stock market for an export-dominant country and positively affects the domestic stock market for an import-dominant country, which seems to be consistent with the goods market. Ajayi and Mongoue (1996) findings provided evidence to indicate uni-directional causality between the stock and currency markets in all the advanced economies while no consistent causal relations are observed in the emerging economies. The overall results for daily data provide evidence that the stock and currency markets are well integrated in the six advanced economies with the exchange rates responding to innovations in the stock markets.

3. Theoretical framework

The theoretical explanations on whether exchange rates Granger-cause the stock prices or vice versa have been attempted through traditional and portfolio approaches. According to the traditional approach, changes in exchange rate lead changes in stock prices and vice versa for the latter. From the view of traditional approach, the appreciation (depreciation) of local currency increase (decrease) indebtedness in foreign currency and increase (decrease) in production cost, particularly in developing economies. Developing economies means that the country's production is relying greatly on imported raw materials. A simple explanation is that appreciation (depreciation) of the exchange rates affects the performance of firms on domestic as sell as international markets, and this is turn affects the share price of the firm (Aggarwal, 1981).

Portfolio balance approaches stress on the role of capital account transaction. Exchange rates are determined by market mechanism as like all commodities. In the portfolio approach, rising (failing) of the stock prices would attract capital flows from foreign investors which may cause an increase in the demand for a country's currency. A rise (fall) in stock prices will lead to an appreciation (depreciation) in exchange rates due to an increase in the demand (supply) of local currency. In other words, an exogenous increase in domestic stock prices will create an increase in domestic wealth and this, in turn, will result in an increase in the demand for money, thus an increase in interest rates. High interest rates will cause capital inflows resulting in an appreciation of the domestic currency (Krueger, 1983).

4. Data and methodology

4.1 Data

The daily data for exchange rates and stock prices are retrieved from DataStream, covering the sample period from November 1, 1993 to August 31, 2003. The end-of-day stock indices used in this study covers the Bangkok S.E.T. Index for Thailand and the Kuala Lumpur Composite Index for Malaysia. The exchange rates data are end-of-period nominal exchange rates, and consists of MYR/THB and THB/MYR exchange rates. All the series are transformed into natural logarithm form. To examine the impact of Asian financial crisis on the relationship of the variables on these two countries, sample period that is divided into two sub periods that covers from 1 November 1993 to 31 May 1997 (pre-crisis) and 1 February 1998 to 31 August 2003 (post-crisis).

4.2 Unit root test

Due to the importance of stationary properties, Augmented Dickey-Fuller (ADF) test, and Phillips-Perron (PP) test are employed to examine for unit roots and evaluate the robustness of the integration properties of exchange rates and stock prices. We first tested for stationary and the order of integration of the variables, at levels as well as first differences. More specifically, we tested whether SP and EX are integrated of order zero, I(0), that is, whether they are stationary. This was achieved by performing the ADF test, based on a standard regression with a constant and a time trend as follows:

$$\Delta Y_t = \alpha_0 + \alpha_1 T + \alpha_2 Y_{t-1} + \sum_{i=1}^{k} \lambda_i \Delta Y_{t-i} + \varepsilon_t \quad (1)$$

where $\alpha_2 = p\text{-}1$, Δ = the first difference operator, T = time trend and ε_t = white noise error. The lag length k is selected based on Akaike Information Criterion (AIC) so that all the residuals ε_t is white noise. The null hypothesis is that Y_t has unit root (non-stationary), that is H_0: α_2=0, verses the alternative hypothesis that Y_t is stationary or H_1: α_2<0. The test is done by Mackinnon (1996) test statistic at the 1% and 5% significant levels.

4.3 Johansen's approach for cointegration

After that, we proceed to test the cointegration between the two variables by using the maximum-likelihood approach of Johansen and Juselius (1990). This technique is appropriate for investigating the number of cointegrating relations among the variables involved. It is good practice to pretest all variables to assess their order of integration. In most instances the variables are integrated of the same order. The results of the test can be quite sensitive to the lag length. The most common procedure is to estimate a vector autoregression using the indifference data. Then use the same lag-length tests as in a traditional VAR. Estimate the model and determine the rank of π. The Johansen–Juselius technique (see Johansen (1988); Johansen and Juselius (1990)), here after referred to as the JJ technique which is a multivariate extension and allows for more than one cointegrating vector or common stochastic trend to be present in the data. Masih and Masih (2002) also summarise several advantages of JJ approach in testing for cointegration: (i) the JJ procedure does not prior assume the existence of at most a single cointegrating relationships; (ii) the JJ method is established on a unified framework for estimating and testing cointegration relations within the VECM formulation; (iii) JJ provide the appropriate statistics and

the points distributions to test hypothesis for the number of cointegrating vectors and test of restrictions upon the coefficients of the vectors.

The Johansen (1991) model can be written in error-correction form, as follow:

$$\Delta Y_t = \delta + \sum_{t=1}^{k-1} \Gamma_1 \Delta Y_{t-1} + \Pi Y_{t-k} + u_t \quad (2)$$

where Y_t is a column vector of the n variables, Γ and Π represent the coefficient matrices, Δ is a difference operator, and δ is the constant. If Π has zero rank, then there is no linear combination that is stationary between the variables. However, if Π is of rank $r > 0$, there are r possible linear combinations. Π can then be decomposed in to two matrices, α and β, that is $\Pi = \alpha\beta'$. In this representation, β contains the coefficients of the r cointegrating vectors that render $\beta' Y_t$ stationary, even though Y_t is non-stationary, and α contains the speed adjustment coefficients. Before performing the JJ approach, the model has to be specified with regard to the inclusion of a constant or a trend, and the number of lags. It is unlikely that a time trend would be necessary for most financial markets, however, since there is some trend in the data (see Figure 1 to 4), a constant is included. The Akaike Information Criterion (AIC) is used to determine the number of lags for each series. Given that stock price and exchange rate tend up-downward over time, a linear deterministic trend is assumed for the tests.

4.4 Causality test

To test the causality between stock prices and exchange rates, Toda and Yamamoto (1995) procedure is used. The Toda and Yamamoto (1995) procedure essentially suggests the determination of the d-max, i.e., the maximal order of integration of the series in the model we suspect might occur in the process, and to intentionally over-fit the causality test underlying model with additional d-max lags. So that the VAR order is now p=k+d-max, where k is the optimal lag order. The coefficient matrices of the last d-max lagged vectors in the model are ignores (since these are regarded as zeros), and we can test linear or nonlinear restrictions on the first k coefficient matrices using the standard asymptotic theory.

4.5 Variance decompositions (VDCs)

This study has employed the variance decompositions (VDCs) approach as analytical tool. VDCs analysis is named as out-of-sample causality test, which used to provide an indication of the dynamic properties of the system. VDCs analysis is a convenient method to partition the variance of forecast error of a certain variable into proportions attributable to innovations or shocks in each variable in the system. A vector autoregression (VAR) can be written as a vector moving average (VMA). Where, equation (3) can be iterated backward infinite times to obtain equation (4).

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{k} \alpha_i \Delta X_{t-i} + \varepsilon_{1t} \quad (3)$$

$$\Delta Y_t = \mu_0 + \sum_{j=0}^{\infty} \alpha_1^j \varepsilon_{t-j} \quad (4)$$

where $\mu = (i + \alpha_1 + \alpha_2 + \ldots\ldots)$. α_0 is the unconditional mean of X_t. The fact in equation (4) is the VMA representation of Equation (3) in that variables (Yit) are expressed in terms of the current and past values of the various types of shocks (ε_{it}). The VMA representation of equation (3) is an essential feature of Sims (1980) methodology which allows a tracing out of the time path of the various shocks on the variables contained in the VAR system.

5. Empirical results

5.1 Unit root test

The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests results are presented in Table 1 and Table 2 respectively. Both of the test shows that all variables are stationary at first difference at 1% significance level. The ADF and PP test statistics are able to reject the null hypothesis at 1% significance level for all series in first-difference form. Putting all these results into perspective, all the variables are integrated of order one or I(1), and allow us to proceed with the cointegration tests.

5.2 Johansen-Juselius's approach for cointegration

Refer to Table 3, the results suggest the presence of cointegration among the variables in both sample periods. Evidence from both trace and maximal eigenvalue test suggests that there is at most a single cointegrating vector in pre-crisis. The null hypothesis is rejected for pre-crisis period where the t-statistic for trace and maximal eigenvalue are 95.5163 and 79.2681 respectively which means statistically significant at 1% level. As for post-crisis period, trace test suggest that there is an evidence of at most two contegrating vectors as the null hypothesis is rejected. The t-statistic is 32.4798 and it

is statistically significant at 5% level. Meanwhile maximal eigenvalue suggest that there is at most one cointegrating vector with t-statistic of 18.6578. Thus, it is statistically significant at 1% level. There are at most two cointegrating vectors or three stochastic trends in the data in post-crisis period. The findings demonstrated the existence of long run relationships among the variables. Although cointegration exists among the variables, not all of them will enter the cointegrating vector system. An important implication from these integration and cointegration tests is that the dynamic interactions among these variables need to be based on vector error correction modeling (VECM). Alternatively, the finding of cointegration among the variables validates the standard VAR in levels.

5.3 Causality test

The results of tests of restrictions from a VAR estimated by the procedure prescribed by Toda and Yamamoto (1995) are summarized in Table 4.

For the period of pre-crisis, the results demonstrate that exchange rate does not cause stock price and stock price also does not cause exchange rate in Malaysia at 10% significance level. This implies that there is no causality running from stock price to exchange rate and vice versa in pre-crisis. The finding is in contrast with Granger et al. (2000) and Pan et al. (2000). In Thailand, the results show that exchange rate does not cause stock price whereas stock price is found to lead exchange rate at 10% level. This indicates that there is unidirectional causality relationship between stock price and exchange rate. Thus, Thailand case supports the portfolio approach in pre-crisis. Results for the post-crisis, however, provide somewhat of a different story. There is unidirectional causality from stock price to exchange rate in Malaysia at 5% significance level. Therefore, Malaysia also supports the portfolio approach in post-crisis.

The findings for the relationship between stock prices and exchange rates across countries are showed in the same table. The results suggest that there is unidirectional causality relationship between Thailand stock price and Malaysia exchange rate in pre-crisis as its F-statistic is significant at 5% significance level. No causal relationship between Malaysia stock price and Thailand exchange rate is found. For post-crisis period, there are unidirectional causality relationships between Thailand stock price and Malaysia exchange rate; Malaysia stock price and Thailand exchange rate in post-crisis. Both results are significant at 1% and 5% significance levels respectively.

The results for stock prices relationships across countries demonstrate that there is significant bidirectional causality between the stock prices of Malaysia (KLCI) and Thailand (SETI) at 5% level in pre-crisis. Nevertheless, unidirectional causal relationship from Malaysia stock price to Thailand stock price is found in post-crisis. Meanwhile, in foreign exchange market across these two countries, the result shows unidirectional relationship from ringgit-bath to bath-ringgit at 10% significance level. The findings of causality relationship between stock price and exchange rate for Thailand and Malaysia within as well as across countries are summarized in Figure 5 and Figure 6.

5.4 Variance decompositions (VDCs)

The variance decomposition results are presented in Table 5 for pre-crisis and Table 6 for post-crisis, for five different accumulative months to 24 months.

Refer to the Table 5, through main diagonal, the extent to which a variable is exogenous explains most of its shock can be found; it then does not allow variances of other variables to contribute to it being explained. Obviously, in terms of the own shock being explained, Thailand stock price itself and secondly the Thailand exchange rate to a lesser degree illustrates its relative exogeneity with over 98.60% and 98.38% of own variances being explained by their own innovations. By far, the most explained variables in terms of its relative variance being explained by other variables, appears to be Malaysia exchange rate, where 95.55% of its shock are explained by innovations in other variables. In addition, results point to the Thailand stock price explaining a quite considerable proportion of fluctuations in the shocks to other variables.

VDCs which is useful in quantifying causal linkages is employed to examine the post-crisis analysis, which is presented in Table 6. Over post-crisis sample period, Thailand stock price and exchange rate still exogenous than Malaysia stock price and exchange rate. However, Thailand stock price seem to be even more exogenous in post-crisis than pre-crisis with 99.50% of its own variances being explained by its own innovations. While Thailand exchange rate seems less exogenous with over 97.01% of its shocks are accounted for by its innovations in post-crisis compare to pre-crisis. Besides that, we also found that Malaysia stock price in terms of its relative variance being explained by its own innovations increase from 80.69% in pre-crisis to 88.55% in post-crisis by 7.86% and Malaysia exchange rate, where 96.16% of its shocks are explained by innovations in other variables. The shock decreases by 0.39% in post-crisis compare to pre-crisis.

6. Conclusion

In this study, we examine the dynamic linkages between exchange rate and stock prices for Thailand and Malaysia. While literature suggests that the existence of significant interactions between the two markets, our empirical results show that stock prices Granger-cause exchange rates have more significant causal relationship compared with causal relationship from exchange rates to stock prices. This major finding is robust with respect to various statistical tests used, including the

Johansen-Juselius cointegration test, the new Granger causality test, and a variance decomposition analysis. We develop a VAR model and use a multivariate MWald statistic to test restrictions on its parameters.

Based on the estimated results, we find that Granger causality is unidirectional causality relationship from stock prices to exchange either within country or across countries for the case of Thailand and Malaysia. In the case of Thailand, we found that Thailand is supportive of the portfolio approach, which suggest a unidirectional causal relationship from stock prices to exchange rates in pre-crisis and post-crisis. On the other hand, we also found Malaysia is supportive of the portfolio balance approach in post-crisis. There is interaction between the two stock markets in Malaysia and Thailand in pre-crisis. In the other word, the two markets are closely linked. There is only unidirectional causal relationship from Malaysia stock market to Thailand stock market in post-crisis. Our findings also suggest that there is bidirectional causal relationship between the foreign exchange for Thailand and Malaysia in post-crisis.

Furthermore, the findings show that there is unidirectional causal relationship from Malaysia stock market to Malaysia exchange rate, Thailand stock market, and Thailand exchange rate in post-crisis. Therefore, Malaysia can pursue policies to strengthen financial market transparency and accountability in the country that can prevent volatility in the stock prices as well as the erratic movement of the currency value in the foreign exchange market. This study only focuses on the linear relationships, thus, further study could be extended by using non-linear relationships between the variables.

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Table 1. Result of the Augmented Dickey-Fuller test (H_0: unit root, H_A: no unit root)

	Levels		First difference	
Variables	No trend	Trend	No trend	Trend
Pre-crisis period (1/11/1993 to 31/5/1997)				
SETI	1.2292[1]	-0.5668[1]	-25.9169[0]***	-26.0526[0]***
KLCI	-2.7216[1]	-2.9951[1]	-20.5139[1]***	-20.5037[1]***
THB/MYR	-2.2556[15]	-4.4102[15]***	-4.9362[14]***	-4.911214]***
MYR/THB	-2.2046[15]	-4.4016[15]***	-5.0736[14]***	-5.0511[14]***
Post-crisis period (1/2/1998 to 31/8/2003)				
SETI	-2.4174[12]	-2.4233[12]	-10.3287[9]***	-10.4371[9]***
KLCI	-2.0233[20]	-2.2394[20]	-7.3033[19]***	-7.3133[19]***
THB/MYR	-2.0516[14]	-3.2341[14]*	-8.1401[16]***	-8.1263[16]***
MYR/THB	-2.1099[14]	-3.3486[14]*	-8.1283[16]***	-8.1168[16]***

Note: *, **, *** denote significant at 10%, 5% and 1% significance levels, respectively.

Table 2. Results of the Phillips-Perron test (H_0: unit root, H_A: no unit root)

	Levels		First difference	
Variables	No trend	Trend	No trend	Trend
Pre-crisis period (1/11/1993 to 31/5/1997)				
SETI	1.4145[8]	-0.5198[8]	-25.9100[8]***	-25.9477[11]***
KLCI	-2.6055[6]*	-2.8474[5]	-25.0486[11]***	-25.0336[12]***
THB/MYR	-1.6237[17]	-3.0583[16]	-25.9074[22]***	-25.8901[22]***
MYR/THB	-1.5810[16]	-3.0801[15]	-25.3183[22]***	-25.2980[22]***
Post-crisis period (1/2/1998 to 31/8/2003)				
SETI	-2.1607[7]	-2.1392[5]	-34.5538[1]***	-34.7058[3]***
KLCI	-1.6356[5]	-1.8096[5]	-37.3855[3]***	-37.3756[3]***
THB/MYR	-1.9399[12]	-3.1949[12]*	-34.6985[11]***	-34.7006[11]***
MYR/THB	-1.9723[11]	-3.2633[10]*	-34.8430[10]***	-34.8493[10]***

Note: *, **, *** denote significant at 10%, 5% and 1% significance levels, respectively.

Table 3. Johansen and Juselius cointegration test

λ_{trace}			λ_{max}		
H_0	H_A	t- statistic	H_0	H_A	t- statistic
Pre-crisis period (1/11/1993 to 31/5/1997)					
r = 0	r ≥ 1	95.5163***	r = 0	r = 1	79.2681***
r ≤ 1	r ≥ 2	16.2483	r ≤ 1	r = 2	10.6475
r ≤ 2	r = 3	5.6007	r ≤ 2	r = 3	4.2881
Post-crisis period (1/2/1998 to 31/8/2003)					
r = 0	r ≥ 1	85.8733***	r = 0	r = 1	53.3935***
r ≤ 1	r ≥ 2	32.4798**	r ≤ 1	r = 2	18.6578
r ≤ 2	r = 3	13.8220	r ≤ 2	r = 3	8.8778

Note: ** and *** denote significant at 5% and 1% level.

Table 4. Test for Granger-causality applying the Toda-Yamamoto modified Wald test

	Independent variable			
	SETI	KLCI	THB/MYR	MYR/THB
Dependent variable	F-statistic			
Pre-crisis period (1/11/1993 to 31/5/1997)				
SETI	-	3.1623**	1.2337	0.9510
KLCI	4.5183***	-	1.5837	1.3761
THB/MYR	2.4444*	1.7887	-	2.3983*
MYR/THB	2.9900**	1.5925	2.0101	-
Post-crisis period (1/2/1998 to 31/8/2003)				
SETI	-	2.6142***	1.0879	0.8712
KLCI	1.4282	-	0.8669	0.8203
THB/MYR	2.9457***	2.0898**	-	2.8471***
MYR/THB	2.6118***	2.0923**	2.4910**	-

Note: *, **, *** denote significant at 10%, 5% and 1% significance levels, respectively.

Table 5. Decomposition of variance for pre-crisis model

	Percentage of forecast variance explained by innovations			
Days	SETI	KLCI	THB/MYR	MYR/THB
Relative variance in SETI				
1	100.0000	0.0000	0.0000	0.0000
3	98.7207	0.6311	0.6370	0.0113
6	98.6002	0.6668	0.7200	0.0130
12	98.6001	0.6668	0.7200	0.0131
24	98.6001	0.6668	0.7200	0.0131
Relative variance in KLCI				
1	17.2052	82.7948	0.0000	0.0000
3	17.9190	80.8007	1.2416	0.0388
6	17.8829	80.6914	1.3842	0.0415
12	17.8829	80.6912	1.3842	0.0417
24	17.8829	80.6912	1.3842	0.0417
Relative variance in THB/MYR				
1	0.1959	0.0235	99.7806	0.0000
3	0.2903	0.7453	98.4194	0.5450
6	0.2918	0.7515	98.3788	0.5779
12	0.2918	0.7515	98.3771	0.5796
24	0.2918	0.7515	98.3771	0.5796
Relative variance in MYR/THB				
1	0.1247	0.0065	96.8130	3.0558
3	0.3066	0.7360	95.5546	3.4027
6	0.3097	0.7437	95.4950	3.4516
12	0.3097	0.7437	95.4936	3.4529
24	0.3097	0.7437	95.4936	3.4529

Notes: Figures in the first column refer to horizons (i.e. number of days)

Table 6. Decomposition of variance for post-crisis model

	Percentage of forecast variance explained by innovations			
Days	SETI	KLCI	THB/MYR	MYR/THB
Relative variance in SETI				
1	100.0000	0.0000	0.0000	0.0000
3	99.5073	0.3163	0.0212	0.1553
6	99.4995	0.3196	0.0220	0.1589
12	99.4994	0.3196	0.0221	0.1589
24	99.4994	0.3196	0.0221	0.1589
Relative variance in KLCI				
1	10.5371	89.4629	0.0000	0.0000
3	10.7103	88.5639	0.6972	0.0286
6	10.7103	88.5482	0.6983	0.0431
12	10.7103	88.5479	0.6984	0.0434
24	10.7103	88.5479	0.6984	0.0434
Relative variance in THB/MYR				
1	0.3645	1.0519	98.5837	0.0000
3	1.6802	1.2113	97.0471	0.0614
6	1.6840	1.2118	97.0130	0.0912
12	1.6841	1.2118	97.0125	0.0917
24	1.6841	1.2118	97.0125	0.0917
Relative variance in MYR/THB				
1	0.4062	0.9780	95.8239	2.7920
3	1.5724	1.1203	93.6093	3.6980
6	1.5808	1.1238	93.4533	3.8421
12	1.5809	1.1238	93.4510	3.8443
24	1.5809	1.1238	93.4510	3.8443

Notes: Figures in the first column refer to horizons (i.e. number of days).

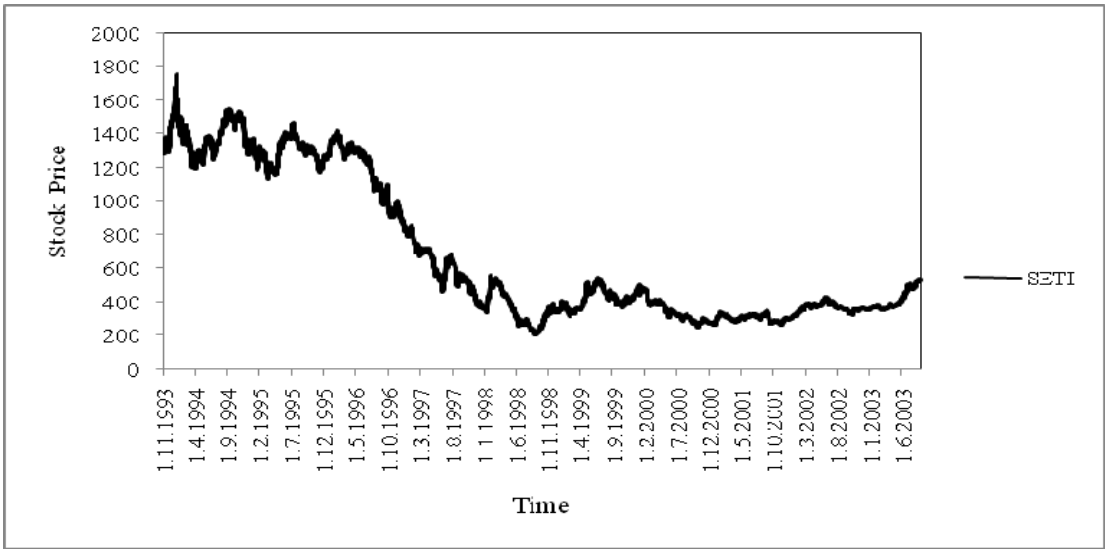

Figure 1. Thailand Stock Prices Fluctuations (Full Sample Period)

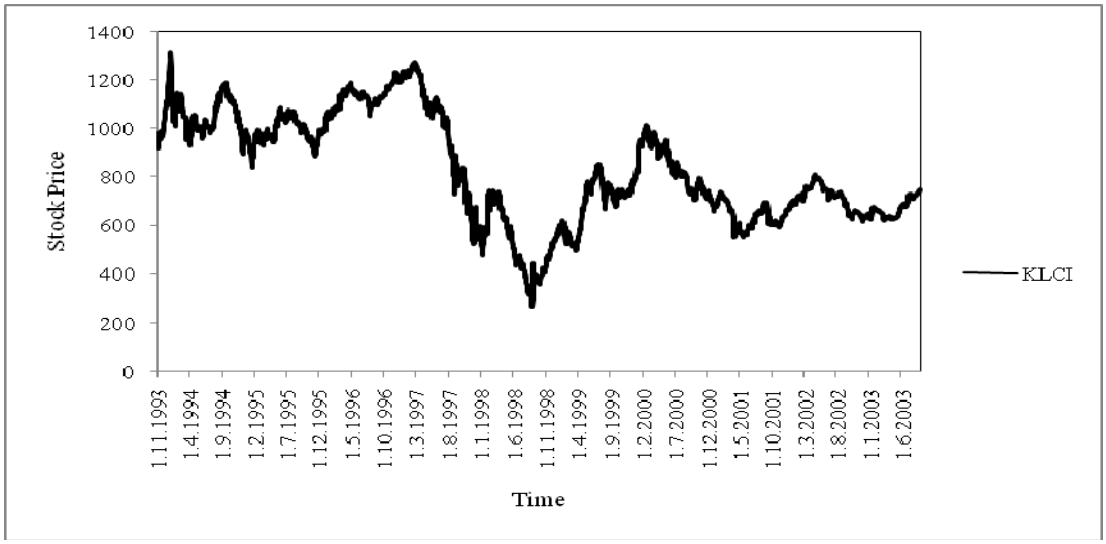

Figure 2. Malaysia Stock Prices Fluctuations (Full Sample Period)

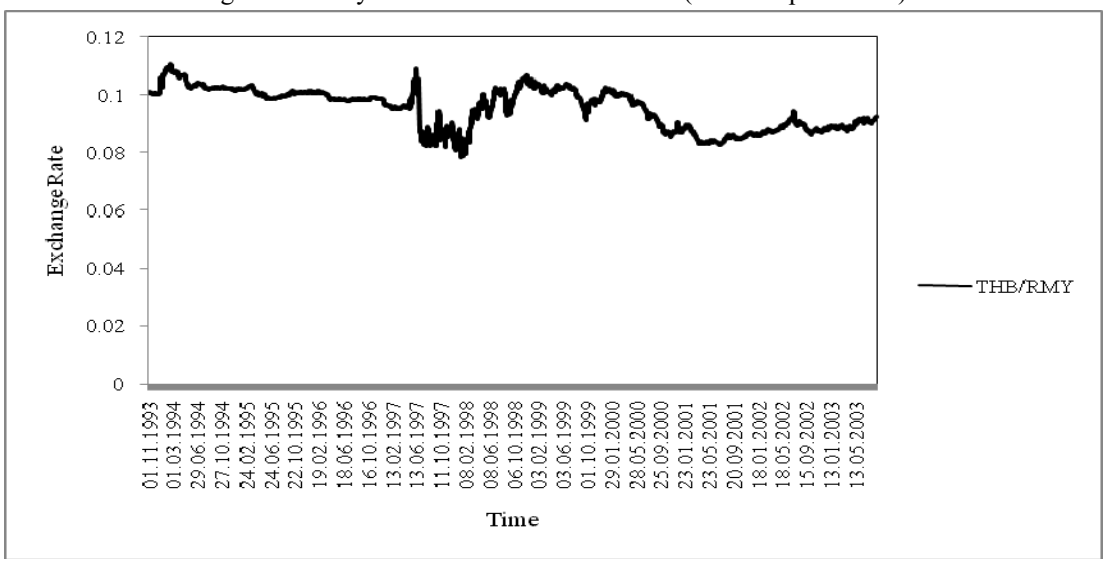

Figure 3. Thailand Exchange Rate Fluctuations (Full Sample Period)

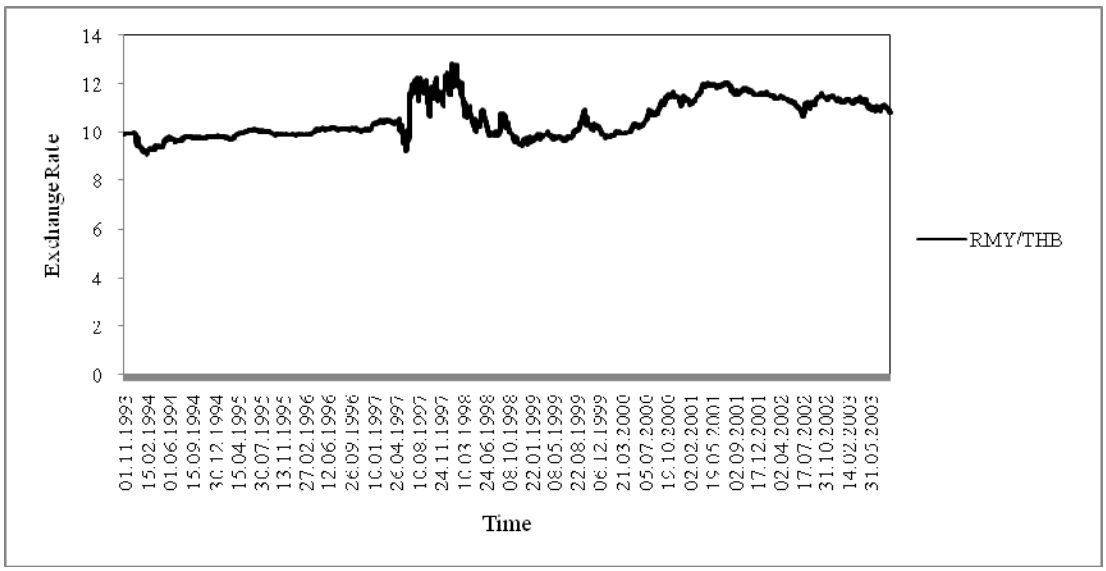

Figure 4. Malaysia Exchange Rate Fluctuations (Full Sample Period)

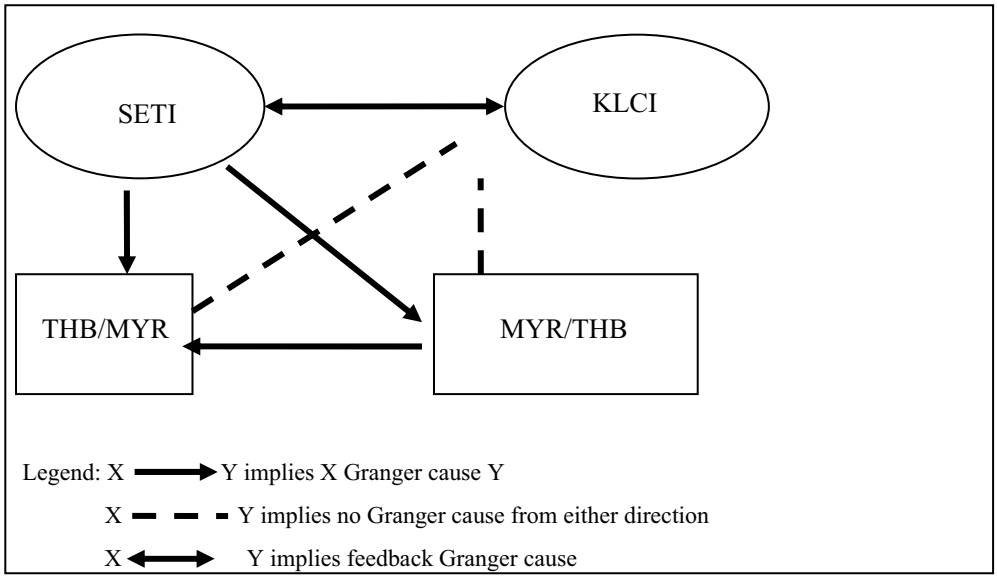

Figure 5. Summary of Granger-causality for pre-crisis

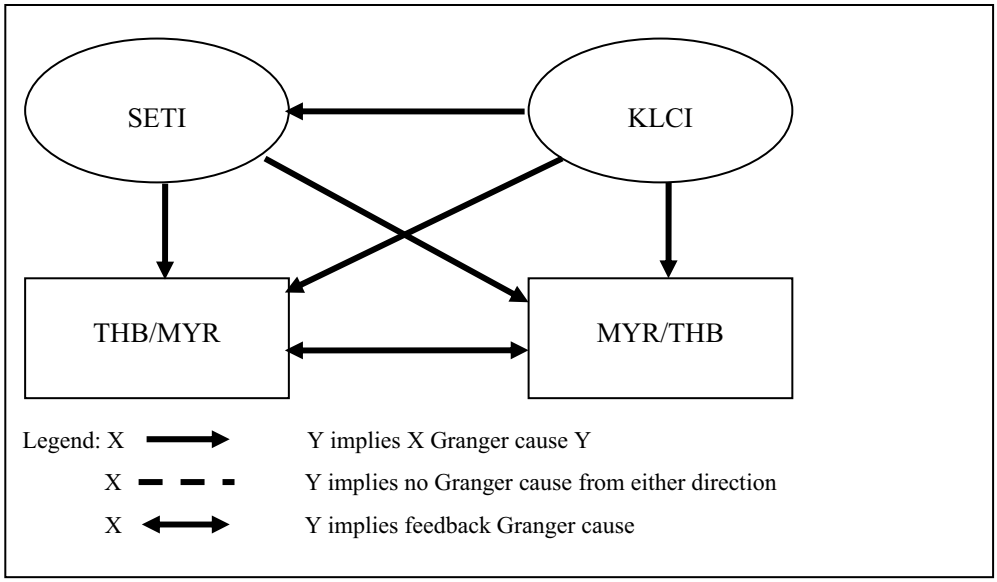

Figure 6. Summary of Granger-causality for post-crisis

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Probe into the Talent Cultivation Based on Learning Enterprises

Jianping Gu
School of Business
Nanjing Normal University
Nanjing 210097, China
E-mail: friendgjp@126.com

Xinfang Wu
China Petroleum & Chemical Corporation
Puyang 457001, China
E-mail: xuwensh@tom.com

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Abstract

In the severer market competition, the learning character of enterprises tends to be the most important resource of enterprises winning and maintaining market competence. By analyzing problems in talent cultivation based on learning enterprises at present in China, this thesis advances that enterprises can make efforts from these aspects: updating thoughts and opinions, improving enterprise qualities, enhancing internal cooperation, and constructing human-oriented corporate culture.

Keywords: Learning enterprise, Talent cultivation, Core competence

The theory of learning enterprises has always wined attentions from domestic and foreign scholars and enterprises since its appearance. The Royal Dutch Shell thinks: Enterprises in 21st century are learning enterprises. The only sustainable competitive advantage of an enterprise is to learn faster than competitors. The ultimate reason for Chinese enterprises' "short life cycle" is the weak learning ability of Chinese enterprises. In general, the construction of learning enterprises is still at a lower level. Considering Chinese enterprises' shortcomings, China should construct learning enterprises to improve enterprises' market competence.

1. To construct learning enterprises is an urgent task for improving qualities of enterprise talents

Along with the coming of knowledge economic times, the competition between enterprises is equal to the competition of employees' qualities. Only with high-quality employees, can it be a high-quality enterprise. Employees' qualities, to a great degree, are determined by their learning abilities. In a sense, the essence of enterprise competition is the competition of learning abilities at the new era. The only competitive advantage of an enterprise is from the faster learning ability than competitors. Therefore, constructing a learning enterprise, encouraging employees to learn and update their knowledge structure continuously, and helping them to make best use of intelligence are inevitable options for an enterprise participating in the competition in knowledge economic times, and also important guaranties for an enterprise stabilizing its position in market and wining the competition.

Learning is the origin of enterprise life. In future the real excellent enterprise should be a learning enterprise. Therefore, for all enterprises the strategic objective is to construct the learning character of enterprises. Enterprise managers should liberate their traditional thoughts, pursue for innovations, realize the decisive effect of founding learning enterprises on enterprises' fate in future, improve the business ideology, enhance the exploration and management of human resources, and increase the intellectual and financial investments in continuous education. Build up a continuously learning theory and mechanism, create a favorable environment for learning, and improve employees' autonomous learning consciousness and competence. Then, learning knowledge and pursuing for development and self perfection will become the inner needs of employees. In enterprises, a thick phenomenon for team learning will come into being. Besides, encourage students to turn learning ability into creativity, achieving the common development of employees and enterprise.

2. Problems in talents cultivation based on learning enterprise in China at present

Compared with foreign learning enterprises, Chinese enterprises lag far behind in many aspects, such as learning, organization, and knowledge management, which is resulted from Chinese enterprises' defects in thoughts and ideas, enterprise strengths, and corporate culture. This thesis will analyze the problems of Chinese learning enterprises in thoughts and ideas, enterprise strengths, and corporate culture.

2.1 Insufficient recognition to the construction of learning enterprises

In China, many domestic enterprises step into a wrong path because of insufficient recognition to the construction of "learning enterprises". In detail, the first is a misunderstanding to "learning enterprise". Some enterprises equalize the "learning enterprise" with learning. To absorb information and knowledge does not mean real learning. The real learning is to adjust behaviors and change activities. The second is the "dynamic" construction. For traditional enterprises, without organizational reform, the so-called learning means nothing but a catchword. The "learning enterprise" is a product of modern enterprise system, which is built in an organic, flexible, and human-oriented organization that can realize the sustainable development, based on a flat organization structure.

2.2 Enterprises' weak ability of knowledge transformation

In China, the serious problem in enterprises at present is the weak ability of knowledge transformation. In general, Chinese enterprises are not good at transforming knowledge into productivity and learning new technologies. Although some excellent enterprises, such as Haier, Huawei, and Lenovo, can transform knowledge into productivity relatively faster in knowledge application, establishment, and consumption aspect, and begin to emphasize on developing independent intellectual property and avoid infringing others' intellectual property, lots of enterprises could not transform knowledge into productivity effectively. These enterprises possess amounts of rich customer information, but they merely store them in present system instead of applying them to production decision. Meanwhile, they are busy with collecting more information. Finally, they get into a sea of information.

2.3 Enterprises' mental model needs to be changed

Many domestic enterprises still maintain the former mental model, insisting on traditional thoughts and refusing to adapt themselves to changes of times. It mainly focuses on three aspects: Firstly, many domestic enterprises fail to think over problems systematically and do not form a global vision. Although some enterprises have already emphasized on internationalization and have gained certain achievements by production and sales aboard, most enterprises do not possess an internationally operational thinking mode. They just copy what they have done in domestic market as they operate internationally. In fact, these enterprises take their domestic development, special history period, and Chinese special conditions into consideration. Meanwhile, as they learn from excellent enterprises, they merely notice others' successful operating mode. Secondly, enterprise operations rely on entrepreneurs' individual thoughts and philosophy. Because enterprise operations depend on entrepreneurs' individual decisions for a long period, employees are in a habit of accepting orders instead of making innovations. In employees' eyes, entrepreneurs are the "God" in a sense. It reflects a closed mental model of employees and enterprises.

2.4 Corporate culture lacks of sufficient emphases on humanism

In China, the corporate culture bears a strong eastern complex. The eastern culture emphasizes on the interests of collectivity. It advocates individual devotions. This eastern complex leads to such a result that enterprises pay more attentions on collectivity benefits but neglect the importance of humanism. At present, few domestic enterprises are human-oriented. Most traditional enterprises lay extra stresses on science and technology, which emphasize on enterprise development but neglect employees' individual growth.

3. Approaches for cultivating talents based on learning enterprises

3.1 Change the conception and construct a positive attitude

To construct a learning enterprise means a reform in thoughts and activities as a matter of fact. To change leaders' thoughts is the primary task of constructing a learning enterprise. Leaders should attach importance to learning. Enterprise leaders should be not only educators who understand the education, but also learners who deserve to be admired by employees. Only when use this idea to direct activities, can learning be placed at a strategic center, and be emphasized equally as work, achieving practical effects and becoming sustainable learning. Meanwhile, considering the practical conditions, enterprises should enhance and improve employees' position training, and help employees to build up an ideology that is in accordance with market economy. Enterprises must especially emphasize the importance of learning to employees, combine learning and the enterprises' objectives together, and help employees to build up an idea that focuses on the work-and-learning integration, the lifelong learning, and the continuous innovation.

3.2 Develop and improve enterprise quality

Only when an enterprise takes its practical conditions as the base and set up a regular and systematic learning enterprise system, can it achieve greater development. First of all, set up a common vision. A common vision is a future image hold by all employees. In simple, it refers to "what the enterprise wants to create". The common vision supplies the focus and energy for learning. Without a vision, the learning is only for adaptation. Only when all employees devote themselves to a common business, can it generate creative learning. The common vision is not an order from the top management level. It needs employees' common commitments, devotions, and inputs. Find out employees' different needs and career programs. Add them to the enterprise's common vision systematically. Then, develop the vision by combining it with specific strategies, programs, and policies and make each employee understand his or her daily work and conditions of the organization. Besides, the enterprise should attach importance to employees' long-run development and respect their suggestions. In order to integrate the objectives of an enterprise with the organizational learning, the enterprise should construct a proper and reasonable incentive mechanism, promoting the learning effects and combining it with employees' benefits. By this way, employees' enthusiasm for learning will be improved. In addition, to build up a flat organizational structure can benefit the internal information exchange and share in the enterprise.

3.3 Be human-oriented and construct a learning corporate culture

In the modern sense, "learning" surpasses the pure traditional concept that means inheritance. It is a process in which people acquire, apply, produce, and create new knowledge. Learning enterprises takes innovations as the center. Human is the subject of innovations. So, to construct learning enterprises must cultivate a human-oriented corporate culture, focusing on learning and integrating with excellent cultures, based on inheriting and developing the essence of traditional corporate culture. Enterprises should attach importance to talents and adopt effective measures to ensure employees' benefits, which can make employees devote themselves to work. As a result, it will change the meanings, contents, approaches, and organizational systems of enterprises' original learning and innovations, and help enterprises to construct and cultivate the speed culture that responses fast, the innovation culture that focuses on sustainable learning, and the competition culture that suits for challenges.

3.4 Develop together and strengthen cooperation with exterior agencies

Enterprises should strengthen the cooperation with other interest-related parties, build up a competition and cooperation thought, and achieve a win-win result. In specific:

Firstly, balance the relationship with the media. In an information society, media is an important source for people obtaining information. It is a reliable information channel. Therefore, the relationship with the media can directly impact an enterprise's image, reputation, and credit. On one hand, an enterprise should guarantee the quality of product and service. On the other hand, the enterprise should make best use of media in advertising, improving its image in people's mind.

Secondly, treat other interest-related communities kindly. For any enterprise, the success is determined by the whole commercial net but not only its employees and customers, in the future commercial society. Therefore, enterprises should get rid of traditional market thinking model, kindly treating each interest-related community. To serve other interest-related communities is to serve themselves, what is a valuable asset in the future.

Thirdly, emphasize on learning from customers. Customers are experts who use the products. They can offer the latest product information, the using result of product, the feedback to product service, the advantages and disadvantages of product, and the suggestions for improvement. All these information will stimulate the improvements and innovations of product. Customers' evaluations and attitudes to different enterprises can serve as important references for enterprises' leaders evaluating competition conditions.

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"Just Done It"--- Nike's New Advertising Plan Facing Global Economic Crisis

Tianbai Deng
MBA Marketing
SolBridge International School of Business
Daejeon 305-340, South Korea
E-mail: dengtianbai@hotmail.com

Abstract
Nike, Inc. is a marketer of sports apparel and athletic shoes. The American manufacturer, through its marketing strategy which rests on a favorable brand image, has evolved into a large multinational enterprise. In keeping with the brand image is its association with the distinctive logo and its advertising slogan, "Just do it." In order to maintain and sustain this image, the company makes huge investments in advertising and brand promotion.

At the critical time of global economic crisis, Nike will react to the consumers' pessimistic attitude and stressful emotion during this period. It may become a good chance for Nike because it can take advantage of its previous advertising way of "Just Do It" campaign by sponsoring sports stars to express the corporate philosophy of grit, determination, passion and humor, giving people more courage and psychological comfort in face of economic crisis.

But besides that, we also focus more about family function especially in Asian countries which emphasize a lot on family, which can provide caring emotional communication. Therefore, from both strong-willed hero worship and water-like fork environment, customers can easily link Nike image with not only strength, but also warmth. The preferred media we choose are TV, specific magazines, outdoor and internet.

Keywords: Economic crisis, Nike, New advertising strategy, "Just done it!"

1. Introduction

Nike, Inc. is a leading supplier and marketer of sportswear and equipment. The American manufacturer was founded on January 25, 1964 as Blue Ribbon Sports. In 1978, the new Nike, Inc. was formally built under the name of Nike which has the meaning of Greek goddess of victory.

The world's N.O. 1 shoemaker designs and sells shoes for a variety of sports. Nike also sells Cole Haan dress and casual shoes, as well as athletic apparel and equipment. Nike is now engaged in the design, development and marketing of footwear, apparel, equipment, and accessory products, covering different types of the sports categories, sports-inspired lifestyle apparel, as well as athletic bags and accessory items under many Nike brand names and trademarks such as Nike Golf, Nike Pro, Nike+, Air Jordan, Nike Skateboarding and subsidiaries including Cole Haan and Converse. In addition, the company operates retail stores under the Niketown name.

Through its marketing strategy which rests on a favorable brand image, Nike has evolved into a large multinational enterprise. In keeping with the brand image is its association with the distinctive Swoosh logo (a graphic design created by Caroline Davidson in 1971, representing the wing of the Greek Goddess NIKE.) and its advertising slogan, "Just do it." In order to maintain and sustain this image, the company sponsors many high profile athletes and sports teams around the world and makes huge investments in advertising and brand promotion.

Till May 31, 2008, Co. had 296 retail outlets in the U.S. and 260 retail outlets outside the U.S.

2. Situation analysis

2.1 Market Trends by Stages

First stage: Nike is a high profile athletic apparel and footwear company with a market share in excess of 35 percent (Jeff Jensen, 1996). So Nike's initial product advertising strategy of using professional athletes for raising demand through word-of-mouth provided good publicity, rising into prominence during the late 1970s and early 1980s.

Second stage: In the last few years of 1980s, the market for high-priced performance shoes has been flat, while the market for casual and fashionable shoes has increased. That means Nike could not only focus on athletes and active

males. The market demand from teenagers who should be Nike's largest and most important target market increased very fast and Nike started to expand its targeting market to younger consumers because of its severe competition with Adidas and Reebok. Therefore, since the late 1980s, Nike has worked to transform itself from a brand of sneakers to a product integral to the sports culture.

During this stage, the Nike brand has become so strong as to place it in the rarified air of recession-proof consumer branded giants, in the company of Coca-Cola, Gillette and Proctor & Gamble. Consumers are willing to pay more for brands that they judge to be superior in quality, style and reliability. A strong brand allows its owner to expand market share, command higher prices and generate more revenue than its competitors. With its "Just Do It" campaign and strong product, Nike was able to increase its share of the domestic sport-shoe business from 18 percent to 43 percent, from $877 million in worldwide sales to $9.2 billion in the ten years between 1988 and 1998.

Third stage: Nowadays, since the financial crisis has expanded to all over the world and people need more sports to relieve their stress. We predict that young and middle-age people may prefer extreme sports and camp trip more because they need more ways to escape from the real stress they are facing. At the time, family concept seems to be more important at this time because when people are facing problems, on one hand, they don't want to put any pressure to his family; but on the other hand, they need family's warmth and support more. Also, the rapid development of internet is the efficient tool of advertising for Nike, especially between young people who have more casual lifestyle and fashionable tastes. So the new trends also provided Nike with more chance in marketing and advertising.

2.2 Competitors Analysis

The main competitors always for Nike are Reebok and Adidas. But since their products are not entirely different from Nike's, all involved in the design and marketing of both athletic and non-athletic footwear and apparel, as well as other various fitness projects and Nike's distinctive competency lies in the area of marketing, particularity in the area of consumer brand awareness and brand power, for a long time, Nike's leading position has been established.

However, in 2005, Adidas' purchase of Reebok has narrowed the gap between Adidas and Nike in the market share. So Nike must face more competition in global market. As we analyze, Nike's no.1 seat cannot be replaced by its competitors so easily because its long-lasting image by the famous slogan "Just Do It" and symbols "Swoosh," coupled with sports icons to serve as instant reminders of the Nike Empire.

Two key attributes of the distinctive competency for Nike are its inability to be easily replicated and the value or benefit it offers to consumers. As Nike becomes a more integrated part of American and world culture, the brand power becomes increasingly difficult to replicate. Few companies have such a recognizable image and the resources to promote their company identity as Nike do. For decades, by associating star athletes and motivational slogans like, "Just Do It," with marketing campaigns that emphasize fitness, competition, and sportsmanship, consumers have come to associate the Nike image with high-quality products, and a spirit of achieving courage, greatness where younger consumers especially benefit from this positive influence.

3. Findings from situation analysis

From the above market trends and competition analysis for Nike recently, we find in order to differentiate and compete with the combination of Adidas and Reebok, Nike should be alert in the changing market trend nowadays, focusing on extreme sports, family concern and social consideration. It needs to better understand its customers so that new products and new advertising can have the most impact in the market by giving consumers what they want and appealing to customers' physical and psychological needs.

The critical period may become a good chance for Nike because it can take advantage of its previous advertising way of "Just Do It" campaign by sponsoring sports stars to express the corporate philosophy of grit, determination, passion and humor, giving people more courage and psychological comfort in the face of economic crisis. But besides that, we also focus more about family function especially in Asian countries which emphasize a lot on family, which can provide caring emotional communication. Therefore, from both strong-willed hero worship and water-like fork environment, customers can easily link Nike image with not only strength, but also warmth.

4. New "Just Done It" advertising campaign plan

4.1 Objectives

- **To continue the previous "Just Do It" advertising campaign's strategy**

The ads will rarely focus on the product itself, but on the person wearing the product. The ads will still capture the corporate philosophy of grit, determination and passion of heroes and hero worship in a humor way by many top athletes.

- **To attract more young and middle-age audience with more emotional communication**

4.2 Segmentation and Targeting

For this "Just Done It" campaign, our targeting market is:

- Young people, from 20-30 years old, low and middle income and social class
- Middle-age people, from 30-50 year old, middle and high income and social class

Because during this period, especially young people who are preparing to enter or have just entered into the job market as well as middle-aged people who have achieved a little in his life are confronting more pressures from the impact of economic crisis.

4.3 Positioning

In addition to maintain Nike's most powerful image, Nike positions itself as most considerate and confident brand all over the world, which can accompany you to overcome the most critical time.

4.4 Message strategy and tactics

- Targeting all audience--Why choose "Just Done It"

Following "Just Do It" slogan, it shows the message that "I have done it! The situation is not as difficult as you think. Just do it and you will have it done soon." Just like Nike's consistent powerful image, Nike wants to tell consumers: Believe yourself just like believing Nike as you're always doing.

- Targeting young people, from 20-30 years old, low and middle income and social class—using endorsement strategy

For this group of generation X, they prefer extreme sports, fashion and really need a sense of belonging when they feel lonely and stressful. So Nike will still use celebrity endorsements to appeal to the consumers' sense of belonging and show their hero worship and self-fulfilling image by the message that wearing Nikes for every part of your life was smart (the shoes are designed for comfort) and hip (everyone else is wearing them, you too can belong to this group which is heroic, courageous and always with you.)

The advertising can be put on the big walls of apartment buildings or outdoor billboards which can be easily identified and recognized, showing that an athlete is running through the wall or billboard wearing Nike shoes, left a swoosh view of his back. The picture can be black and white, only focusing on the outline of the figure and shows his speed and power. The line can be: "This is the miracle Nike has done. Nike is running with you! Just Done It!"

- Targeting middle-age people, from 30-50 year old, middle and high income and social class

For this group, people don't worship celebrities too much. The advertising can be focused on Nike's brand identity and long history as well as great achievement, showing Nike's brand personality of bravery and venturing spirit.

The advertising can be demonstrated on TV or some important events that a series of footprints moving by various kinds of old-fashioned and stylish shoes during Nike's 50 years business. Their footprints gradually make up of the outline of Nike swoosh, with the line: "This is the path Nike have done. Nike is always running with you! Just Done It!" The message is "In your life there are of course many high and low tides just like Nike has experienced. But after that, you'll be proud of what you have overcome and your future will be much smoother.

In addition, the advertising about Nike sports or camp equipment can show that families go out for a camp trip. With the fresh air, green mood, sweet dream and good Nike equipment that are matching with their fashionable lifestyle and higher social positions, they forget every distress in business, totally relaxed. Standing on the mountain climax, the man showed his strong shoulder with his Nike bag: Thank you for always with me!" The message is obvious, that Nike is always like someone who has strong will and unlimited courage, accompanying you to overcome difficulties all the way.

4.5 Media Strategy

- ***Television***

Television is always the most powerful medium for Nike to attract consumers with humorous, innovative sight and sound. And the wide coverage of television advertising can reach most of homes all over the world. Since Nike is investing a lot on advertising and promotion, so it will continue taking advantage of this costly medium to target all audience.

- ***Magazine***

The marketing advantage of this medium can appeal to sport-interest, travel-interest or business people which can be targeted specifically. For instance, our target may consist of avid runners, there is *Runners World*; for the outdoors and hiking enthusiasts -- *Backpacker*; for vacation planners -- *Midwest Living* and so on. In addition to the distinct audience profiles of magazines, good color production is an advantage that allows magazines to create strong advertising images.

- ***Outdoor***

As I mentioned before, for the first target market, the most cost-effective advertising vehicle-outdoor billboards, bus stop, high way can be used. The message can also be remembered by fleeting.

- ***Internet***

Advertising on the Internet is the fastest-growing media vehicle. This media vehicle has the advantage of low cost and active reader involvement and attention – Nike users have the capability of choosing different types and enjoying different advertisings of Nike on Nike official website, YouTube or other video websites. Because Nike's advertising is always attractive and innovative, internet is a good choice to share Nike ads.

5. Conclusion

Since the crucial global economic crisis comes, we hope that cannot become the barrier of Nike business.

On the contrary, it can be a good opportunity for Nike to win consumers' hearts along with its new advertising plan "Just Done It".

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An FCM Approach to Better Understanding of Conflicts: A Case of New Technology Development

Siyamak Noori
Department of Industrial Engineering
Iran University of Science and Technology (IUST)
Narmak, PO box 1684613114, Tehran, Iran
Tel: 98-21-7391-3000 E-mail: snoori@iust.ac.ir

Roozbeh Hesam Amiri (Corresponding author)
Department of Industrial Engineering
Iran University of Science and Technology (IUST)
Narmak, PO box 1684613114, Tehran, Iran
Tel: 98-912-5356-487 E-mail: amiri_r@ind.iust.ac.ir

Atieh Bourouni
Department of Industrial Engineering
Iran University of Science and Technology (IUST)
Narmak, PO box 1684613114, Tehran, Iran
Tel: 98-912-5007-402 E-mail: bourouni@ind.iust.ac.ir

Abstract

A critical problem of organizational conflict management is this fact that managers fail to understand different individuals' (or groups') interpretations about goals, distribution of resources, work procedures, and etc. These various perceptions are based on stakeholders' different values, beliefs, and weltanschauung. This paper argues this main concern of organizational conflict management and develops a general systemic approach to build a platform that makes this kind of conflict easier to be analyzed. The basic idea of this platform is the cognition of individuals' thoughts and representing them in form of fuzzy cognitive maps. Once these fuzzy cognitive maps are drawn, Decision Making Trial and Evaluation Laboratory (DEMATEL) is used to analyze the maps and outrank the concepts according to their importance for a specific individual. Finally, by combining individuals' perceptions through their preference of concepts, a pluralistic environment is built. This platform is very useful for management to study the sources of conflicts among individuals and better strategies to solve them. A conflict on using Voice over IP (VoIP) technology instead of satellite telephones in offshore industry is used as an illustration of this approach.

Keywords: Organizational conflict management, Offshore industry, Decision Making Trial and Evaluation Laboratory (DEMATEL), Fuzzy cognitive map (FCM), Knowledge Integration

1. Introduction

In today's world, the fact that technology is all-pervasive is well known and realized. Sophisticated and rapidly changing technology is the foundation for a vast majority of products and services we depend on. Nevertheless, although technology is everywhere, its development and real-world applications are still faced with tremendous problems for technology users as well as technology developers and implementers. The introduction of new technologies leads to increases in costs due to unforeseen system performance degradation, additional downtime, and increased maintenance over a system's life cycle. In offshore industry, this behavior is amplified because of the huge amount of cost over runs that might happen. On the other hand, telecommunication technologies are one of the most important concepts in geographically separated organizations. Due to the nature of offshore industry, it needs powerful

and reliable telecommunication systems. Along with developing a new technology in offshore telecommunication, we encountered a conflict between firms' experts in IT and planning departments. This conflict caused a huge delay in the managers' decision making process.

This paper introduces a practical approach to build a platform for better managing organizational conflicts which helps managers to understand and analyze the conflict.

The rest of the paper is set out as follows. The next section considers the previous literature on conflict and concerns its sources and management, following that is an introduction to fuzzy cognitive mapping and DEMATEL techniques. Next, a cognitive platform is built in order to better understanding of conflicts by managers. Then, the paper presents the results of the empirical study in achieving the goals as set out above with use of a case study. The final section includes conclusions.

2. Conflict and its management

In every organization managing means giving pride of place to people rather than to technology or structure. This characteristic for management causes conflicts to be a part of organizational life. Different individuals have different perceptions, values, beliefs, interests, goals and aims that sometimes might came into conflict. Thus, conflicts are inevitable, natural and might be harmful and damaging to organizations (Cowling et al., 1988). It is argued that these conflicts are of high importance because managers spend about 20 percent of their time dealing with them (Schermerhorn et al., 1998). Conflict by itself is neither good nor bad. However, the way in which conflicts are handled determines that it is constructive or destructive (Deutsch & Coleman, 2000).

Although there is no universal accepted definition of conflict (Albanese, 1981), Fisher (1990) defined conflict as an incompatibility of values and goals combined with attempts to control each other and antagonistic feelings toward each other between two or more parties in a relationship. According to Thomas (1992), conflict is "the process that begins when one party perceives that the other party has negatively affected, or is about to negatively affect, something that he or she cares about".

Conflict has the potential for either a great deal of destruction or much creativity and positive social change (Kriesberg, 1998). This potential makes it necessary to understand the basic process of conflict in order to manage organizational conflicts.

The parties in an organization may have a conflict about the distribution of resources, or they may have a more fundamental conflict about the very structure of their organization and the basic nature of their interaction (Aubert, 1963).

In such circumstances management need to have an approach to tackle complicated conflicts in organization. Facing these conflicts needs a better understanding about sources, origins and causes of them.

3. Fuzzy cognitive map

Cognitive maps are digraphs and have their historical origins in graph theory, which started with Euler in 1736 (Biggs et al., 1976). In digraphs each relation or connection between variables or nodes has a direction (Harary et al., 1965). Axelrod (1976) was the first to use digraphs to show causal relationships among variables as defined and described by experts, rather than by the researcher himself. He called these digraphs cognitive maps. Different successful study showed cognitive mapping is effective in complex problem situations. (Bauer, 1975; Bougon et al., 1977; Brown, 1992; Carley and Palmquist, 1992; Cossette and Audet, 1992; Hart, 1977; Klein and Cooper, 1982; Malone, 1975; Montazemi and Conrath, 1986; Nakamura et al., 1982; Rappaport, 1979; Roberts, 1973).

Fuzzy Cognitive Maps (FCMs) are graphical representation including nodes determining the most relevant factors of a complex system and links between these nodes determining the relationships between those factors (Rodriguez-Repiso, 2005). FCM is a modeling methodology for complex systems, which is originated from the joining of fuzzy logic and neural networks. FCMs describe the behaviour of a complex mostly dynamic system in terms of concepts that represent an entity, a state, a variable, or a characteristic of the system (Xirogiannis & Glykas, 2004).

FCMs have been applied in simulation (Fu, 1991), the physiology of appetite (Taber & Siegel, 1987), modeling of organizational strategies (Paradice, 1992), political developments (Taber, 1991), support for strategic problem formulation and decision analysis (Eden & Ackermann, 1993), electrical circuits (Styblinski & Meyer, 1988), knowledge bases construction (Silva, 1995), virtual world of animals (Dickerson and Kosko, 1994), managerial problems diagnosis (Carrico & Guimaraes, 1997), organizational behavior and job satisfaction (Craiger et al., 1996), failure modes effects analysis (Pelaez & Bowles, 1995), requirements analysis (Montazemi & Conrath, 1986), systems requirements specification (Downing & Fickas, 1992), urban design support (Xirogiannis & Glykas, 2004), relationship management in airline services (Kang, Sangjae, & Choi, 2004) and web-mining inference amplification (Lee et al., 2002).

3.1 The FCM representation

In Figure 1, a simple FCM (graph) representation is illustrated which has five generic vertices (C1 to C5) and the weighted arcs (edges) showing the relationships between concepts. In this simple fuzzy cognitive map, the relation between two vertices is determined by taking a value in interval [-1, 1]. While -1 corresponds to the strongest negative, +1 corresponds to strongest positive one. The other values express different levels of influence. This model can be presented by a square matrix called adjacency matrix (Ad).

4. Multi-step FCM conflict cognition approach

Our multi-step FCM conflict cognition approach includes the following steps:

(1) Drawing of fuzzy cognitive maps

(2) Coding the fuzzy cognitive maps into adjacency matrices

(3) Outranking the concepts with the use of DEMATEL technique

These steps are illustrated with a real world problem situation case study on using VoIP (voice over IP) technology instead of satellite telephones in offshore industry.

5. Illustration of FCM conflict cognition approach

Iranian Offshore Engineering and Construction Company (IOEC) is the first Iranian general contractor to the oil and gas industry, specializing in offshore engineering, procurement, construction, pipe coating, pipe laying, and installation of jackets, TopSites, etc. IOEC designs, procures, builds, installs and services a complete range of offshore surface and partial subsurface infrastructure for the offshore oil and gas industry. With more than 400 employees operating wherever there is offshore oil and gas activity. IOEC is one of the largest truly integrated offshore and subsea pipeline companies in the Middle East.

IOEC has successfully expanded its offshore services providing projects with full marine fleet supports for pipe laying, installation, hook-up and commissioning. Today as a Holding Company, IOEC is planning to extend its oil, gas and petrochemical activities to onshore and offshore, upstream as well as downstream activities and operations. IOEC owns over $600 million in assets including fabrication yards, concrete weight coating plant (CWC), pipe laying vessels, various lifting vessels, barges and other relevant equipment.

Over the recent years IOEC has grown considerably. This philosophy set out in this section has been developed to help IOEC maintain its position as a general contractor to the offshore oil and gas industry and to help to attain its aim of becoming "the contractor of choice across the range of products and services that they offer".

In IOEC, telecommunication project started in June 2001 with the scope of telecom building utilities, detail engineering, supply equipment/material, construction and installation, testing, commission and training. Different communication systems were developed such as VHF radio system, paging radio system, marine radio system, and satellite communication. Voice over IP (VoIP) technology is utilized as an essential for more economic communications between the company's vessels, offices in Iran and abroad.

5.1 Step 1: Drawing of fuzzy cognitive maps

Experts developed an FCM or a mental model manually based on their knowledge in related area. At first, they identify key domain aspects or concepts (Table 1). Secondly, each expert identifies the causal relationships among these concepts and estimates causal relationships strengths. This achieved digraph (FCM) shows not only the components and their relationships but also the strengths (Figure 2).

We collect five FCMs from each expert. All these FCMs have the same concepts (which were agreed by all five experts) but different relationships and weights. In the next step FCMs are coded into their adjacency matrices.

5.2 Step 2: Coding the FCM graphs to matrices

Table 2 shows one of this adjacency matrices which is based on the first FCM.

5.3 Step 3: Determining the key concepts

According to interviewees' matrixes, we have

$$T = P_1 + P_2 + P_3 + P_4 + P_5 + P_6 + P_7 + P_8$$

Table 3 depicts the T matrix. This matrix is then normalized as the DEMATEL method suggested, so we get matrix M as shown in Table 4.

According to DEMATEL method, Q is calculated as

$$Q = M \times (I - M)^{-1}$$

The Q matrix is shown in Table 5.

Table 6 shows both "direct influence" and "indirect influence" which are calculated from the Q matrix.

According to the normalized total influence, we can sort concepts from most important to least important one. (Table 7)

DEMATEL method depicts the most important concepts to the least one. For example in this case Technology development (concept K) is the most important concept. This importance has come from all experts' knowledge. These results can help managers for better understand the origins of organizational conflicts which might happen in their firms.

6. Conclusion

In today's world, it is important for managers to understand the origins of organizational conflicts in order to solve them. The proposed approach provides management with a basic model that explains the different aspects of conflicts. For sample illustration of the model, a conflict on using voice over IP (VoIP) technology instead of satellite telephones in offshore industry was used. This model was used by managers to study about the sources of conflict between IT experts.

There are indications that this model can be used in any organization which encounters conflict between its experts or decision makers. Hopefully the information provided in this paper could be a useful initial clue to the managers who are looking for ways to make leverage points to be considered for the better practices of organizational conflict management. However, it has to be admitted that the model is yet to be refined and expanded in greater detail by identifying more variables and factors and analyzing their related data in a more rational manner.

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Table 1. Main concepts in the field of new technology development identified by each five experts

Node	Concept
A	Complexity of new technology
B	Integration risk
C	Technology development performance
D	Actual testing results
E	Discrepancy
F	Target testing results
G	Redevelopment
H	Technology development risk
I	Technology maturity
J	Training
K	Technology development
L	Technology development management
M	Testing Effort
N	Actual Costs
O	Cost Overrun
P	Funding
Q	Funding Stability

Table 2. The adjacency matrix for FCM 01(P_1)

Concepts	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	-	0	0	0	0	0	0	0.45	0	0	0	0	0	0	0	0	0
B	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C	0	0.6	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0.54	-	0.76	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	-	0	0.55	0	0	0	0	0	0	0	0	0	0
F	0	0	0	0	0.78	-	0	0	0	0	0	0	0	0	0	0	0
G	0	0	0	0.7	0	0	-	0	0	0	0.24	0	0	0	0	0	0
H	0	0.3	0	0	0	0	0	-	0	0	0.59	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0.87	-	0	0	0	0	0	0	0	0
J	0	0	0	0	0	0	0	0.66	0	-	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0	-	0.11	0.56	0	0	0	0
L	0	0	0	0	0	0	0	0	0	0	0	-	0	0.11	0	0	0
M	0	0	0	0	0	0	0	0	0	0	0	0.87	-	0.48	0	0	0
N	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0.34	0	0
O	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0	-	0	0
P	0	0	0	0	0	0	0	0	0	1	0.68	0	0	0	0.38	-	0
Q	0	0	0	0	0	0	0	0	0	0	0	0.45	0	0	0	0.78	-

Table 3. The (T) matrix

Concept	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	-	0	0	0	0	0	0.11	0.75	0.5	0	0	0	0.1	0	0.53	0	0
B	0	-	0	0.06	0	0	0	0.34	0	0	0.11	0	0.65	0	0	0	0
C	0	3.26	-	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0
D	0	0	1.78	-	0.76	0	0.1	0.53	0	0	0	0.2	0	0	0	0	0
E	0	0	0	0.67	-	0	3.05	0	0	0.12	0.5	0	0	1	0.3	0	0
F	0	0	0	0	2.79	-	0	0	1.2	0	0	0	0.69	0	0	0	0
G	0	0	0	1.81	0	0	-	0	0	0	0.79	0	0	0	0	0	0
H	0	1.1	0	0	0	0.9	0	-	0	0	2.5	0	0	0.24	0	0	0.11
I	0	0	0	0	0.5	0	0	2.28	-	0	0	0	0	0.84	0	0	0.46
J	0	0	0	0.93	0	0	0	2.52	0	-	0	0	0	0	0	0	0
K	0	1.28	0	0	0	0.54	0	0.52	0	0	-	2.29	2.58	0	0	0	0
L	0	0	1.59	0	0	0	0	0	0	0	0	-	0.45	1.28	0	0	0
M	0	0	0	0	0	0	0	0	0	0	0	2.88	-	1.82	0	0.25	0
N	0	0	0	0	0.21	0	0	0	0	0	0	0	0	-	1.08	0	0
O	0	0	0	0	0	0	0	0	0.05	0	2.54	0	0	0	-	0	0
P	0	0.25	0.38	0	0.65	0	0	0	0	2.73	2.16	0	0	0	1.17	-	0
Q	0	0	0	0	0	0	0	1.12	0	0	0	1.4	0	0	0	1.71	-

Table 4. The (M) matrix

Concept	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	0	0	0	0	0	0	0.01	0.1	0.07	0	0	0	0.013624	0	0.072207	0	0
B	0	0	0	0.01	0	0	0	0.05	0	0	0.014986	0	0.088556	0	0	0	0
C	0	0.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0.040872	0
D	0	0	0.2	0	0.1	0	0.01	0.07	0	0	0	0.027248	0	0	0	0	0
E	0	0	0	0.09	0	0	0.42	0	0	0.02	0.06812	0	0	0.13624	0.040872	0	0
F	0	0	0	0	0.38	0	0	0	0.16	0	0	0	0.094005	0	0	0	0
G	0	0	0	0.25	0	0	0	0	0	0	0.107629	0	0	0	0	0	0
H	0	0.15	0	0	0	0.12	0	0	0	0	0.340599	0	0	0.032698	0	0	0.014986
I	0	0	0	0	0.07	0	0	0.31	0	0	0	0	0	0.114441	0	0	0.06267
J	0	0	0	0.13	0	0	0	0.34	0	0	0	0	0	0	0	0	0
K	0	0.17	0	0	0	0.07	0	0.07	0	0	0	0.311989	0.351499	0	0	0	0
L	0	0	0.2	0	0	0	0	0	0	0	0	0	0.061308	0.174387	0	0	0
M	0	0	0	0	0	0	0	0	0	0	0	0.392371	0	0.247956	0	0.03406	0
N	0	0	0	0	0.03	0	0	0	0	0	0	0	0	0	0.147139	0	0
O	0	0	0	0	0	0	0	0	0.01	0	0.346049	0	0	0	0	0	0
P	0	0.03	0.1	0	0.09	0	0	0	0	0.37	0.294278	0	0	0	0.159401	0	0
Q	0	0	0	0	0	0	0	0.15	0	0	0	0.190736	0	0	0	0.23297	0

Table 5. The (Q) matrix

Concepts	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	0	0.0389905	0.011709	0.0072314	0.0154192	0.0221626	0.0214921	0.1340301	0.0722783	0.0016211	0.0778638	0.0450779	0.0492929	0.0348383	0.0785501	0.0036807	0.0065383
B	0	0	0.0143686	0.0097786	0.0060829	0.0090998	0.0026608	0.0518454	0.0015332	0.0017577	0.0372808	0.0543177	0.1076879	0.0388736	0.0066791	0.0044585	0.0008731
C	0	0.4611227	0	0.0073384	0.0076699	0.006255	0.0032871	0.030329	0.0010935	0.0162455	0.0344736	0.0328532	0.0555547	0.0216661	0.01041	0.0433413	0.0005231
D	0	0.1397139	0.2627231	0	0.1143555	0.014748	0.0615178	0.0877277	0.0024946	0.006453	0.0542513	0.059518	0.0364771	0.0381576	0.0122527	0.0123231	0.0014711
E	0	0.0624432	0.0670392	0.2036658	0	0.0158527	0.4319031	0.0361188	0.003058	0.018809	0.1552818	0.0802361	0.0665204	0.1727151	0.0684476	0.0051765	0.0007329
F	0	0.0430423	0.0384241	0.0813141	0.409932	0	0.1714474	0.0707909	0.1661953	0.0099876	0.086398	0.0842372	0.1347638	0.1252888	0.0365977	0.0088342	0.0114764
G	0	0.0613171	0.076889	0.2546427	0.0329269	0.0132803	0	0.0318809	0.0022176	0.0024657	0.127379	0.0686363	0.0556599	0.0315527	0.0068144	0.0051821	0.0006168
H	0	0.2452744	0.0465756	0.0159048	0.0677815	0.1570618	0.028382	0	0.0258358	0.0056338	0.3813164	0.1942961	0.1824292	0.1257107	0.0232069	0.0121678	0.0173869
I	0	0.0884843	0.0247607	0.0208095	0.0975726	0.0527699	0.040828	0.3427639	0	0.0087744	0.1460069	0.0863947	0.0694144	0.1722326	0.0324069	0.0193025	0.0683616
J	0	0.1019108	0.0492783	0.1356564	0.0377602	0.0557918	0.0175387	0.3723394	0.0091861	0	0.137789	0.0742477	0.0672541	0.0479942	0.0095199	0.0057389	0.0061557
K	0	0.2496019	0.1124507	0.0116191	0.0439244	0.0895995	0.0184103	0.0952138	0.0148885	0.0081245	0	0.5013455	0.4335701	0.2057359	0.0352412	0.0199133	0.00236
L	0	0.1055895	0.2261721	0.0030366	0.0081557	0.0024889	0.0034303	0.0083234	0.000625	0.004602	0.019958	0	0.0802262	0.2023295	0.0320191	0.0120148	0.0001639
M	0	0.0514971	0.0946101	0.0052843	0.0152454	0.0040779	0.0064069	0.0108947	0.0010494	0.0149313	0.0372712	0.4214036	0	0.3348773	0.0561889	0.0394747	0.000229
N	0	0.0145843	0.0076685	0.0064394	0.0318809	0.0050686	0.0133352	0.006225	0.0018567	0.0009606	0.0585206	0.0279093	0.024049	0	0.1509241	0.0011814	0.0002097
O	0	0.0869772	0.0390821	0.0041625	0.0158647	0.0313653	0.006649	0.0352835	0.0120244	0.0028713	0.3675295	0.1740786	0.1505094	0.072368	0	0.0070225	0.0012823
P	0	0.1893918	0.1164238	0.0732868	0.121557	0.0541553	0.0515092	0.178664	0.0100943	0.3783732	0.4383375	0.2135547	0.1890303	0.1076704	0.182119	0	0.0033101
Q	0	0.1016884	0.0773692	0.0200797	0.0402174	0.0370571	0.0169852	0.2037549	0.0064131	0.089887	0.1641107	0.2773483	0.087177	0.0828574	0.0520766	0.2399065	0

Table 6. DEMATEL direct and indirect influences

Concept	Direct Influence Index	Indirect Influence Index	Total Influence	Normalized Total Influence
A	0.620776	0	0.620776	0.016356
B	0.347298	2.0416294	2.388927	0.062941
C	0.732163	1.2655442	1.997707	0.052634
D	0.904185	0.8602501	1.764435	0.046488
E	1.388	1.0663462	2.454346	0.064665
F	1.47873	0.5708345	2.049564	0.054
G	0.771461	0.8957831	1.667245	0.043927
H	1.528964	1.6961855	3.225149	0.084973
I	1.270883	0.3308439	1.601727	0.042201
J	1.128161	0.5714978	1.699659	0.044781
K	1.841999	2.323768	4.165767	0.109755
L	0.709135	2.395455	3.10459	0.081797
M	1.093442	1.7896163	2.883058	0.07596
N	0.350813	1.8148682	2.165681	0.057059
O	1.00707	0.7934544	1.800525	0.047438
P	2.307477	0.4397186	2.747196	0.07238
Q	1.496929	0.1216908	1.618619	0.042646

Table 7. Total influence matrix

Concept		Normalized Total Influence
K	Technology development	0.109755
H	Technology development risk	0.084973
L	Technology development management	0.081797
M	Testing Effort	0.07596
P	Funding	0.07238
E	Discrepancy	0.064665
B	Integration risk	0.062941
N	Actual Costs	0.057059
F	Target testing results	0.054
C	Technology development performance	0.052634
O	Cost Overrun	0.047438
D	Actual testing results	0.046488
J	Training	0.044781
G	Redevelopment	0.043927
Q	Funding Stability	0.042646
I	Technology maturity	0.042201
A	Complexity of new technology	0.016356

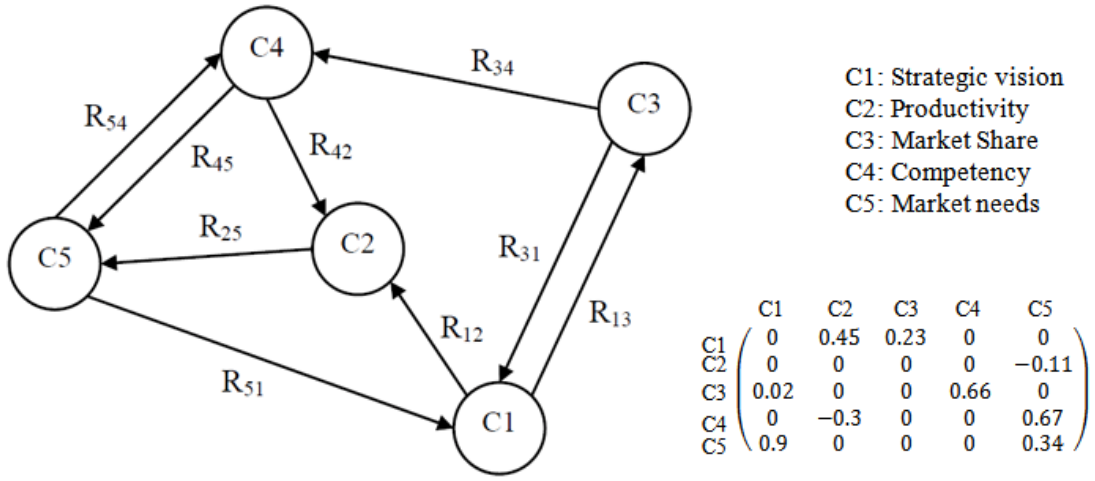

Figure 1. Representing a simple fuzzy cognitive map

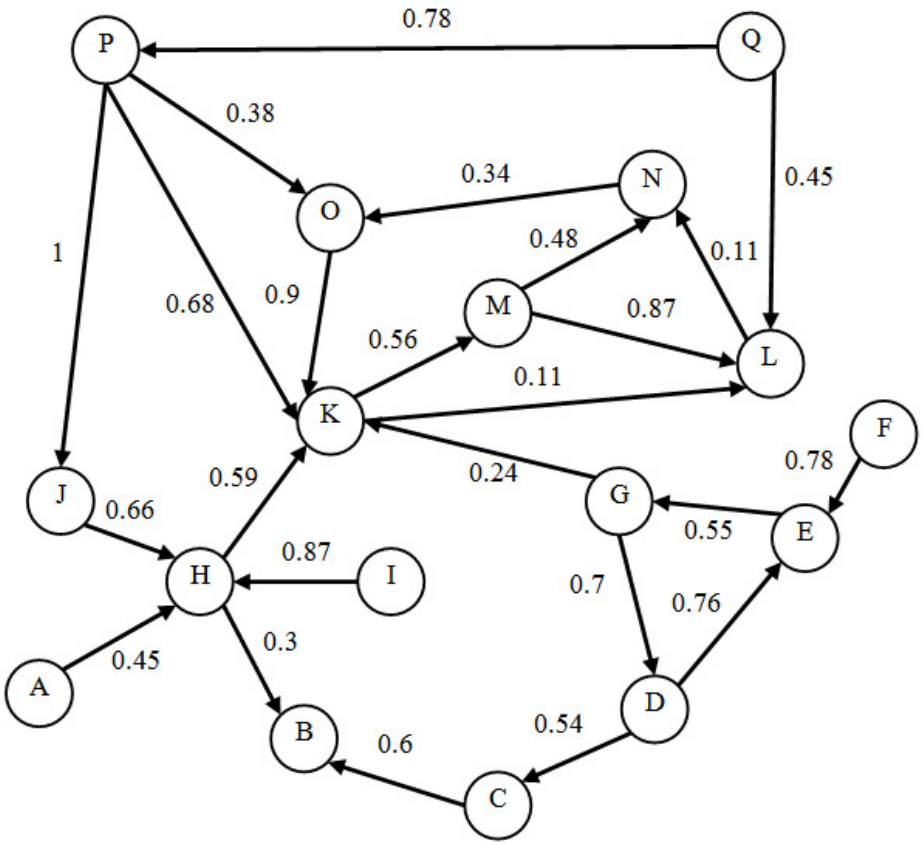

Figure 2. A fuzzy cognitive map describing the development of new technology which is drawn by one expert (FCM 01)

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Tourists' Satisfaction with Cultural Tourism Festival: a Case Study of Calabar Carnival Festival, Nigeria

Dr. Bassey Benjamin Esu (Corresponding author)
Department of Marketing
University of Calabar
PMB 1115, Calabar, Nigeria
Tel: 23-4803-4740-556 E-mail: esubenjamin@yahoo.com

Vivian Mbaze-Ebock Arrey
Department of Hospitalty and Tourism Management
Cross River State University of Technology
Calabar, Nigeria
Tel: 23-4803-2972-487 E-mail: mbazea@yahoo.co.uk

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Absract

This study investigated the relationship between tourists' overall satisfaction and cultural festival attributes. The Calabar carnival festival was used as a case study. A Sample of 500 spectators were used for the study .Nine festivals attributes (organisation, promotion, facilities, shopping, facilitates, refreshment, food, infrastructure, environmental ambience and safety and security) were investigated out of which four showed significant relationship with overall satisfaction. Demographic variables revealed little or no dependence difference on overall satisfaction. No significance difference was found on the perception of cluster membership based on demographic variables. Only few behavioral variables show significant differences in perception of cluster member's. The implication of findings on festival marketing was analyzed.

Keywords: Carnival, Festival, Tourism, Satisfaction, Event, Attraction

1. Introduction

Tourist destinations are developing and promoting the cultural and heritage of the people as a means of attracting and enhancing visitor experience. This is also because cultural and heritage tourism is being used as a tool to boost local economy and has the potential to aid in the seasonal and geographical spread of tourism (Long and Perdue, 1990).

Cultural tourism is described as peoples' movements for essentially cultural motivations, which include study tours, performing arts, cultural tours, travels to festivals, visits to historic sites and monuments, folk lore and pilgrimage (World Tourism Organisation, 1985). Festivals are therefore classified as a type of cultural tourism. Cross River State is an emerging tourism destination in Nigeria. It is endowed with a few cultural festivals. These include: Marina Water and sports, New Yam Festivals (hold annually in ten local government areas of the state), Wrestling Festivals (take place in seven local government areas of the state), Obudu Mountain Race (holds once a year), Boat Regatta (takes place in four local government areas), Ekpe Festival (masquerade dance which is common among the Efiks and Quo people of the state), Laboku International festival and Christmas Festival (holds once a year). Of all these festivals, the most popular and most developed is the Cross River State Christmas Festival. The Calabar Carnival is one of the product lines offered by the Cross River State Christmas festival. Cross River State Carnival Commission (CRCC) is responsible for the planning, organising and marketing of the festival. The Cross River State Carnival Commission is established by The Cross River State Law, Number 4 of 2006 (www.visitcrossriverstate,com). The major sponsor of the cultural carnival is the State Government, with very little contribution from the private sector organizations operating in the destination. Huge amount of money is spent by government in staging the

carnival. It is also Government's desire to use the event as a development catalyst of the State. This objective can only be achieved if the festival attracts viable customer groups and elicit high repeat visitations.

It is on the background of this that the researchers intend to determine the effect of festival attributes on spectators' overall satisfaction and if there are differences in tourists' perception between customer segments on the basis of demographic and behavioral characteristics. The study is guided by the following hypotheses.

H_1: There is a significant relationship between cultural festival attributes and tourists satisfaction.

H_{2a}: There are differences in overall tourists' satisfaction in terms of demographic characteristics such as gender, age, educational level, personal income and nationality.

H_{2b}: There are differences in overall tourists' satisfaction in terms of behavioural characteristics such as group membership, travel motive, mode of travel, number of nights spent, source of information and past experience.

The identification of tourists' characteristics and investigation of the relationship between cultural tourism festival attributes and tourists' satisfaction will help tourism practitioners, planners and marketers to have a better understanding of cultural tourism festivals which will in turn facilitate the formulation of better marketing strategies. This will enhance the destination's ability to offer visitors improved festival experience and elicit high repeat visitations.

2. Review of literature

2.1 Cultural tourism festival

There is copious evidence in literature on the benefits of cultural tourism festivals to destinations. It is reported that festivals contribute to the local regeneration and prosperity of the destination. This is because it generates new employment opportunities (Prentice and Andersen, 2003; Smith, 2004). It encourages the development of a kind of infrastructure which is visitor friendly and sustainable. Bachleitner and Zins (1992) assert that festival tourism enhances residents learning, awareness appreciation of community pride, ethnic identity, tolerance of others and brings about the opening of small and medium sized family enterprises. It is also believed that cultural events foster cross-cultural communication that can promote understanding between the host and the guest (Sdrali and Chazapi, 2007). A region can make a name for itself and establish its competitive position among country or nations through tourism (Smith, 2004). Falassi (1987, p. 2) defines cultural festival as:

"a periodically recurrent, social occasion in which, through a multiplicity of forms and series of coordinated events, participate directly or indirectly and to various degree, all members of a whole community, united by ethnic, linguistic, religious, historical bonds, and sharing a world view."

The community (government, community and stakeholders) have values and expectations for staging a festival. These are expressed as social reproduction.

2.2 Tourists satisfaction

Past research revealed that customer satisfaction is an important theoretical as well as practical issue. For most marketers and consumer researchers, customer satisfaction is regarded as a marketing tool to attract the most variable segments of the market. According to Kozak and Rimmimgton (2000) satisfaction is important to successful destination marketing, Philip and Hezlett (1996) recognize the fact that one of the strategic routes used by leisure firms in gaining competitive edge has been through an increase concentration in customer satisfaction. They also seem to be agreement in the fact that, customer satisfaction influence the choice of destination, the consumption of products and services and the decision to return. Customer satisfaction is increasingly becoming a corporate goal as more and more companies strive for quality in their product or service.

The phenomenology of customer satisfaction has received so much attention by both academics and practitioners in the field of marketing and psychology. The common theories underpinning the concept of customer satisfaction are:

- The expectation - disconfirmation model (Oliver, 1980).
- Expectation - perception gap model (Parasuraman, Zeithaml and Berry, 1985).
- Performance - only model (Pizman and Millman, 1993).
- Pivotal–core- peripheral (PCP) model (Philip and Hazlett, 1996).

Bitner and Hubbert (1994) describe customer satisfaction as a feeling or an attitude of a customer towards a service after it has been used. Studies have also confirmed that there is a relationship between service quality, satisfaction and behavioral intention and then service quality and behavioural intention. As defined by Cronin and Mackey (1992:127) service quality reflects a consumer's evaluative perceptions of a service encounter at a specific point in time. In contrast, customer satisfaction judgments are experimental in nature, involving both an end-state and process, and reflecting both emotional and cognitive elements.

In the field of marketing, and leisure, there is a general acceptance of the claim that service quality influence overall customer satisfaction (Lee, Graefe & Burns, 2004; Valle et al; 2006; Huh, 2002; Crompton and Love, 1995: Parasuraman, Zeithaml and Berry, 1988; Cronin and Mackey, 1992).

2.3 Cultural festival attributes

Extensive literature search revealed a large array of tourism and leisure attributes that researchers have investigated. Early studies according to Mayo (1973) and Hunt(1975) used generic attributes such as topography, climate, resident population, life-style, and recreational character. It is observed that following the increase in the list of attributes, factor analysis technique have been used by researchers to identity the important ones. The difference scores on domain among target markets of interest are guide to the identification of the strengths and weaknesses of a destination market position (Crompton and Love; 1995).

Andersen, Prentice and Guerin (1997) use the following attributes in their research of cultural tourism destination attributes of Demark; historical building, museum, galleries, theatres, festivals, shopping, food, places, famous peoples, castles, sports and old towns. Sofield and Li (1995) used the following attributes in their study in China; history, culture, traditional festivals, historical events, beautiful scenic heritage, historical sites, architecture, folk arts (music, dancing, craft work) and cultural village. Jodice et al (2006) used hours of operation, accessibility, cleanliness of the city, attitude of the host community, management actions, facilities (lodging, parking space) and infrastructure (road, street light and medical centres). Huh (2002)) used arts/craft, accessibility, accommodation, food in the study of satisfaction attributes of the Virginia Triangle. Lee, Graefe and Burns (2004) argue that satisfaction cannot be understand only in terms of the effect of service quality but suggested the inclusion of domain such as social settings, managing setting and resource setting. Teas (1993) in a similar argument posit that a customer's overall satisfaction with a transaction is function of his or her assessment of service quality, product quality and price.

There are few studies that are specifically on cultural festivals. Crompton and Love (1995) in their study of the two day Victorian Christmas Festival celebration used the following attributes; ambience of the environment, source of information on the site, comfortable amenities, parking and interaction with vendors. Anwar and Sohail (2004) used variety of food, well organized, peaceful and natural environment, thrilling experience, ideal beaches and immense shopping opportunities as festival attributes. A combination of these attributes makes a festival a Total Touristic product (TTP).

2.4 Difference in visitor satisfaction based on demographic and behavioural characteristics

A search of relevant literature shows that extensive studies have been done by tourism and recreation experts to establish the dependence of satisfaction on demographic and behvioural characteristics. Valle et al (2006) found no significant dependence between cluster members and demographic variables (gender, occupation, marital status and type of lodging), but found educational level, nationality and age significantly dependent. Jodice et al (2006) observed that no significant variations was found among segments in terms of respondents demographic profile except personal income.

Huh (2002) observes significant relationship between overall tourists satisfaction and gender only. There was no significance difference with age, state of origin, educational level, and total household income. In terms of behavioural characteristics, Huh (2002) found significance dependence between overall satisfaction and tourists' past experience. No significant difference was found with length of stay, membership of group and distance to destination. Martin, Bridges and Grunwell (2006) found that gender, age and income distribution in the sample are significantly different between years of event based on Chi-square test. On behavioural characteristic, there was significant dependence in terms of accommodation type and spending. Valle et al (2006) had also reported significant variation in the cluster membership on the bases of length of stay in destination and mode of transportation. Overview of prior literature on the effect of demographic and behavioural characteristics on tourists' perception and satisfaction with cultural tourism festival and to a large extent cultural /heritage destination shows that, there is no consensus as to the role these factors play in determining tourist satisfaction. However majority of the studies support the suggestion that socio-demographic variables of tourists are poor segmentation bases given the fact that, the leisure preference transcend beyond the individual.

3. Methodology

3.1 The study site

The Calabar Carnival is a product mix of the Cross River State Christmas Festival. Cross River State is one of the 36 states of the Federal Republic of Nigeria. The state is located within the tropical rain forest belt of Nigeria. It lies between attitude $4^0 28^/$ and $6^0 55^/$ North of Equator and longitude $7^0 50^/$ and $9^0 28^/$ East of the Greenwich Meridian. It is divided into 18 Local Government Areas. The state has a total landmass of 22,342.18 km^2, with a population of 2.888,966 (NPC, 2007). The people of the state are known for their warm and hospitality. The culture of the people is expressed in various languages, dances, festivals and cuisines. Calabar is the administrative headquarters of the State.

Calabar has rich cultural expressions such as masquerades (Ekpo, Nnabo, etc.), traditional dances (Ekombi, Monikim, etc.) and cuisines (Ekpang Nkukwo, Edikan Ikong, Afia Efere, etc.).

The first edition of Calabar Carnival Festival was held in 2005. Five bands were registered for participation in the carnival. The bands included; (I) Bayside band, (ii) Freedom Band (iii) Master Blaster Band (iv) Passion 4 Band (v) Seagull Band. Each band has unique features and concept. The membership of the Bands is open to all Nigerians and Non-Nigerians alike. At the end of the carnival the Bands are ranked and rewarded according to their performances by the Government. The themes of the bands are shown below:

Bayside Band: The Band's theme is centred around the origin of man, nature, values and attributes of the culture and heritage of the people.

Freedom Band: The Band's theme is centred on man's freedom in its entire facet. The Exodus of Israelites, freedom from colonialism, freedom from slavery, democratic freedom and the fundamental human rights

Master Blaster Band: The Band's theme is centred on the promotion of man's sociability irrespective of race, religion and nationality.

Passion 4 Band: The band centres its theme on Genesis showing the beginning of things and creation of man and his splendor. It decries the destructive forces in nature as always over-riding the constructive ones. The band advocates that man's natural environment be given adequate protection to save it from total destruction.

Seagull Band: The theme of the band is "proudly African".

The 2007 Calabar festival was held in two days. The 26th and 27th of December 2007. The 26th was the children festival and cultural displays from all parts of the state. The 'Efiks' call it Mbra-mbra. It is a collection of colourful and titillating cultural dances and masquerades. The 27th was the main carnival float that involved the five bands. This impact study is limited to the main event that held on the 27th December, 2007.

3.2 Research design

The Cross sectional survey design was used in collecting data. This is because the study was intended to capture a snapshot of the service perception and event attributes of attendees during the event.

3.3 Target population

The population consists of all spectators to the event who are 20 years and above and who were found at the carnival route acting as consumers of the event. The carnival route starts from the U.J Esuene stadium, through Mary Slessor, Marian Road, and Murtala Mohammed Highway and back to the stadium. All those found watching the carnival float along the route were conceptualised as consumers of the event or spectators. The spectators were divided into three types; overnight spectators and resident spectators and day tripper spectators. The target population therefore consists of overnighters, day trippers and resident spectators. Overnight spectators are those who spent at least one night at the destination for the purpose of this event. The day tripper spectators are those who did not stay in the destination for a night. The resident spectators are those who came from their homes to watch the event. The residents were included because of the propensity to spend more than if they had just a routine day.

3.4 Sample selection

The Convenience sampling method was used. This method of sampling enables the researcher to get a gross estimate of the results without incurring the cost or time required to select a random sample.

The research was conducted using 500 spectators' survey questionnaires administered during face-to-face interviews. This method potentially offers the best response rate because it allows development of rapport between the interviewer and the respondent. The error rate decreases because it provides an opportunity for clarification of questions where doubts exist. Furthermore, the interviewer can probe for answers from the respondent; an immediate checking of the questionnaire on the internal consistency of responses and additional information could be included through observation by the interviewer or through extra comment by the respondent. The method also resolves the issue of missing data since the interviewer collects the data as he or she administers the questionnaire.

3.5 Research instruments and methods

The two major sources of data were the secondary and primary data sources. Secondary data sources provided data that have been collected, analysed and discussed by previous scholars in the field. Hence, secondary data helps to contextualise current research in the field. A semi structured written questionnaire was used to elicit primary data. The first part of the questionnaire focuses on the identification of the event consumers and their trip characteristics. The second part deals with their spending pattern. The third section focuses on respondents' attitudes and perceptions of the planning and management of the event. The fourth section deals with the demographic variables of the respondents and included items such as their age, income per month, gender and educational qualifications.

3.6 Variables measurement

The development of measurement instrument and identification of variables was guided by extensive literature review. The researchers also took into consideration, the fact that tourists' satisfaction cannot be understood only in terms of the effect of service quality and the suggestion that social setting, managing setting and resource setting should be included in the list of attributes (Lee, Graefe and Burns, 2004). To this extent nine festival attributes were identified and used for this study. They include: event organization, friendliness of locals, and availability of refreshment and food, information about event (promotion), facilities, infrastructure, safety and security, ambience of the environment and shopping were selected.

A questionnaire similar to that of huh (2002) and Jodice et al (2006) was used to measure tourists' overall satisfaction, tourists' perception of cultural festival tourism attributes, demographic and behavioural characteristic. Overall tourists' satisfaction was measured on a five – point Likert scale with "1"as not very satisfied and "5" as very satisfied. Perception of the cultural festivals attributes was measured on a "5" point Likert scales with "1" as strongly disagreed and "5" as strongly agreed. The following factors were used to measured tourists demographic profile: gender, educational level, personal income, age and nationality. The following were used to measured tourists' behavioural characteristics: group membership, length of stay, past experience, source of in information, mode of travel and travel motive.

Tourist overall satisfaction was used as the dependents variable. The festivals tourism attributes were used as the independent variable .The demographic and behavioral characteristic were used as control variables (Huh, 2002).

3.7 Procedure in administrating questionnaire

In all, there were twenty field staff; six investigators and fourteen trained research assistants. The field staffs were given twenty five copies of the questionnaire each. They were assigned to designated points along the Carnival route. The questionnaires were administered by intercepting and interviewing spectators at such points.

3.8 The validity of the instrument

The content validity was obtained by getting experts in cultural tourism to scrutinise the instrument. Also, twenty final year students of the Department of Marketing in the University of Calabar were used to pretest the questionnaire. Observations made were noted and corrected. These students were later used as research assistants in collating data for this study. The content validity was strengthened through an extensive literature search. The reliability of instrument was measured using Cronbach's Reliability Test. The correlation was .70. This value means there is high scale measurement reliability.

3.9 Data analysis

First, the invalid copies of questionnaire were removed and discarded. Out of the 500 copies of questionnaire administered, 416 were properly filled and returned by research assistants. Data analysis was done by the use of Statistical Package for Social Science (SPSS). Percentage, frequency was used for tourists' demographic and behavioural characteristics. Descriptive statistics was used to compute the mean perception of cultural festival attributes and overall attendees'' satisfaction. Factor analysis was done to produce a correlated variable composite from the original nine attributes and to produce a small set of dimensions or factors that would help to explain most of the variances between the attributes. To determine the relationship between cultural festival attributes and attendees' satisfaction, the factor scores were regressed with attendees' overall satisfaction (Hair, Bush and Ortinau, 2006).

The model specification is as follows:

$Y = a + b1\ x1 + b2\ x2 \text{ ---------- } bn\ xn + E$

Where:

Y= Tourists' overall satisfaction

a = Y intercept

Xi = Factored cultural festival attributes

E = Error term

bi= Regression coefficient

4. Results of findings

4.1 Descriptive statistics

The sample has more males than female attendees (male, 72.84%; female, 27.17%). 85.2% were domestic attendees, while 14.9% were international attendees. Out of the 62 foreigners in the sample; majority came from other African countries (33.9%), North America (22.6%) and Europe (19.4%). The age distribution shows that majority of the

attendees were in the age range of 40-49 (39.8%). This was followed by those in the age range 50-59 (21.8%). The data shows that majority of the respondents in the sample were professionals followed by business persons (18.7%) and civil servants (15%). The income distribution shows that majority of the respondents indicated that they earned more than N100, 000 per month (24.9%). Majority of the attendees were educated. Those who hold higher degrees were 39.1% and 33.1% for those with first degree.

Majority of the respondents said they were very satisfied (38%), 25%, were satisfied, while 19% said they were very dissatisfied (see Figure 1). The mean perception for each of nine festival attributes was above average. Promotion had the highest means rating (4.35), while infrastructure had the lowest mean rating (2.56) (Table 2)

The Principal Component Analysis was used to generate five domains. Only factors with Eigenvalues greater than or equal to one and attributes with factor loading greater than 40 was considered. The five domains were named as follows; factor 1–event organization and marketing, factor 2-facilities and gastronomic, factor 3- security, factor 4-shopping, factor 5-relationship (see Table 3).

4.2 Inferential statistics

H1: There is a relationship between cultural festival tourism attribute and overall tourists' satisfaction.

The result of the regression analysis shows that there is a significant relationship between festival satisfaction and festival attributes ($R2= 0.196$ $p< 0.00$). Out of the nine festival attributes, four attributes partially supported hypotheses one (promotion, $t= 2.557$, $p= 0.000$; organization, $t=-3.782$ $p<0.05$; facilities, $t= 2.059$, $p < 0.05$; friendly locals, $t=1.697$, $P<0.10$). The others did not show significant relationship with tourists' satisfaction (Table 4).

H2a: There are differences in overall tourists' satisfaction in terms of demographic characteristics such as gender, age, educational level, personal income and nationality.

Analysis of variance (ANOVA) result shows that gender, age, educational level, nationality employment status did not lead to significant difference in overall tourists' satisfaction. Personal income was however found to be significant ($t=$, $p<0.05$) as shown in Table 7.

H2b. There are differences in overall tourists' satisfaction in terms of behavioral characteristics such as group membership, travel motive, mode of travel, accommodation type, nights spent, source of information and past experience.

The result of ANOVA revealed that there is no significant difference in overall satisfaction in terms of the behavioral characteristics under investigation at 10 per cent ($P > 0.10$) significant level.

It was found that tourists differ in their decision to revisit event on the basis of the customer segment they belong to. Majority of the respondents (78%) indicated that they would repeat visit to the destination for the event.

5. Discussion of findings

The study shows that cultural tourism festival attributes have significant effect on overall tourists' satisfaction. This is partly supported by the result of the multiple regression analysis. The result of multiple regression analysis revealed some festival attributes (organisation, promotion, facilities and friendliness of locals) are predictors of the level of attendees' overall satisfaction with the festival. These attributes could be packaged and manipulated by way of strategy formulation to increase the level of satisfaction of attendees to the event. There is the tendency of consumers responding positively when exposed to the right cues. The basic theoretical underpinning is that the festival attributes that are explanatory of attendees' satisfaction should be factored into the product development and marketing strategy.

The fact that demographic variables investigated in this study did not show significant difference in attendees' satisfaction shows that they are not explanatory factors of tourists' satisfaction with cultural festivals. This is because the distribution does not differ between cluster membership and therefore poor segmentation bases. This finding is in support of some of the existing studies (Valle et al, 2006). Personal income which is an important bases of one's social class was however significant and therefore could be used for segmenting the festival market and targeting.

The finding of this study reveals that there is no relationship between the five behavioural variables and attendees' overall satisfaction. This contradicts the position of existing literature on the subject. In Jodice et al (2006), past experience of tourist shows significant difference. The study by Valle et al (2006) found that group membership was significantly different in the two clusters. The specific behavioural variables that show significant dependence could be use as the basis of segmentation of the cultural tourism festival market. The marketing implication of this finding is that, behavioural variable are not good segmentation bases for cultural festivals. According to Huh (2002), respondents with previous experience were more satisfied than the respondents without previous experience. With a repeat visit of 78% of the respondents, the Calabar Carnival festival should develop competitive strategies that will ensure its attractiveness and viability as a developmental tool of the destination. Festival marketers should target repeat visitors with promotional strategies such as direct mails. During event, the event organizers should identify some of the "big time

visitors", especially corporate sponsored visitors. A database of event customers should be developed to facilitate communication with such special accounts. The event organizers should send information concerning the festival, destination, and new products offered by the Destination Management Organistion (DMO) to the festival customers. This will establish long- term relationship with repeat visitors and attract potential visitors to the festival which is the major source of information for the event.

These findings would help event planners and marketers specially the DMOs and the festival organisers in formulating strategies that will enhance visitor satisfaction and the competitiveness of the festival. They can do so by focusing more on the provision of facilities (parking spaces, construction of viewing points with seat-outs), effective promotion of event locally and internationally taking into consideration the income status and behavioural characteristics of festival customers. The organization should review the timing of event, the band sizes and the cultural content of the bands.

6. Conclusion

Festivals generally have become a quick to use means of promoting tourist destinations. There are arrays of attributes that affect tourists' overall satisfaction with festival. In this study four festival attributes were found to be explanatory of the level of satisfaction (event organisation, promotion, facilities, and friendly locals). When these variables are factored into the development and marketing of festivals, it would go along way in improving the tourists' satisfaction of event attendees. For the Calabar festival, those who are in cluster one require superior performance in the explanatory variables to experience increase satisfaction. Since behavioral characteristics are better segmentation variables than the demographic variables, festivals promotion could be made more effective and enhanced if attendees' behavioral characteristics are taken into consideration. In all the bottom-line is to delight the visitors and elicit a profitable repeat visit to the destination for the same event or other activities.

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Table 1. Demographic profile of spectators

Gender	Male, 72.84%; female, 27.17%
Nationality	Nigerians, 85.2%;foreigners, 14.9%
Continent of foreigners	Other African countries, 33.8%; North Americans, 22.6%; Europe, 19.4%; Oceania, 6.5%; Asia, 12.8%; others, 4.9%
Spectators group type	Alone, 29.3%; friends, 20.4%; family, 33.7%; friend/family, 11.3%; business associates, 4.1%; government delegates, 1.20%
Number of people per group	One, 11.3%; two, 18.3%; three, 25.0%; four and above, 14.2%; N.A, 31.2%
Age	20-29, 25.7%; 30-39, 39.9%; 40-49, 21.9%; 50-59, 6.7%; 60-69, 1.7; > 60, 4.1.
Educational level of spectators	No formal education, 3.4%; partial education, 0.9%; complete primary school only, 0.4%; finished secondary school, 7.5%; diploma/certificate, 10.8%; first degree, 33.%; higher degrees, 39.%; others, 4.6%
Employment status	Unemployed, 6.0%; self employed, 8.7%; students, 9.1%; retired, 4.8%; unskilled/labour, 5.0%; sales/marketing, 5.5%; civil/public servants, 15.9%; business persons, 18.7%; professionals, 21.1%; artisans/technicians, 1.8%; others, 3.4%
Monthly Income	<N10,000, 9.3%; 10,000-20,000, 5.0%; 20,000-30,000, 8.2%; 30,000-40,000, 8.9%; 40,000-50,000, 6.5%; 50,000-60,000, 7.7%; 60,000-70,000, 2.6%; 70,000-80,000, 5.0%; 80,000-90,000, 5.3%; 90,000-100,000, 7.0%; >100,000, 24.9%; N.A, 9.6%

Table 2. Mean perception of festival attributes

	N	Mean	Std. Deviation
Organisation	416	4.12	1.016
Promotion	414	4.35	.891
Shopping	414	3.43	1.197
Facilities	411	3.62	1.117
Refreshment/food	411	3.76	1.131
Friendly locals	414	4.06	.981
Infrastructure	416	2.56	1.384
Ambience of the environment	415	4.02	1.000
Safety/security	410	3.96	1.041
Valid N (list wise)			

Table 3. Factor analysis results of attendees' perception of cultural festival attributes (N=416)

	Components				
	Factor1	Factor2	Factor3	Factor4	Factor5
Promotion	.816				
Organisation	.738				
Refreshment/food		.830			
Facilities		.649			
Infrastructure			-.840		
Safety/security			.574	.511	
Shopping				.865	
Friendly locals					.864
Ambience of the environment			.451		.491

Table 4. Relationship between domains of cultural festival attributes and satisfaction

Model	**Unstandardized Coefficients**		**Standardizes Coefficients**	**t**	**Sig**
	B	**Std**	**Beta**		
(Constant)	3.199	.044		73.025	.000
1.Event organization and marketing	.280	.044	.320	6.316	.000
2.Facilities and gastronomic	.205	.042	.244	4.826	.000
3.Security	6.626E-02	.044	.077	1.523	.129
4.Shopping	.120	.043	.142	2.805	.005
5. Friendly people	1.323E-02	.043	.016	.308	,758

a. Dependent Variable: over satisfaction

*R^2 = .196, p=.000

Table 5: ANOVA showing the effect of demographic factors on attendees overallsatisfaction

Dependent Variable: experience

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	38.281[a]	27	1.418	1.659	.024
Intercept	25.318	1	25.318	29.625	.000
Age	4.681	6	.780	.913	.486
Monthly family income	22.339	11	2.031	2.376	.008
Educational level	10.136	8	1.267	1.483	.163
Gender	.241	2	.121	.141	.868
Error	235.877	276	.855		
Total	1262.000	304			
Corrected Total	274.158	303			

a. R Squared = .140 (Adjusted R Squared = .055)

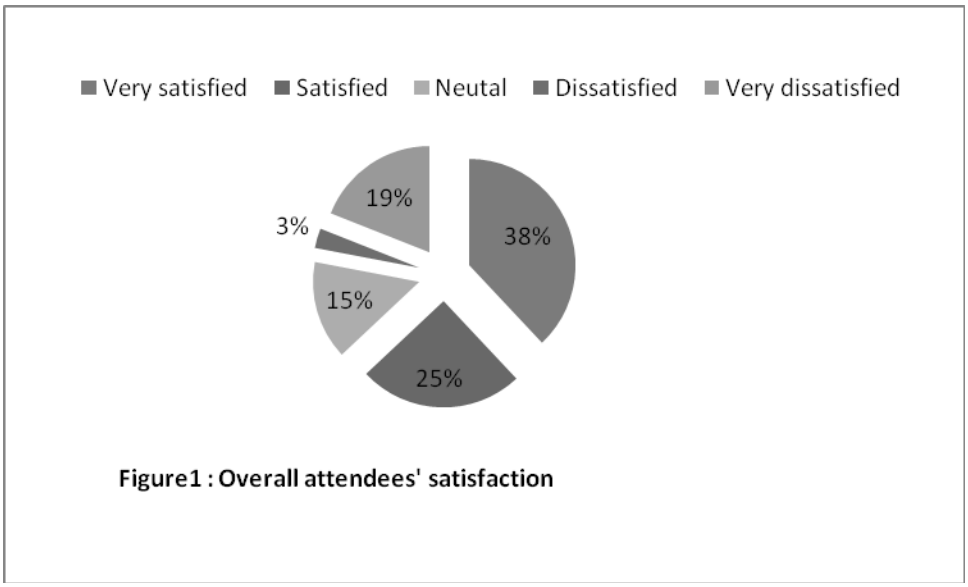

Figure1 : Overall attendees' satisfaction

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An Analysis on the Recessive Drain of College Teachers in Perspective of Psychological Contract

Shumao Zhang
School of Business Administration
Shenyang University
Shenyang 110044, China
E-mail: zsm0410@163.com

Xueli Huang
General Office of the People's Government of Liaoning Province
Shenyang 110032, China
E-mail: huangyu518@hotmail.com

Abstract

To study the recessive drain of college teachers is meaningful in practice. This paper, in perspective of psychological contract, analyzes the characteristics of psychological contracts of college teachers, the relationship between psychological contract breaches and recessive drain of college teachers, and the influencing factors of contract breaches, advancing relevant countermeasures for dealing with the recessive drain of college teachers from an angle of contract breaching process.

Keywords: College teacher, Recessive drain, Psychological contract

Along with the development of higher education in China, and the improvement of college teachers' economic treatments and social status, the drain of teachers has been relieved more or less. However, a recessive drain of teachers in colleges and universities tends to be more serious. The recessive drain means: Although teachers stay in their education positions, they devote themselves to businesses that have nothing to do with teaching and scientific research, which will finally cause a misplacement of the primary and the secondary. Studies show that psychological contracts impose certain inner drive on human behavior, which indicates employees' performances and attitudes at certain degree. In other words, it directly associates with the recessive drain of teachers. In order to make college teachers devote themselves to the education cause completely, to build up a positive psychological contract between college teachers and colleges is an effective way.

1. The psychological contract's basic meanings and characteristics

1.1 The psychological contract's basic meanings

The psychological contract is a kind of subjective psychological promise between the employee and the organization, in which each party promises to pay for what it should get from the other party. The core is the unwritten duties for each other. The psychological contract concept has been introduced into the management field since 60s in 20th century. An organizational psychologist Argyris firstly adopts the "psychological work contract" to explain the relationship between an employee and an employer in his book *Understanding Organizational Behavior*. Levinson, the "father of psychological contract", in his book *Men, Management, and Mental Health* advances that the psychological contract is "the sum of the implicit and unwritten mutual expectations between an organization and an employee". Based on preceding opinions that focus on expectations, Rousseau (1990, 1995) creatively puts forward that the psychological contract means responsibilities and obligations on the basis of promises. He gives a narrow definition of psychological contract at the individual level, namely: The psychological contract is a perception and belief system for mutual responsibilities and obligations between employees, in the interactive relationship between the organization and employees. The state of psychological contract has something to do with whether the organization commissions and

obligations have been satisfied and executed fairly and honestly or not.

1.2 The characteristics of college teachers' psychological contract

Chinese college teachers' psychological contract, similar to common psychological contract, is characterized with subjectivity, fairness, frangibility, and dynamics. Besides, due to special cultural background and professional features, it has these characteristics as follow.

(1) The characteristics related with China's cultural background

The structure of psychological contract: China is characterized with group culture. It emphasizes on the collectivism, the harmonious interpersonal relationship, and interdependence. Chinese college teachers focus more on the harmony of interpersonal relationship. The psychological contract is liable to impacts of interpersonal relationship. Teachers have a strong consciousness of team cooperation, but the boundary of job responsibility is unclear. Most teachers prefer to sacrifice their personal time for work.

The contents of psychological contract: Chinese traditional culture lays stresses on the golden mean, pursuing for the great harmony and stability. In practice, most of teachers are satisfied with present conditions. The thought of "being a unit of the college" deeply roots in brains. Many teachers do not feel pressures or lacks of competitive consciousness. Professional titles, promotions, and trainings are all based on ages, what depresses young teachers' enthusiasm and creativity in work to certain degree. The distance between the upper level and the lower causes the problems in communication between college managers and teachers. Meanwhile, the psychological contract is a complex psychological activity. Its subjectivity and recessive character may lead to information asymmetry between teachers and the college (Weilin Cao, Yufang Dong & Renfa Zhu, 2007, p. 94-96).

(2) The characteristics related with college teachers themselves

As knowledge workers, college teachers have high degrees, knowledge, and self-respects. Besides, their work time is more flexible. They hold stronger creativity and professional freedom in teaching and scientific research. In colleges, on one hand teachers pay attentions to material benefits. On the other hand, they are arrested by certain special affections on colleges and attracted by the vision of personal occupation development. Therefore, college teachers' psychological contract is self- determined and multi-dimensional.

2. The breach of college teachers' psychological contract and the influencing factors

2.1 The breach of psychological contract

The recessive drain of college teachers is mostly caused by the breach and violation of psychological contract. The breach of psychological contract means individuals' certain emotional experiences based on the recognition that the organization fails to fulfill the psychological contract. Its core emotion is the anger. Individuals feel certain unfair treatments and find that the organization breaks its commitment (Morrison & Robinson, 1997). The breach of psychological contract takes employees' perception as the base and is impacted by individual experiences and values. It is characterized with the prominent individual subjectivity. Morrison & Robinson advance the development model of psychological contract breach. According to this model, two factors contribute to the breach of psychological contract: the organization refuses to fulfill the commitment in purpose; the organization and employees' different recognitions to the commitment.

The dynamic model is displayed in Figure 1.

Turnley & Feldman sort employees' behaviors that happen after the breach of psychological contract into four types: the first is to quit the job; the second is to decrease the professional performance; the third is to decrease the non-professional performance (mainly organizational citizen behavior, such as refusing to assume more duties, work overtime, or help colleagues); the fourth is certain anti-social behavior (such as revenging, damaging, stealing, and assaulting).

As college teachers perceive the breach or violation of psychological contract, few in better conditions may choose to quit the position, and seldom anti-social behaviors appear. Most teachers will decrease their professional or non-professional performances. Some may undertake the secondary occupation for the sake of economic benefits, instead of imputing energies in teaching. Some may refuse to follow the trend of college teaching, or explore new teaching methods, or lack of the consciousness of updating knowledge. They just wasting their time and teaching resources in a sense. Some may rush to the official stage for fames or interests. And some may compose papers or reports for professional promotion. All these facts contribute to the recessive drain of college teachers.

2.2 The influencing factors for the recessive drain of college teachers due to psychological contract breach

According to the model of psychological contract breach, the recessive drain of college teachers caused by the breach of psychological contract has something to do with the organization and individuals.

(1) The college institutional and management factor: Human behavior follows certain institutional norms and responses

to the institution reasonably. Teachers' personal development and professional progress rely on certain institutional and management path. A positive institution, the effective management, and the school culture that cherishes credits can satisfy teachers' psychological expectation to a great degree, which can improve the fulfillment of commitment and reduce the breach of psychological contract. Contrarily, traditional administrative management idea and mode, ineffective communication, and unfair competition, promotion, and allocation mechanism merely emphasize on teachers' returns and short-term benefits. A personnel mechanism that neglects the differences of teachers' personal needs and psychological satisfactions will increase purposeful breaches of psychological contract and misunderstandings of psychological contract, which improves teachers' perception of the contract violation, leading to the psychological contract breaches, and generating the recessive drain of teachers.

(2) College teachers' personal factor: College teachers' individual behavior and response to certain circumstance is special. Studies show that it is easier for college teachers who have following characteristics to hold a subjective sense of psychological contract breach.

High neurotic teachers: In the organizational psychological contract relationship, high neurotic teachers may pay more attentions to the negative information of colleges. As the college faces reforms or certain negative information, this kind of teachers may criticize themselves in mind. Although real breaches do not happen in the college, the neurotic teachers may subjectively think breaches have already happened, which will lead to a sense of psychological contract breach in their minds.

Backbone teachers: As teachers think that they are irreplaceable because they play important roles or contribute a lot to the college, for example: extraordinary teaching performance and scientific research, important social relationship, and mastering special scientific research resources, they may expect too much of the college psychologically, and even hope that the college can satisfy them as their wills. Therefore, their senses of psychological contract breach are more popular and stronger.

Incompatible teachers: Incompatible teachers have poor interpersonal relationship and lower trust in others. They are liable to subjective senses of psychological contract breach. Due to poor interpersonal relationship, these teachers may pay more attentions to exterior negative factors. Low trust may make these teachers doubt the college's commitment and fulfillment, what will lead to the subjective sense of psychological contract breach.

3. Countermeasures for maintaining psychological contract and reducing the recessive drain of college teachers

3.1 Build up a creditability and sincerity college culture and reduce purposeful breaches of contract

In perspective of economics, if people can gains more benefits from opportunistic activities than costs, rational psychological contract subject may give up the credit and breach the contract in purpose. Therefore, in order to make psychological contract exert its special effects and drive two parties to fulfill relevant responsibilities, the college should build up and improve the creditability and sincerity college culture, and depress opportunistic activities in games. In the college aspect, firstly the college should set up and execute the "teachers-oriented" idea, give up outdated ideas that do not respect or trust teachers in traditional administrative management, form a college-and-teachers "life community", and found a base for realizing psychological contract management. Secondly, enhance the application and execution of the creditability and sincerity idea, build up an institutional default-constraint mechanism, reduce the impacts on the creditability and sincerity caused by leader replacement, policy alteration, and external environment changes, increase the default costs, decrease the purposeful breaches of psychological contract, especially the subjective senses of psychological contract breach, and reduce the recessive drain of college teachers.

3.2 Improve bilateral communication between teachers and the college and reduce misunderstandings to psychological contract

After a teacher has been employed by the college, it is a long process from making a commitment to fulfilling it. Therefore, this process is full of changes, what will easily cause misunderstandings and inconsistence. Communication can help to reduce inconsistence and misunderstandings of the contents of psychological contract. Besides, it can adjust the contents psychological contract in time. For college teachers, their work time is flexible and their work place is not fixed on one location. Chances for communication are few. Therefore, the college can inform teachers about college dynamics online, or regulates that all presidents of schools must communicate with teachers periodically. By this way, it can effectively reduce the inconsistence and misunderstandings, decreasing teachers' subjective senses of psychological contract breach.

3.3 Improve the human resource management and reduce perceptions of psychological contract breach

(1) Control the recruiting stage: Most of items in psychological contract are formed at the recruiting stage. In the recruiting process, the college should convey real information to teachers, avoiding the phenomenon that the college makes impractical commitments in order to attract more talents. Besides, the college should make implicit contents of psychological contract explicit. The college can inform teachers by all kinds of communication channels that it can

satisfy or dissatisfy teachers' certain expectations under which kind of circumstance. Then, teachers' psychological expectations for the college will be more practical, what will relieve the sense of frustration and dissatisfaction caused by the college's default of commitment. Meanwhile, it makes teachers understand better that they should do what for the college in order to meet its expectations for them, creating an equal condition for the college fulfilling its commitment.

(2) Set up a fair management system: There is a comparison process from perceiving the contract default to the contract violation. A sense of fairness is an important factor that impacts this process. In order to solve the problem of teachers' recessive drain, the college should build up a fair and scientific management mechanism. The first is to ensure the fairness of decision-making mechanism. The construction of institutions should take teachers' opinions into consideration, which can objectively reduce the liberalism in constructing institutions and subjectively deepen teachers' understandings to institutions, reducing the sense of unfairness caused by indignities. Secondly, establish the fair and reasonable job evaluation mechanism. Job evaluation serves as important reference for promotions and salaries, and teachers' professional visions. At present, scientific research fruits are decisive factors in evaluating teachers' performances. In contrast, teaching is not so important. Besides, administrative power in the college is far higher than academic strength. Therefore, the college should, considering its development orientation, balance the relationship between teaching and scientific research, reduce administrative intervention, explore and design a reasonable job evaluation system. Only by this way, can it effectively reduce the breach of psychological contract, inspire teachers' enthusiasm and activity, and depress the recessive drain of teachers.

(3) Build up a multi-dimensional and self-serving incentive mechanism: As knowledge workers, college teachers are "complex people" who have various needs for economic benefits, interpersonal relationship, work environment, and professional development. Different types of teachers or similar teachers have different needs at different stages. Therefore, the college should, considering the practical conditions, build up a multi-dimensional incentive system, such as increasing salaries, improving welfare, offering more chances for trainings or professional promotions, and more freedom in work. Meanwhile, the college can adopt a self-serving incentive mechanism, constructing an "incentive supermarket". A teacher can select certain incentive method or the combination of several incentive methods that can satisfy his or her present dominated needs as much as possible after a period of hard work, which can decrease perceptions of psychological contract breach, improve work satisfaction, and reduce the recessive drain.

4. Help teachers to realize right attribution and decrease psychological contract breaches

Due to colleges' objective conditions and teachers' individual differences, to eliminate all perceptions of colleges violating or breaching their commitments is impossible. But to perceive the violation of contract does not necessarily drive a teacher to breach the contract. There is an explanation and attribution process. Attribution is a process in which people deduce the reasons for certain behavior, which determines teachers' responses to psychological contract breaches to a great degree. For teachers who attribute the unhappy things in work to themselves, such as individual abilities or endeavors, their contract breaching activities are maybe anything but not mindless teaching or playing at students. For teachers who attribute the unhappy things in work to colleges, their enthusiasm for work and loyalty to colleges will be degraded, which will lead to the recessive drain of college teachers. Therefore, the college should help teachers to realize right attribution by public reports and personal communication, reducing the appearance of psychological contract breaching activities.

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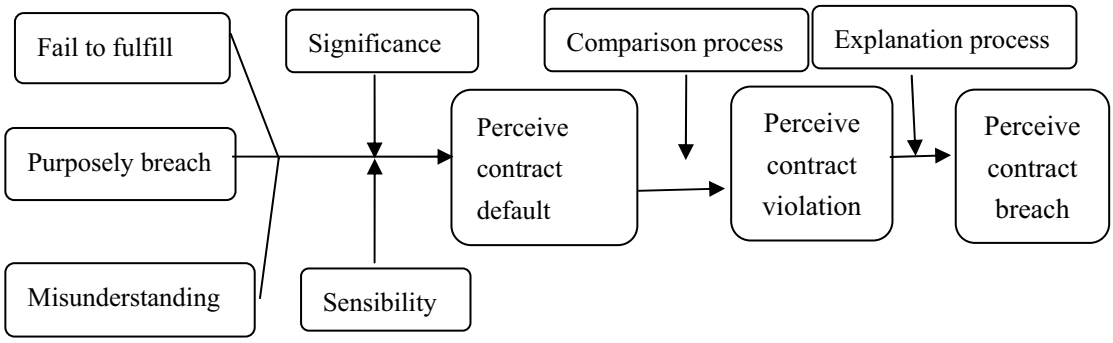

Figure 1. The Dynamic Model of Psychological Contract Breach

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Research on Community Participation in Environmental Management of Ecotourism

Hongshu Wang & Min Tong
School of Economics & Management
Northeast Forestry University
Ha'erbin 150040, China
E-mail: lwanghongshu@163.com, tongmin688@163.com

Abstract

Ecological environment is the material base of the development of ecotourism. The ecotourism cannot develop well without high quality ecotourism environment. The goal of ecotourism development is to protect ecological environment, which is also the essential characteristic of ecotourism different from other kind of tourism. This paper tries to discuss the community participation in environmental management of ecotourism, aims to improve the awareness of participation and environmental protection among community residents and, to establish the mechanism of community participation in environmental management of ecotourism. In this way, can the community residents be benefit from ecotourism; and at the same time, the communities provide strong motive to protect the resources and environment of ecotourism well.

Keywords: Community participatio, Econtourism, Environmental management, Resource protection, Sustainable development

1. Introduction

Ecotourism is sustainable tourism, which is based on the ecological principle and sustainable development theory. Its aim is to conserve resources, especially biological diversity, and maintain sustainable use of resources, which can both bring ecological experience to travelers, conserve the ecological environment and gain economic benefit. Ecotourism establishes a harmonious symbiotic relationship between sightseeing visit and environmental protection, which can make the negative influence of travel to ecological environment be reduced to minimum extent by strict management, so as to ensure the everlasting utilization of resources. Ecotourism is very popular to travelers for its bases that emphasize on natural ecological environment and pay attention to ecological environment protection.

As early as 1982, Zhangjiajie National Forest Park had been built, which is the first forest park in china. Subsequently, the ecotourism activities had begun to appear and develop in China. Especially, depending on natural landscape superiority, the forest parks and nature reserves regard ecotourism as pillar industry of sustainable utilization of resources. However, although the development of ecotourism has brought economic interests to tourism destination, it has caused great influences to local ecological environment, such as too many artificial sceneries, the influx of tourists and tourism transport facilities in short time, more and more waste of water, gas and residue discharged by industry and so on. All of them have exceeded tourist environment capacity, which results in damage and pollution to ecological environment. Furthermore, a high rise of garbage packing has destroyed the natural landscape and illustrated water body in tourist scenes, that is, water eutrophication. According to related organizations investigation on 100 nature reserves above the provincial level, there has been 22 percent of nature reserves causing environment destruction because of ecotourism development, and 11 percent of them appearing tourism resources degradation.

Good ecological environment is not only the premise and basis of ecotourism, but also the important guarantee of state ecological safety. Therefore, in order to develop the ecotourism well, the ecological environment should be depended on, so as to promote the ecotourism development. Well how to promote ecotourism to develop healthy and coordinate is a new subject to us all.

2. The essence and connotation of ecotourism

Strictly speaking, to date, there has not been a uniform final conclusion on the definition of ecotourism among the scholars at home and abroad. The reason is not only that the understanding and comprehension of people toward ecotourism is continuously deepened, but also that many researchers, developers and business administrators artificially take their respective needs and garble a statement. Since 1980s, the studies on ecotourism have been prevailed all over the world.

Ecotourism is the necessary choice of the tourism development in certain phase; it is the best form of sustainable tourism; it is the concrete application of the principle of sustainable tourism in natural areas and certain social cultural regions.

This article argues that the connotation of ecotourism mainly embodies in the following aspects:

First, the destination of ecotourism is refers to the natural regions that are subjected less interferences and pollutions.

Second, the progress of ecotourism emphasizes on the principle of ecological protection. Ecotourism pays much attention to the protection during its development and uses development to promote protection, which is the harmony and unification among economic benefit, social benefit and environmental benefit

Third, ecotourism is the green industry of high scientific and technological content, which needs multidisciplinary kinds of guiding and argumentation from ecologist, economist and sociologist, and needs to considerate the enduring ability of ecological environment and tourism resources; it is a kind of unique sustainable tourism and responsible tourism form that pays more attention to the continuity of ecology and cannot result in the environmental destruction or the decrease of the environmental quality.

Fourth, ecotourism pays much attention to the economic development of tourism destinations and the improvement of the living standard of local residents; the income of ecotourism should not only be used to protect the ecological environment but also benefit the local residents.

Fifth, ecotourism gives prominence to the educational function of ecological environment; the life style and environmental view of tourists can be changed through ecotourism activities, and the consciousness of protecting resources and environment can be improved.

In all, ecotourism should regard environmental education, science popularization and spiritual civilization construction as the core content, and really let itself be a grand school of people studying nature, loving nature and protecting nature.

3. Relationship between ecotourism and ecological environment

3.1 Ecological environment is the foundation of ecotourism

Environment is the material base of survival and development of human society. Man’s materials production should be based on the exploitation and utilization of the environmental resources. Tourism is a kind of human's higher-level needs that meets individuals’ spiritual. It is a wild wish to travel when social productivity is low or material life is not abundant. With the fast developing of economies and the rising standard of living, people began to have a well-off life after solving the food-and-clothing problems. In the premise that the basic survival conditions are satisfied, people have surplus money to pay traveling expenses. Meanwhile, people need novel, rich and enriched spiritual life to meet their enjoyment desire after the material living conditions getting greater improvement. The aim of travel is to add leisurely and carefree mood to human life, such as leisure, entertainment and vacation, thus the environment of tourism scenic spots is very important. Tourism environment is the one on which tourism industry rely for existence; environmental quality is the foundation of the existence of tourism. The development of tourism should be based on graceful sky, water and mountain, as well as environment protection. Only when the environment be protected well and natural landscape and humanities landscape be in a virtuous circle, can the travel desire of people be inspired and changed into real tourism demand.

So is the development of ecotourism. Ecotourism activities, ecotourism resources and ecotourism industry are all based on ecological environment. There is no ecotourism without graceful ecological environment. Graceful ecological environment is the material base of the ecotourism development. Chinese have a saying: “With the skin gone, what can the hair adhere to?” Therefore, the ecological environment can be seen as life source of the ecotourism. There is no ecotourism without high quality ecotourism environment.

3.2 Ecological environment protection is the goal of ecotourism

Ecotourism is the inevitable choice of the tourism development in certain phase. It is a best kind of sustainable tourism. The ecotourism development model is based on the sustainable development view, and its targets are human development and social progress. Meanwhile, the ecotourism development emphasizes on the harmonious development among economy, society, human being and nature, which is completely satisfied the criterion of sustainable development view. Besides, the ecological environment protection is also the essential characteristic of ecotourism different from other kind of tourism. Ecotourism is not only one kind of simple, ecological and natural tourism pattern, but also is the one that increases our responsibly on natural resources protection through tourism activities. Therefore, the connotation of ecotourism puts more emphasis on the conservation of natural landscape. It is one kind of high-grade tourist activity and education activity with sense of responsibility. The responsibilities of ecotourism include the protection of tourism resources, the respect for the economy, society and culture of tourism destination, the promotion of sustainable development of tourism destination and so on. The basic aim of ecotourism is to be close to nature, to protect nature and to maintain the ecological balance. The most important characteristic of the real ecotourism is

protection. By developing ecotourism, we can maximally follow the natural law of biodiversity, and fully embody the harmonies and unified ecological relationship between man and nature, and put an end to short-term economic activities, and seek for the unity coordinated with economics, society and ecology, and at last maintain the sustainable development of the resources and environment of tourism.

4. Environmental management of ecotourism and community participation

4.1 Community participation is the important character of ecotourism

Ecotourism has three typical characteristics by protection, economy and community participation, all of which are related to communities of tourist destination. The protection of ecotourism means protecting the environment and resources of ecotourism destination—including local communities. The economy of ecotourism means developing the economy of local communities of tourist destination. Both the protection and economy are the targets of ecotourism development; well the community participation is the effective method to realize the targets mentioned above. Ecotourism impliedly includes the model of community participation in tourism development, whose aim is to make the tourism development meet the demand of local development, and to make the communities appropriately set and market the norms of tour and industry's operation as well as reasonable financial source acquirement, so as to promote the quality of the resources and environment of communities. According to the ecotourism practice in all countries, community participation is an important part of ecotourism activities both in developed countries and developing countries.

4.2 Community participation provides a powerful motivation for resources protection of tourism areas

Local community is an important tie of binding the protection to the economic income and social benefit, and it is the core of stakeholders of ecotourism. The existence and development of local inhabitants are based on the resources and environment of ecotourism areas. The local inhabitants are both the beneficiaries after environmental optimization and the victims after ecological environment broken by ecotourism development. Community participation in ecotourism can make a positive promotion to the protection of ecotourism environment For example, it can avoid the neglect of environmental and social benefits, and prevent from such phenomena as acquiring short-term benefit by sacrificing long-term benefit and environmental protection; meanwhile, it can also make the damage caused by tourism development be controlled in the limits of assimilation and self-purification of ecological environment, which keeps the ecosystem stable, so as to resolutely avoid the ecological environment deterioration possibly caused by unplanned predatory management or over-exploitation.

Community participation can mobilize all the social resources to administer the environment of the ecotourism destination. First, community participation itself has the feature by behavior style of internal convergence; all members of the community will construct a whole network of environmental protection construction under organizing coordination, which can closely supervise every community member and community unit. Second, the community can maximally call on the local residents to take part in the environmental protection activities. Besides, if the environmental protection consciousness is changed into social morality, the community members who have destroyed the ecological environment will be disdained by all other members; therefore, it is easy to be recognized that environmental protection regulations of the ecotourism destination is the common behavior criterion.

5. Measures of community participation in environmental management of ecotourism

5.1 Improve the consciousnesses of participation and environmental protection of the community residents

We can develop widespread community education among the community residents, cultivate the community residents' sense and ability of participation, improve their positive cognition of ecotourism development and environmental awareness of rights and obligations.. Therefore, we should take some measures. First, we should let the community residents know what local environment and resources mean to them, and how many benefits the ecotourism protection can bring them, so as to stimulate their enthusiasm of participating in the ecotourism protection. Second, we should let them correctly understand the environment problems, and set up good environmental awareness, and keep civilized environmental behavioral habits, so as to devote themselves into controling environmental pollution and improving the ecological environment.

5.2 Let the community residents share the benefits brought by ecotourism

During developing ecotourism activities, we should not only protect the fragile local ecological environment, but also benefit the local residents, both of them are more and more inseparable. Besides, we should absorb the community residents to take part in the ecotourism operation actively, increase the economic income, improve the living conditions, and share the benefits brought by ecotourism development. Under the driving of economic interests, the local residents participated in ecotourism may recognize that their income stems from the development of tourism industry. Well good natural environment and the continuation of biodiversity are the premise conditions of tourism development; protecting environment is to protect one's own economic interests. Therefore, we should change the habit of the community

residents from living on consuming resources to living on developing, marketing and managing resources, so as to not only relieve the pressure to resources protection, but also form relevant interest groups and resultant forces to biodiversity and ecological environment protection.

5.3 Propose the communities to change to the life style of environmental protection type

Community residents' daily life and work, economic activities, traditional customs and so on are close related to the ecological environment around as well as animal and plant resources in the natural reserve. For a long time, the residents in the ecotourism destination have lived on nature resources consumption; the abundant nature resources in ecotourism area have supplied them material basis for survival. These not only have caused environmental destruction and pollution, but also have been unfavorable to biodiversity protection. Therefore, the government should actively spread and apply new energys of environmental protection type, such as biogas, solar energy, power, briquette and so on, build the wastewater treatment plant for communities etc.; so as to form the life style of environmental protection type and realize the virtuous circle of environmental protection and community development

5.4 Establish decision-making mechanism in planning of ecotourism participated by communities

The community residents, especially those who long engage themselves in tourism activities, have a more intuitional understanding on the needs of tourists, can give some advice to the planners on the development of the ecotourism project and the distribution of facilities; meanwhile, they can offer useful reference to the environmental protection in ecotourism development process according to their long-history fit in the environment and, what's more, if they have participated and accepted the ecotourism project, they will be friendly and provide high quality service, which will improve the tourists' satisfaction to the ecotourism project,so as to achieve a better travel effect. Therefore, the management departments of tourism development should establish full-time branches of community management, and consider fully the interests of inhabitants, and guarantee the participation channel unimpeded, and form bulletin system and consultation system for significant happenings during the development and planning of tourism, and form veto system for improper important decisions in some tourism areas, and at last make sure that every tourism decision is discussed and studied by all parties.

5.5 Innovate the mechanism of the operation and management of ecotourism resources

The kind of internal incentive mechanism, which is able to stimulate the community residents consciously to take part in the protection of ecological resources they live by, is needed to protect the ecotourism environment and make the sustainable development of ecotourism come true. The mechanism should not only have the encouraging function of stimulating the community residents to participate in the ecological protection, but also be available to achieve the optimal management of the resources and the sustainable development of the community. Well the community residents carry out share cooperation of ecotourism with the ecotourism resources and the establishing of labor stock, thus they are both the shareholders and laborers in the development and management of ecotourism. All of them make those come true that the ecotourism resources change from "public"to "common", and the community residents become the real masters and actively participate in the ecotourism decisions and consciously maintain the ecotourism resources they live by. The basic aim of share cooperation of ecotourism is to arouse the enthusiasm of the participation of the community residents, so as to achieve aim to ecological environmental protection.

6. Conclusions

Ecological environment is the necessary condition and foundation of the ecotourism development. Well the community participating in ecotourism is favor of ecotourism environmental protection; the level of community participation in environmental management of ecotourism is based on the self-development of the community. Therefore, effective measures should be carried out. First, the government should supply teaching and training services, so as to improve the sense and ability of the participation of the residents. Second, we should establish the mechanism of community participation in environmental management of ecotourism; let the community residents benefit from ecotourism, so as to arouse their enthusiasm in participating in ecological environmental management and consciously maintain the resources and environment of ecotourism, and at last achieve the aim to ecological environment protection. Third, we should set up laws and regulations, which should be representative enough to influence the decision and to ensure the rights that the community residents participate in ecotourism and community development, so as to realize the legalization and institutionalization of the rights.

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Efficiency Hypothesis of the Stock Markets: A Case of Indian Securities

Gagan Deep Sharma (Corresponding author)
Department of Management Studies
BBSB Engineering College
Fatehgarh Sahib, Punjab, India
Tel: 91-9915-233-734 E-mail: angrishgagan@gmail.com

Mandeep Mahendru
Department of Management Studies
Gian Jyoti Institute of Management & Technology
Mohali, Punjab, India
Tel: 91-9872-896-504 E-mail: mandeep129@rediffmail.com

Abstract

The paper attempts to investigate the validity of the Efficient Market Hypothesis on the Indian Securities Market. Initially, the paper discusses the definitions and types of the EMH, as also the literature available on the same. Taking a sample of eleven securities listed on the Bombay Stock Exchange (BSE), the oldest stock exchange of Asia, we apply the runs tests and the autocorrelation tests in order to judge the efficiency of the Stock Markets. The Autocorrelation test when directly applied to share prices gives conflicting results with Runs test and thus, making it difficult to reach a definite conclusion. Then, the autocorrelation test is applied to first differenced series, which gives satisfactory results. In a nutshell, it is observed that the effect of stock prices for the sample companies on future prices is very meager and an investor cannot reap profits by using the share price data as the current share prices already reflect the effect of past share prices.

Keywords: Efficient Market Hypothesis (EMH), Indian securities market, Bombay Stock Exchange (BSE), Autocorrelation test, Runs test

1. Introduction

In the course of studying the Fundamental analysis, the investment projects are ranked by comparing factors like economic influences, industry factors and pertinent company information such as product demand, earnings, dividends, etc. Taking these factors into consideration, investors reach upon an intrinsic value for the firm's securities. By comparing these values with current prices of the security, the investment decisions are taken. The Fundamental analysis, however, is criticized on the ground that all financial data and information of a given security is already reflected in the market price of that security. Therefore we cannot rely much on the Fundamental analysis.

The Technical analysis, on the other hand, implies that by observing and studying the historical information about the behavior of a given stock, one can predict the future price movements of the security. But the Technical analysis, too, is not free from criticism. It is not by itself the road to the riches. It is the tool that should be used along with the Fundamental analysis. Despite the assertions of Technicians, Technical Analysis is still an art. Its successful use shall require talent, intuition, commonsense, experience and most importantly – the luck. All this calls for a theory that can assist a potential investor in managing his portfolio. Efficient Market Theory is one such theory that aims to explain the behavior of stock markets.

The efficient market hypothesis (EMH) is a backbreaker for forecasters. In its crudest form it effectively says that the returns from speculative assets, are unforecastable. This is a venerable thesis, its earliest form appearing a century ago as the random walk theory *(Bachelier, 1964).*

This paper is divided under eight parts. The first part gives the Introduction to the paper. The second part elaborates the

definition of Efficient Market Hypothesis; the third section of the paper explains the types of EMH and the empirical tests for the same, fourth section presents the mathematical modeling of the EMH, fifth section reviews the literature on EMH, sixth section explains the methodology of the paper, seventh section presents the findings and the eight section concludes.

2. Definition of efficient market hypothesis

One of the famous definitions of EMH has been given by *Jensen (1978)*. He opines:

"A market is efficient with respect to information set Φt if it is impossible to make economic profits by trading on the basis of information set Φt."

Malkiel (1992) provides another closely related definition of EMH:

"A capital market is said to be efficient if it fully and correctly reflects all relevant information in determining security prices. Formally, the market is said to be efficient with respect to some information set, Φt, if security prices would be unaffected by revealing that information to all participants. Moreover, efficiency with respect to an information set, Φt, implies that it is impossible to make economic profits by trading on the basis of Φt."

The primary role of the capital [stock] market is allocation of ownership of the economy's capital stock. In general terms, the ideal is a market in which prices provide accurate signals for resource allocation: that is, a market in which firms can make productive-investment decisions, and investors can choose among the securities that represent ownership of firms' activities under the assumption that securities prices at any time 'fully reflect' all available information. *(Fama1970)*.

The link between an asset market that efficiently reflects available information (at least up to the point consistent with the cost of collecting the information) and its role in efficient resource allocation may seem natural enough. Further analysis has made it clear, however, that an informationally efficient asset market *need not* generate allocative or production efficiency in the economy more generally. The two concepts are distinct for reasons to do with the incompleteness of markets and the information-revealing role of prices when information is costly, and therefore valuable *(Stiglitz 1981)*.

Dyckman and Morse (1986) state "A security market is generally defined as efficient if (1) the price of the security traded in the market act as though they fully reflect all available information and (2) these prices react instantaneously, or nearly so, and in unbiased fashion to new information".

3. Types of efficient market hypothesis

The phrase "efficient market" used to describe the market price that fully reflects all available information was coined by *Fama (1970)*. Furthermore, he classifies the market efficiency into three levels on the basis of the information: Weak, Semi-strong and Strong forms.

3.1 Weak-form efficient market hypothesis

The weak form of the theory also known as the 'Random Walk' says that the current price of the stocks already fully reflect all the information that is contained in the historical sequence of the prices. In simpler words, we can say that the price of a stock already stands adjusted to all the historical information available about it. Therefore there is no benefit, so far as forecasting the future is concerned, in examining the historical sequence of prices. In an aggressive form, the theory concludes that if there is no value in studying the past prices and part price changes, there is no value in the technical analysis. Thus, the Random Walk Theory is a direct repudiation of the technical analysis.

This theory can further be explained with the help of an example. A close look at the stock prices sometimes reveals day-of-the-week effects (stock prices may tend to rise on Monday and fall on Friday), time-of-the-year effects (stock prices may tend to rise in January), and small firm effects (small-firm prices may typically rise by more than large-firm prices). But little evidence exists that average investor can use these effects to earn above normal profits once transaction costs such as brokerage are taken into account. In nutshell, the null hypothesis in this form of theory maintains that an investor is not going to gain anything from the knowledge that he possesses about the historical movements in the price of that stock.

Several studies address the issue of whether stock price behaviour is a random walk or not. *Robert (1959)* and *Osborne (1959)* found that stock price movement follows a random walk. "The random walk hypothesis simply states that at a given point in time, the size and direction of the next price change is random with respect to the knowledge available at that point in time." *(Dyckman and Morse, 1986)*.

There have been four major methods to test the dependence of return on time (Weak-form of market efficiency): serial correlation tests, filter rule test, cyclical tests, and volatility test.

3.1.1 Serial correlation tests

In order to test the independence between successive price changes, correlation tests are particularly appropriate. These tests tend to determine when price changes or proportional price changes in some future period are related. If these changes are correlated, points plotted on a graph will tend to lie along straight line. The test for this approach was performed in daily return by Schwartz and *Whitcomb (1977a, 1977b)* and *Rosenberg and Rudd (1982)*, who found that the first order serial correlation of daily return residual from the market model is small but significantly negative.

3.1.2 Filter tests

The Filter rule operates as follows- If the daily closing price of a Security moves up at least 'x' percentage, buy the security until the price moves down at least 'x' percentage from a subsequent high, at which time simultaneously sell and go short. The short position should be maintained until the price rises at least 'x' percentage above a subsequent low, at which time cover and buy. Now the question arises- what is the optimal size of 'x'? If 'x' is too small (e.g., 0.5%), then trading in the security will involve high transactional costs. On the other hand, if 'x' is too large, then many turning points will be missed. The evidence shows that the size of filter is irrelevant because whatever be its size, no filter rule can systematically generate excess returns over a 'Buy & Hold' strategy. This approach was investigated by Alexander (1961), and Fama (1965), who found no abnormal return was generated.

3.1.3 Cyclical tests

This test involves Time Series study. Under this method, cyclical behaviour is studied by using Statistical methods. *Granger and Morgensterm (1963)*, *Cross (1973)*, *French (1980)*, *Gibbons and Hess (1981)* and *Bonin and Moses (1974)* used these tests and investigated Day, Week and months of the year in stock behaviour, and in particular the effect of Monday, Friday and January.

3.1.4 Volatility tests

The main assumption for the volatility test is that "expected returns are constant and the variation in stock prices is driven entirely by shocks to expected dividends" *(Fama, 1991)*. *Grossman and Shiller (1981)* attempt to use volatility testing to examine whether the variation in expected return is rational. They found that the variation in expected return is irrational.

3.2 Semi-strong form efficient market hypothesis

This form of the theory maintains that the current stock prices instantaneously and fully reflects all the public information about the security such as corporate reports, corporate announcements, information related to corporate dividend policies, forthcoming stock splits and so on. Thus the efforts by analysts and investors to acquire and analyze public information will not yield consistently superior returns. As soon as the information becomes public, it will be absorbed and reflected in the stock prices. If any such information does not lead to a change in security prices, then if the semi-strong form EMH is true, we can infer that the news contain no relevant information. Thus it would be too late for the investor to wait for the announcement to be reported in the financial press the next day.

The testing of Semi-strong form of EMH includes the testing of market reaction to accounting information, stock split, and block trading.

3.2.1 Market reaction to accounting information

Wilson (1987) reported a positive association between total accruals and cash flow from operation with stock return. His research concluded that total accruals and cash flow from operation taken together have incremental information content beyond earnings. Judy Rayburn (1986) examined the ability of operation cash flow and accrual data in order to explain the relative change in equity value (return). She observed that cash flow measures, aggregate accrual and current accrual are consistent with the information set used in value equity security (Abnormal Return). Harmon (1984) investigated the relative importance of earning versus fund flow, by examining the association between market reaction with earnings variables and fund variables. He concluded that earnings are more associated with market reaction than fund flows.

3.2.2 Stock Splits

Fama, Fisher, Jensen and Roll (1969) performed the first test for semi-strong market efficiency. They used risk-adjusted return to test for market efficiency with respect to the announcement of stock split and found a considerable high abnormal return prior to the announcement of stock split. On the other hand, after the stock split there is no extraordinary return, and the situation returns to exactly what EMH predicted. Fama,.et al. (1969) and Charest (1978a) found that market is efficient with respect to stock split information.

3.2.3 Block trades

When a large number of stocks are suddenly placed on the market for sale, it is called Block trading. Scholes (1972), Kraus and Stoll (1972), Grier and Albin (1973), Carey (1977) and Hess and Frost (1982), investigate the effect of the

sudden sale of a large number of stocks in the market. They found that there is a significant drop in price, but after a short period stock price rebounds to its prior level.

In a nutshell, the results from the empirical research are inconsistent with the semi-strong form market efficiency.

3.3 Strong form efficient market hypothesis

This form states that not only is the public information useless to the investor or analyst, but all the information is useless. In other words, the current stock prices instantaneously and fully reflect all known information about the securities including the privately available inside information. The markets are so efficient that not even someone with the most valuable piece of inside information can trade profitably on the basis of it. As an example, even the information about the forthcoming announcement by a Company regarding a split in its stock, cannot be used by an investor to his advantage.

Testing the return that is earned by an insider tests the EMH in strong form, Penman (1982) examines the insider trading around earning forecasting announcement. He found that insiders buy shares before the announcement and sell their shares after the announcement, by which they can achieve high abnormal return. Therefore, insiders do indeed have private information that is not impounded in the stock price.

4. Mathematical presentation of efficient market hypothesis

Fama (1970) gives the mathematical presentation of EMH in the following equations:

$$E(P_{j,t+1} / \Phi t) = [1 + E(r_{j,t+1} / \Phi t)] P_{jt} \quad (1)$$

Where,

E = Expected value operator.

Pjt = Price of Security j at time t.

Pj,t+1 = Price of Security j at time t+1 (including reinvestment of any intermediate cash income from securities.

rj,t+1 = One period percentage return=(Pj,t+1-Pjt)/Pjt.

Φt = Symbol of whatever set of information assumed to be "fully reflected" on share price at time t.

$$Z_{j,t+1}=r_{j,t+1}- E(r_{j,t+1} / \Phi t) \quad (2)$$

$$E(Z_{j,t+1} / \Phi t)= 0 \quad (3)$$

Where Zj,t+1 is the unexpected (or excess) return of security j at time t+1, the difference between the observed return, rj,t+1, and the expected return based on the information set Φt.

5. Literature on Efficient Market Hypothesis

Many studies have been conducted internationally which have focused on the efficient market hypothesis (EMH). However, the number of studies published on developing market is small in comparison to the volume of studies published on developed markets. The literature published to date is in favour of weak form efficiency, though pockets of inefficiency cannot be suppressed.

The general conclusion from numerous studies in developed countries is that the weak form of market efficiency holds and that no exploitable patterns in past trading records exist. More recently, however, a number of studies have raised questions about the degree of prevailing market efficiency and have pointed to some market inefficiencies based on observations such as autocorrelation, the small-firm effect, the January-effect and the weekend-effect (Aga and Kocaman, 2008).

Evidence from stock markets in developing countries is mixed. Dickinson and Muragu (1994) found evidence consistent with the EMH in their study of the Nairobi Stock Exchange. Barnes (1986), on the other hand, in his study of the Kuala Lumpur Stock Exchange provided only limited support of the weak form of the EMH. Zychowicz et al. (1995) concluded that on the Istanbul Stock Exchange, daily and weekly returns diverge from a random walk, while monthly returns are consistent with weak form market efficiency.

Fama and French (1992) explained that Portfolios constructed from ‘value’ stocks appear to produce superior investment returns over long horizons. Value stocks are those with high earnings, cash flows, or tangible assets relative to the current share price. After controlling for firm size and the variance of portfolio returns, stocks with low price-earnings ratios outperform the market.

Lakonishok, Shleifer and Vishny (1994) reach similar findings, and also present evidence that the variability of returns from value portfolios is no greater than for glamour portfolios. Thus, the higher returns earned by value portfolios do not appear to be due to a higher level of risk.

Poshakwale (1996) presented evidence concentrating on the weak form efficiency and on the day of week effect in the Bombay Stock Exchange under the consideration that variance is time dependent. Moving from its traditional functioning to that required by the opening of the capital markets, the BSE has presented different patterns of stock returns and supports the validity of day of the week effect. The frequency distribution of the prices in BSE does not follow a normal or uniform distribution, which is also confirmed by the non-parametric KS Test. The results of runs test and serial correlation coefficients tests indicate nonrandom nature of the series and, therefore, violation of weak form efficiency in the BSE. The other null hypothesis that there is no difference between the returns achieved on different days of the week is also rejected, as there is clear evidence that the average returns are different on each day of the week. The weekend effect is evident as the returns achieved on Fridays are significantly higher compared to rest of the days of the week. However, the results presented in the study are not adjusted for transaction costs. Nor have the results been adjusted for non-synchronous trading which may influence the serial correlation coefficients.

Beechey, Gruen and Vickery (2000) concluded that the efficient market hypothesis is almost certainly the right place to start when thinking about asset price formation. Both academic research and asset market experience, however, suggest that it does not explain some important and worrying features of asset market behaviour.

Timmermann and Granger (2004) observed that there are likely to be short-lived gains to the first users of new financial prediction methods. Once these methods become more widely used, their information may get incorporated into prices and they will cease to be successful. This race for innovation coupled with the market's adoption of new methods is likely to give rise to many new generations of financial forecasting methods.

Hadi (2006) identified EMH and provided some detail on the types of EMH, as well as identifying the empirical research that tested weak, semi-strong and strong forms of market efficiency. Accounting market based research more often assumes that market is efficient in semi-strong form, and the reason for this is that financial reports are considered public information once they are released to the market. He provided empirical evidence from the Jordanian market that showed that the security market reacted with mixed signal on releasing profitability, liquidly, and solvency information.

6. Methodology

The paper takes a sample of eleven securities listed on the Bombay Stock Exchange (BSE). The Bombay Stock Exchange is known as the oldest exchange in Asia. It traces its history to the 1850s, when stockbrokers would gather under banyan trees in front of Mumbai's Town Hall. The location of these meetings changed many times, as the number of brokers constantly increased. The group eventually moved to Dalal Street in 1874 and in 1875 became an official organization known as 'The Native Share & Stock Brokers Association'. In 1956, the BSE became the first stock exchange to be recognized by the Indian Government under the Securities Contracts Regulation Act.

BSE as a brand is synonymous with capital markets in India. The BSE SENSEX is the benchmark equity index that reflects the robustness of the economy and finance. At par with international standards, BSE has been a pioneer in several areas. SENSEX is an index of thirty securities.

The paper concentrates on the shares of eleven companies. These include – ACC, Bajaj Auto, Bharti Airtel, Cipla, Dr. Reddy's Labs, Grasim, HDFC Bank, Hindalco, Maruti Suzuki, Satyam Computers, and Wipro. All of these are listed on the Bombay Stock Exchange. Out of these companies, ACC, Bharti Airtel, Grasim, HDFC Bank, Hindalco, Maruti Suzuki, Satyam Computers, and Wipro are included in the thirty companies forming part of SENSEX. Cipla and Dr. Reddy's Labs are not included in the index stocks of BSE, but they are the index stocks of NSE's Nifty. Bajaj Auto, though listed on both NSE and BSE, is not the index stock at either of the two exchanges. The time duration of the study is June 30, 2007 to October 27, 2007.

7. Findings

The research used Runs Test and Autocorrelation Test in order to test the Efficient Market Hypothesis of the Indian securities. The findings of the two tests are shown hereunder:

7.1 Runs Test

Here, the null hypothesis to be tested is that the share prices do not make pattern i.e.

Ho = The prices do not make pattern

The null hypothesis considered here is common for all the sample companies.

The null hypothesis Ho is accepted if the value of Z is less than 1.96 and it is rejected if the value of Z exceeds 1.96.

Where, $Z = (r-\mu r)/\sigma r$

Where 'r' is no. of runs.

It can be seen from Table-1 that the value of Z is 0.687 for the share prices of ACC from July 2007 to October 2007. This value of Z is less than 1.96. So, the null hypothesis Ho is accepted i.e. the share prices do not make pattern. Share prices of ACC move randomly.

The calculated value of Z is 0.277 for the share prices of Bajaj Auto from July 2007 to October 2007. This value of Z is less than 1.96 and hence the null hypothesis considered in this case is also accepted. Share prices of Bajaj Auto move randomly i.e. share prices of this company do not make any pattern.

In case of Bharti Airtel, the calculated value of Z is -0.517 which is negative. Clearly it is less than 1.96. So, it shows that share prices of Bharti Airtel do not make pattern and these prices move randomly. It also shows that share market of Bharti Airtel is weak form efficient.

It is clear from Table-1 that the value of Z is -0.707 which is much less than 1.96. As the value of Z less than 1.96 accepts the null hypothesis Ho, therefore, null hypothesis that the share prices do not make pattern is accepted. It means that share prices of Cipla move randomly.

It is clear from Table-1 that the value of Z coefficient for Dr. Reddy's lab is 0. This value of Z is not in comparison with 1.96. So, share prices of dr. Reddy's Lab also do not make any pattern and these share prices move randomly.

Similarly, in case of Grasim, the calculated value of Z coefficient is-0.533. The value of Z coefficient less than 1.96 accepts the null hypothesis Ho, that share prices do not make pattern. Here, the value of Z is less than 1.96, so the hull hypothesis is accepted i.e. share prices do not make any pattern and move randomly.

In case of HDFC bank, the calculated value of z is -7.74. This value of Z is not within +1.96 and -1.96. So, the null hypothesis that share prices do not make pattern is rejected. Share prices of HDFC bank make pattern and do not move randomly.

The calculated value of Z is 0 for Hindalco. This value of Z is again less than 1.96. Here, null hypothesis is accepted which shows that share prices of Hindalco move randomly and these do not make any pattern.

The value of Z is 0.686 for Maruti Suzuki. Again value of Z coefficient is less than 1.96. It shows that null hypothesis that share prices do not make any pattern is accepted i.e. share prices of Maruti Suzuki move randomly.

Similarly, in case of Satyam and Wipro, the value of Z coefficient is 0.287 and 0.686 respectively. The value of Z is less than in both the Cases. It implies that null hypothesis is accepted for both the companies. The share prices of both Satyam and Wipro do not make any pattern and move randomly.

At the end, the analysis of Runs test shows that in every case the null hypothesis is accepted except one i.e. HDFC bank. It means share prices of the sample companies do not make any pattern and hence move randomly except HDFC bank.

7.2 Autocorrelation Test

Autocorrelation test is applied to weekly share prices of different sample companies and also to the first differences of share prices of different sample companies. In autocorrelation test, lag t is correlated with lag t+1, lag t+2, lag t+3 and so on. In the same way, lag t+1 is correlated with lag t+2, lag t+3, lag t+4 and so on. The auto correlation test applied directly to the weekly share prices of different sample companies did not give satisfactory results. So, the autocorrelation test has been applied on first differenced series of share prices of different sample companies.

Table 2 shows that lag1 is autocorrelated with lag2, lag3…….lag16. Lag2 is autocorrelated with lag3, lag4……lag16. In the same way, lag3 is autocorrelated with lag4, lag5 and so on. Similarly, all the different lags are autocorrelated with other lags.

Here, the autocorrelation of lag1 is checked with lag2, lag3……..lag16. Now, form table-2, it is clear that sometimes the value is near to 1 i.e. 0.915 and sometimes it is near to 0 i.e. 0.393 and sometimes it is in middle i.e. 0.556. As the value varies up to extremes i.e. form 0.915 to 0.393, it means the share prices do not move in any pattern, instead these move randomly.

Now, if lag2 is autocorrelated with lag3, lag4……lag16 then it is clear from table-2, that sometimes the value is near to 1 i.e. 0.82 and sometimes it is 0.47 and sometimes near to 0 i.e. 0.178. So, all these varied values show that share prices move randomly and do not make any pattern.

Similarly in all the cases, when lag t is autocorrelated with other lags values change randomly showing that share prices do not make any pattern and move randomly.

It can be observed that the autocorrelation coefficient in most cases is near to 0.5, which indicates that the prices in lag t do not correlated with prices in lag t+1, lag t+2 and so on. Thus, it can be inferred that the effect of stock prices for the sample companies on future prices is insignificant, and investors cannot reap profits by using the share price data as the current share prices already reflect the effect of past share prices.

8. Conclusion

The research examined the weak-form efficiency of eleven (11) securities listed on the Bombay Stock exchange (BSE) using weekly data from July 2007 to October 2007. The Runs Test and Autocorrelation Tests were used as means of determining whether the BSE was efficient in weak-sense. The Autocorrelation test when directly applied to share prices gives conflicting results with Runs test and thus, making it difficult to reach a definite conclusion. Then, the autocorrelation test is applied to first differenced series, which give satisfactory results. Therefore, though the results lead us into believing that the BSE is weak form efficient, yet we choose to remain cautious in letting our belief transcend into a generalization.

The findings of this study indicate that the BSE needs to strengthen its regulatory capacity to boost investors' confidence. This would involve them being more stringent in enforcing financial regulations, performing regular market. Thus, at the end it can be inferred that the effect of stock prices for the sample companies on future prices is very meager and an investor cannot reap profits by using the share price data as the current share prices already reflect the effect of past share prices.

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Table 1. Values of Z coefficient for sample companies

Name of the company	Values of Z coefficient
ACC	0.687
Bajaj Auto	0.277
Bharti Airtel	-0.5173
Cipla	-0.707
Dr. Reddy’s Lab	0
Grasim	-0.533
HDFC	-7.74
Hindalco	0
Maruti Suzuki	0.684
Satyam	0.287
Wipro	0.686

Table 2. Values of autocorrelation coefficients for sample companies

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15
Col 1	1														
Col 2	0.72	1													
Col 3	0.68	0.38	1												
Col 4	0.60	0.60	0.69	1											
Col 5	0.57	0.47	0.58	0.92	1										
Col 6	0.92	0.82	0.69	0.71	0.68	1									
Col 7	0.39	0.19	0.57	0.19	0.26	0.41	1								
Col 8	0.89	0.78	0.69	0.86	0.79	0.91	0.21	1							
Col 9	0.66	0.64	0.80	0.96	0.87	0.78	0.28	0.86	1						
Col 10	0.69	0.84	0.36	0.49	031	0.75	0.17	0.68	0.52	1					
Col 11	0.83	0.85	0.58	0..82	0.82	0.92	0.40	0.91	0.82	0.70	1				
Col 12	0.72	0.18	0.38	0.26	0.38	0.58	0.28	054	0.28	0.36	0.49	1			
Col 13	0.64	0.77	0.16	0.28	0.36	0.67	0.48	0.55	0.29	0.61	0.75	0.35	1		
Col 14	0.77	0.72	0.80	0.88	0.83	0.85	0.49	0.89	0.89	0.57	0.89	0.34	0.58	1	
Col 15	0.69	0.33	0.94	0.53	0.49	0.68	0.74	0.61	0.65	0.30	0.55	0.46	0.28	0.75	1
Col 16	0.78	0.37	0.71	0.75	0.81	0.75	0..29	0.82	0.77	0.37	0.74	0.78	0.27	0.71	0.66

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Linking Organizational Structure, Job Characteristics, and Job Performance Constructs: A Proposed Framework

Johanim Johari (Corresponding author)
College of Business
Universiti Utara Malaysia
Sintok 06010, Kedah, Malaysia
Tel: 604-928-5268 E-mail: johanim@uum.edu.my

Khulida Kirana Yahya
College of Business
Universiti Utara Malaysia
Sintok 06010, Kedah, Malaysia
E-mail: khulida@uum.edu.my

Abstract

A growing emphasis has been given on employees' job performance as a source of competitive advantage to promote responsiveness in enhancing overall organizational effectiveness. Although performance depends very much on personality traits, other external factors, also known as system factors or opportunities to perform, have a significant amount of influence on employees' task and contextual performance. Constraints to perform, such as bureaucratic structure and ineffective job design, will influence individual task and contextual performance negatively. Such circumstance inadvertently hinders high organizational performance. This paper proposes that organizational structure, namely formalization and centralization, have direct effects on employee task performance and organizational citizenship behavior (OCB). Also, this paper posits that job characteristics, namely skill variety, task identity, task significance, autonomy, and feedback, exert influence on employee task performance and OCB. To examine the applicability of the proposed framework, seven main propositions are identified and analyzed.

Keywords: Job performance, Organizational structure, Job characteristics, Task performance, Organizational citizenship behavior

1. Introduction

Job performance has become one of the significant indicators in measuring organizational performance in many studies (Wall, Michie, Patterson, Wood, Sheehan, Clegg, & West, 2004). Even though performance is oftentimes determined by financial figures, it can also be measured through the combination of expected behavior and task-related aspects (Motowidlo, 2003). In fact, performance that is based on an absolute value or relative judgment may reflect overall organizational performance (Gomez-Mejia, Balkin, & Cardy, 2007; Wall *et al.* 2004). Additionally, job analysis can also be used in developing performance standard required of each employee (Heneman & Judge, 2005). Job analysis specifies work behaviors and knowledge, skills, abilities, and other characteristics (KSAOs) required of the job incumbents. Most importantly, Wiedower (2001) and Pincus (1986) asserted that performance measure that is based on the performance appraisal items offers higher reliability in evaluating performance.

Schmitt and Chan in Motowidlo (2003) categorized employee job performance into 'will-do' and 'can-do'. The former refers to individuals' knowledge, skills, abilities and other characteristics (KSAOs) required in performing certain job and the latter denotes the motivation level that individuals may have in performing their work. On the same ground, Motowidlo and Van Scotter (1994) pointed out that performance construct should consist of task performance and contextual performance. Both constructs are influenced by different factors, for instance job-related experience determines task performance while individual's personality type determines contextual performance (Motowidlo & Van Scotter, 1994). In a parallel fashion, Cardy and Dobbins in Williams (2002) conceptualized performance as work outcomes that relates closely to task performance, such as the quantity and quality of work done, and job relevant

behaviors that consist of behavioral aspects useful in achieving task performance (Williams, 2002). In other words, job relevant behaviors provide support in performing task-related matters. Therefore, job performance is best measured in terms of task performance and organizational citizenship behavior and it is more comprehensive to be conceptualized as job relevant behaviors needed to enhance performance-related matters.

2. Review of the literature

2.1 Task performance

According to Motowidlo (2003), scholars have given limited attention on the most appropriate concept of task performance despite the fact that an accurate definition of task performance or in-role performance is crucial before any interventions are made to improve human performance in organizations. In human resource management studies, task performance has been measured using a range of criterion measures, including supervisory ratings, productivity indexes, promotability ratings, sales total, and turnover rate. Although these indicators might be presumed to reflect performance at various degrees, Gomez-Mejia *et al.* (2007) stated that task performance should be distinguished into quality of work done, quantity of work performed, and interpersonal effectiveness. Motowidlo (2003) defined task performance or in-role behaviors as the organization's total expected value on task related proficiency of an employee. In other words, task performance is the behaviors related specifically to performing job-related matters.

Task performance can be measured in terms of the absolute value or relative judgment (Gomez-Mejia *et al.,* 2007; Wall *et al.* 2004). The former is based on the figures or financial indicators, such as productivity and profitability. Relative judgment focuses on the overall performance of an employee or organization, which is based on task-related and behavioral aspects. According to Wall *et al.* (2004), most human resource management researches adopted subjective measure of performance in tapping individual performance, which is most appropriately measured based on task related and behavioral aspects. Most importantly, subjective measure allows researchers to generalize the findings to a larger performance construct (Wall *et al.* 2004). This is in accordance to Motowidlo's (2003) assertion that task performance is best construed as a behavioral construct because it involves psychological process that is related to selection, training, motivation, and facilitating situational processes. It has also been reported that performance should be measured broadly to enhance its reliability (Chockalingam, Schmidt, & Viswesvaran, 1996) but the scope of measurement should be most specific. For example, performance measurement should be based on performance appraisal items or job analysis in order to increase both validity and reliability (Pincus, 1986; Ashton, 1998; Wiedower, 2001).

Performance Model originally introduced by Campbell explains on the determinants of performance (Williams, 2002). This model asserts that performance is a behavior determined by declarative knowledge, procedural knowledge, and motivation. Declarative knowledge deals with knowing what to do or specific knowledge and skills required in performing a particular job while procedural knowledge consists of cognitive skill, psychomotor skill, self-management skill or other generic skills needed in performing all types of jobs. The third element, motivation is termed as a choice behavior, which is the choice of whether or not to perform, choice of the effort level to be exerted, and choice of whether or not to perform continuously. Although Campbell's Performance Model has been useful in many performance studies, it lacks comprehensiveness in explaining the antecedents of performance because it focuses mainly on the factors related to a person as a sole determinant of performance (Robbins, 2003).

Drawing on the limitation, Cardy and Dobbins and Waldman in Williams (2002) added the 'person factors' and 'systems factors' as predictors of performance. According to Cardy and Dobbins (as cited in Williams, 2002), 'person factors' are the abilities and personalities of an individual that may influence his or her performance level. This is evident in a study by Motowidlo and Van Scotter (1994), which reported that personality influences employees' contextual behavior while experiences and abilities relate significantly to employees' task performance. Person factors can be enhancing if employees have relevant KSAOs and motivation. Nevertheless, person factors are considered inhibiting if employees have inadequate KSAOs and lack of motivation (Adler & Borys, 1996). 'System factors', on the other hand, are environmental factors related to organization, for instance organizational culture and structure, leadership, and job design (Williams, 2002). According Adler and Borys (1996), 'system factors' can be categorized into 'enabling' and 'coercing'. As an example, 'system factors' can be considered 'enabling' if positive organizational culture encourages high performance work place; nevertheless, 'system factors' can be considered 'coercing' if rigid organizational structure limits high performance work place (Adler & Borys, 1996). In sum, Theory of Performance by Cardy and Dobbins in Williams (2002), which includes 'person factors' and 'system factors', provides a more comprehensive outlook on the antecedents of performance.

Further, the Job Characteristics Theory of Motivation by Hackman and Oldham (as cited in Gomez-Mejia, Balkin, & Cardy, 2007) explains that positive job characteristics will bring about three critical psychological states, namely, experienced meaningfulness, experienced responsibilities, and knowledge of results. These situations will eventually lead to positive workplace outcomes, such as higher work motivation, organizational commitment, and job satisfaction (Morgeson & Campion, 2003; Gomez-Mejia *et al.* 2007). Similar to organizational characteristics, job characteristics

are categorized as the 'system factors' in the Performance model by Cardy and Dobbins and Waldman in Williams (2002).

Theory of Bureaucracy by Weber (1946) postulated that formal organizations, which are bureaucratically organized, have higher level of performance. This is due to the tasks specification and clear division of organizational structure which results in higher performance among employees. Further, clear and specified tasks improve employees' task performance from time to time in the sense of better quality and quantity of work output.

2.2 Organizational citizenship behavior as a contextual performance

The biggest challenge for employers in managing human resources is to get their employees working beyond what is stated in their job descriptions voluntarily. In fact, maximizing efforts from employees is important in sustaining competitive advantage, keeping abreast with changes, and promoting innovation (Organ, 1997). This situation demands for organizational citizenship behavior or OCB to be exhibited by all employees in the organization. Organ (1997) and Podsakoff *et al.* (2000) introduced organizational citizenship behavior, which is also known as the contextual performance or extra-role performance, as a prominent contributing factor to organizational effectiveness. Organizational citizenship behavior or OCB was first introduced in the early 1980s by Bateman and Organ (Organ *et al.* 2006). It has been defined by Organ (1988) as:

An individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system and that in aggregate promotes the effective functioning of the organization. By discretionary, we mean that the behavior is not an enforceable requirement of the role or job description that is the clearly specifiable terms of the person's employment contract with the organization; the behavior is rather a matter of personal choice, such that the omission is not generally understood as punishable (p. 4).

In other words, OCB concerns with the positive behavioral aspects that are neither stated in job description nor enforced by employment contract. Besides contextual performance, OCB has been also coined as the extra-role behaviors or discretionary behaviors (Organ *et al.* 2006). When first introduced by Bateman & Organ, OCB was distinguished into general compliance that concerns with what employees should do and altruism that focuses on employees' willingness in helping others (Organ *et al.* 2006). Later, Organ (1985) expanded OCB into five distinct dimensions namely, altruism, civic virtue, conscientiousness, courtesy, and sportsmanship. Following this, the concept of OCB has gone through several transformations. For instance, Williams and Anderson (1991) divided OCB into OCB-I that focuses on behaviors at individual level and OCB-O that deals with employee behaviors at organizational level. Then, Organ (1997) categorized OCB into three dimensions, which are helping, courtesy, and conscientiousness. According to Koster and Sanders (2006), OCB has also been defined as customer-service behavior or pro social behavior. However, Chiaburu and Baker (2006) stated that OCB and pro-social behavior or customer-service behavior differ markedly based on the context of the behaviors being performed by the employees. This is because OCB is about reciprocity whereby employees would engage in OCB if they perceive that their supervisors or colleagues exhibit OCB whereas pro-social behavior is the type of behaviors that should be exhibited by employees who are attending to the customers' needs (Chiaburu & Baker, 2006).

Despite numerous conceptualizations of OCB, the most scrutinized concept of OCB is based on the five dimensions by Organ (1985) namely, altruism, civic virtue, conscientiousness, courtesy, and sportsmanship. A more recent concept of OCB includes innovation as one of its dimension. Moon, Van Dyne, and Wrobel (2005) noted that this dimension is somewhat different from the classic definition of innovation and creativity because innovative behaviors in OCB relate to frequency of ideas or engagement level, not the quality or uniqueness of ideas. It has been suggested by Moon *et al.* (2005) that innovation is a crucial important to be included and examined in the OCB construct given the need for organizations nowadays to have employees that can participate actively in delivering ideas for organizational improvement.

2.3 Outcomes of organizational structure

According to Hage and Aiken (1967), two important features of organizational structure are formalization and centralization. Hage and Aiken (1967) also defined organizational formalization as the level to which an organization precisely spells out rules and procedures related to jobs in different situations. This aspect is also known as job codification. Rule observation refers to the extent to which an organization rigidly adheres to the rules and procedures. In other words, this construct measures how far employees are supervised in ensuring that they are not committing any offense against the company's rules and regulations (Hage & Aiken, 1967). Centralization deals with the amount of power distributed among employees of various positions. This variable is measured in terms of hierarchy of authority and participation in decision making. According to Hage and Aiken (1967), the former examines whether or not employees are reliant upon their supervisors in decision making while the latter identifies the level of employees' involvement in decisions on resource allocation and policy formation.

Adler and Borys (1996), on the other hand, conceptualized formalization into coercive and enabling. This is because Adler and Borys (1996) asserted that attitudinal and behavioral outcomes among employees are attributed to the type of formalization enforced in the organization (Adler & Borys, 1996). Hence, a conceptual understanding of this construct among top management is deemed crucial. Adler and Borys (1996) also explained that different attitudinal and behavior outcome of formalization originates from the selection process. An accurate selection process, which takes into account job congruence or 'person-job' fit element, may mitigate negative attitudinal or behavioral outcomes. For instance, highly formalized organizations should hire individuals who prefer routine tasks and have low growth needs. Adler and Borys (1996) also introduced four features that embody enabling and coercive dimensions, namely repair, internal transparency, global transparency, and flexibility. In an enabling situation, repair means allowing employees to adjust or make necessary changes to the workflow to enhance production process while in a coercing circumstance, employees have to follow the standardized work procedure and any deviation from it cannot be tolerated. Internal transparency, in the enabling formalization, concerns with employees' knowledge and skill on certain equipment, whereby any malfunctioning can be overcome immediately. In the coercive formalization, employees are to perform work instructions assigned, without being given any rationale because it is within their supervisors' boundary. Global transparency refers to the employees' savvy on the broader systems within their working field. Employees are not supposed to work beyond their specified realms. In contrast, employees in the enabling formalization situation are given full specified and contextual information to enable them comprehend the work systems (Adlers & Borys, 1996). This is also to promote creativity, interaction, and innovativeness among employees. In addition, Adler and Borys (1996) noted that due to lack of task autonomy and identify, highly formalized organizations depend on extrinsic motivation, such as rewards, to encourage positive attitudinal or behavioral outcomes. Enabling type of formalization, which gives employees autonomy and identification in their tasks, can cultivate intrinsic motivation. Further, goal congruence can help make formalization acceptable to employees because they understand the rationale of the work procedures given. All in all, Adler and Borys (1996) viewed formalization can be effective depending on the selection process, congruency of organizational goals, and type of industry in which an organization operates. In other words, personality traits of an individual determine the employee's success level regardless the type of organizational structure practiced. In addition to the burgeoning definitions of organizational formalization, Bodewes (2002) provided three definitions of organizational formalization but he proposes that formalization is most accurately defined as "the extent to which documented standards are used to control social actors' behavior and outputs". These functions are gauged based on two main features of formalization that are similar to Agarwal's (1993) conceptualization, namely rule observation and job codification. Bodewes (2002) highlighted that most researchers overlook the comprehensive definition of formalization by not including the aspect of rule observation or segregating it into two dimensions. In fact, formalization should be measured and defined collectively because it deals with the interaction of both job codification and rule observation (Bodewes, 2002).

The negative influence of formalization and centralization has been reported in most empirical investigations. A study conducted by Nasurdin *et al.* (2006) examined the influence of organizational structure (formalization and centralization) on job stress among salespersons in the stock broking industry of Malaysia. It was found that formalization has a positive influence on job stress because job that is bounded by inflexible rules and procedures will allow lesser autonomy and freedom for the incumbents on how to perform their tasks. This will most likely lead to job stress, which will be experienced by employees in such circumstance. Therefore, it is evident that highly rigid organization, which adopted formalization and centralization, will result in higher stress level among employees given the limited autonomy and freedom in performing job.In the same way, Tata and Prasad (2004) studied the moderating impact of organizational characteristics (formalization and centralization) on the self-management and team effectiveness relationship. Tata and Prasad (2004) categorized centralization into macro-level centralization and micro-level centralization whereby the former deals with employees' participation in decision making regarding policies and procedures at the organizational level and the latter concerns with employees' involvement in decision making regarding their own tasks. The first level supervisors and middle managers from the manufacturing companies responded in this study. Findings show that teams with higher self-management appeared to be more effective in organizations that allow input from employees with regard to their task performance (micro-level decision making). On the contrary, macro-level decision making does not influence the strength of self-management and team effectiveness association at any level. Findings by Tata and Prasad (2004) also suggested that there is a stronger relationship between self-management and team effectiveness in organizations that have lower level of formalization. In other words, fewer rules, policies, and procedures allow flexibility in teams' self-management, which eventually boost teams' effectiveness. In addition to organizational centralization and formalization, Tata and Prasad (2004) highlighted that there are three factors that may contribute to teams' effectiveness- team leader experience, clear goals, and adequate resources. Drawing on the findings, it can be concluded that flexibility encourages better team performance, especially at the micro-level decision making. To enhance team and individual effectiveness, employees should be given adequate freedom and autonomy in the decision making process, especially decisions that are related to their tasks.

In a study by Michaels, Dubinsky, Kotabe, and Chae (1996) among sales personnel in the electronics products industry from USA, Japan, and Korea, it was found that formalization inversely affects role ambiguity among sales personnel. This is because specified rules, policies, and procedures clarify role expectations, which inadvertently reduces role ambiguity. Finding by Michaels *et al.* (1996) also indicates formalization has a significant and negative influence on role conflict among respondents from the US. This finding is not applicable to the respondents in Japan and Korea. A plausible explanation for this result is because of the different work environment in the countries examined. In essence, Japanese and Korean workers are more collectivistic compared to their American counterparts, who are more individualistic. Formalization is deemed necessary by American employees to provide them guidelines in managing job stress and conflict. It was also reported in this study that formalization increases organizational commitment of Korean and Japanese sales personnel but role conflict has a negative impact on their work alienation. On top of that, Michaels *et al.* (1996) provided that role conflict does not have influence on US salespersons because Americans enjoy working independently, and therefore, conflict does not have any impact on their commitment level. This study reveals that employees of different culture may view organizational structure differently. Therefore, culture difference should be taken into account by the top management in deciding the level of organizational formalization and centralization to be adopted.

Kim and Lee (2006) expanded the context of a comparative study between public and private sector in the Asian context, specifically South Korea. Besides organizational culture and information technology, organizational structure was examined as the predictors of employee knowledge sharing capabilities. Dimensions of organizational structure investigated are centralization, formalization, and performance-based reward systems. It was hypothesized that while centralization and formalization influence employee knowledge sharing capabilities negatively, performance-based reward systems affect the criterion variable positively. Even though public service organizations reported higher mean scores for formalization and centralization and lower mean scores for clear vision and goals and performance based reward systems, these predictors are not related to employee knowledge sharing capabilities. Nonetheless, the level of knowledge sharing capabilities is higher among the private sector employees compared to the public sector counterparts. Kim and Lee (2006) contended that employee knowledge sharing capabilities differ between the two organizations because public sector managers face various organizational constraints in enhancing employee knowledge sharing capabilities. Organizational constraints were inadvertently attributed to the higher level of formalization and centralization reported in the public sector organizations. In sum, Kim and Lee (2006) asserted that public sector managers can adopt the same strategies practiced by their private sector counterparts in improving the employee knowledge sharing capabilities. Based on the findings, the researchers also suggested that leaders in the public sector should be more concerned about the deleterious impact of formalization and centralization on employee knowledge sharing capabilities. Empowerment, employee involvement, participative decision making are the means in promoting flexibility in organizational structure of the public sector.

2.4 Job Characteristics

Most studies on job characteristics adopt the job characteristics model developed by Hackman and Oldham (Morgeson & Campion, 2003). This model incorporates five dimensions of job characteristics, namely task identity, skill variety, task significance, autonomy, and feedback. The first three dimensions determine whether or not a certain job are meaningful to the job incumbent while autonomy and feedback are useful to tap the level of autonomy and feedback that the job incumbent has acquired from his or her job. According to Morgeson and Campion (2003), the earliest version of job characteristics dimensions was developed by Turner and Lawrence, which include the aspects of dealing with others and friendship opportunities. However, these two dimensions were later omitted because it is not centrally related to the job characteristics construct. Therefore, this study adopts the job characteristics dimensions developed by Hackman and Oldham due to its comprehensiveness in providing appropriate meaning to this particular construct.

Job characteristics have been related to various organizational constructs. Bhuian and Menguc (2002) explored the new configuration of job characteristics, organizational commitment, and job satisfaction. This was done by examining the interactive effect of job characteristics and organizational commitment among expatriate salespersons. This investigation offers interesting findings because respondents reported higher level of satisfaction if they perceive their job provides higher level of autonomy, identity, and feedback. Conversely, task variety does not have a positive impact on the respondents' satisfaction level. With a higher level of satisfaction, respondents were also reported to have a higher level of organizational commitment. A study conducted earlier by Bhuian, Al-Shammari, and Jefri (1996) echoed the similar findings that job autonomy, task identity, and feedback have impacted job satisfaction, while task variety has influenced employees' commitment. Earlier, Anderson (1984) examined the same variables and reported similar findings that job autonomy, task identity, and feedback affect employees' job satisfaction. This study also indicates that autonomy and feedback are related to task performance, but not other dimensions of job characteristics. It is also important to note that this study indicates no relationship exists between job characteristics and absenteeism. Given the findings, it is crucial to give emphasis on the job design aspects, particularly autonomy and feedback, in promoting positive job attitudes, such as commitment and satisfaction, among employees.

On the contrary, a longitudinal study by Rensch and Steel (1998) reveals a significant correlation on the job characteristics and absenteeism relationship. It was found that job characteristics are the predictor of time-lost and absence frequency among the civilian employees in a large military organization. In fact, competence and need for achievement do not moderate the relationship between job characteristics and absenteeism. According to Lau and Pavett (1980), job characteristics, especially for the management positions, are very much alike. Hence, the contradictory findings reported by Rensch and Steel (1998) are perhaps attributed to the different nature of the organization in which the study has been carried out. Unlike the study by Anderson (1984), Rensch and Steel (1998) conducted the study in a large military organization. Therefore, civilians in such organization have a higher tendency to be absent from job if their job do not provide positive job design, such as high level of autonomy, variety of tasks, and adequate feedback.

Further, an empirical investigation by Chang and Lee (2006) in the manufacturing, banking, and service industries revealed that personality traits and job characteristics have a positive and significant influence on organizational commitment as well as job satisfaction. On the contrary, Thomas, Buboltz, and Winkelspecht (2004) discovered that personality has neither influenced job satisfaction nor moderated the job characteristics and job satisfaction relationship. Given the findings, Thomas *et al.* (2004) suggested that personality traits bear little importance in redesigning job and enhancing job satisfaction among employees in all of industries examined. In contrast, Schneider (2003) concurred that job characteristics have impacted managers' commitment and satisfaction. Similarly, Sanker and Wee (1997) conducted a study on job characteristics-job satisfaction association in three different countries and they reported that job characteristics influenced job satisfaction of the respondents in all of the countries.

Based on the above reviews of literature, it can be concluded that many empirical studies were done to examine the outcome of job characteristics to various organizational constructs, especially job satisfaction and organizational commitment. However, limited attention has been given on the outcomes of job characteristics in terms of task performance and OCB.

2.5 Organizational structure

The outcomes of organizational structure, namely formalization and centralization, have been examined in most studies. It is evident that this variable has negative influence on overall organizational effectiveness, which includes higher level of job stress (Nasurdin *et al.* 2006) and team effectiveness (Tata & Prasad, 2004). Therefore, this study hypothesizes that formalized rules and procedures and centralized decision making deter employees from performing their tasks effectively. Consequently, better task performance is hardly achievable in organizations with highly formalized rules and centralized decision making (Organ *et al*. 2006). Formalized rules and procedures and centralized decision making also hinder employees from 'thinking outside the box' in performing tasks. Hence, employees do not put extra effort or take any initiative to improve the way their jobs are performed. In other words, highly formalized and centralized organization discourages employees from exerting more efforts in achieving organizational goals (Organ *et al.* 2006). As such, it is hypothesized that:

Proposition 1: Formalization will negatively influence job performance.

Proposition 2: Centralization will negatively influence job performance.

Job characteristics have a positive influence on various organizational outcomes, such as job satisfaction, organizational commitment, and absenteeism. This is evident based on the empirical studies, for instance Anderson (1984), Bhuian *et al.* (1996), Bhuian and Menguc (2002), Chang and Lee (2006), Rensch and Steel (1998), and Thomas *et al.* (2004). Furthermore, Singh (1998) revealed that job characteristics have a significant influence on job performance, but not on job satisfaction and commitment. Job Characteristics Theory of Motivation by Hackman and Oldham specifically explain that job characteristics, such as task identity, skill variety, task significance, autonomy, and feedback, are the 'system factors' affecting the psychological condition of employee in performing job. This state then determines the level of task performance and OCB exhibited by employees. Drawing on this proposition, it is postulated:

Proposition 3: Task identity will positively influence job performance.

Proposition 4: Skill variety will positively influence job performance.

Proposition 5: Task significance will positively influence job performance.

Proposition 6: Autonomy will positively influence job performance.

Proposition 7: Feedback will positively influence job performance.

3. Conceptual framework

According to the Performance model by Campbell, there are two major determinants of performance, namely motivation and ability. These factors are also known also the 'person factors' in which performance are determined solely by the criteria of an individual (as cited in Williams, 2002). Later, Cardy and Dobbins and Waldman improved the theory by adding in the 'system factors' as the antecedents of individual performance (as cited in Williams, 2002).

In specific, 'system factors' deals with factors within organizational environment and job design. Both factors may affect individual performance at different levels (Williams, 2002). This study examines the organizational characteristics as the 'system factors' that may influence task performance and OCB. Weber's Theory of Bureaucracy provides distinct features of formal organizations wherein tasks are distributed among various positions to enhance specialization and expertness among staff. This encourages effective hiring process, which is done by matching job requirements to candidates' qualifications. Another aspect discussed in this theory is that hierarchy of authority, which takes on the pyramid shape whereby each official is responsible for his or her subordinates' actions and each official has clear-cut authority over officials under his or her supervision. In other words, authority is clearly-circumscribed in such structure. Therefore, based on the literatures reviewed, the theoretical framework shown in Figure 1 is proposed.

4. Concluding Remarks

That employee job performance improves organizational competitive advantage to promote responsiveness in enhancing overall organizational performance has stimulated interest in identifying the antecedents to promote high performance employees. However, to perform on par or beyond of what is prescribed in job descriptions requires effective organizational structure and job characteristics. These are essentials in supporting such behaviors that may enhance employee task and contextual performance.

This paper proposes that job characteristics have substantial influence on task performance and OCB. This is due to the fact that most of the previous empirical studies examine the outcome of job characteristics on various organizational constructs, especially job satisfaction and organizational commitment. Further, organizational structure has been reported to affect various organizational outcomes, at different levels. It is suggested that to improve employee job performance, organizations ought to identify whether or not the existing organizational structure is supportive for them and to refine job characteristics so as to encourage employees to perform at their best.

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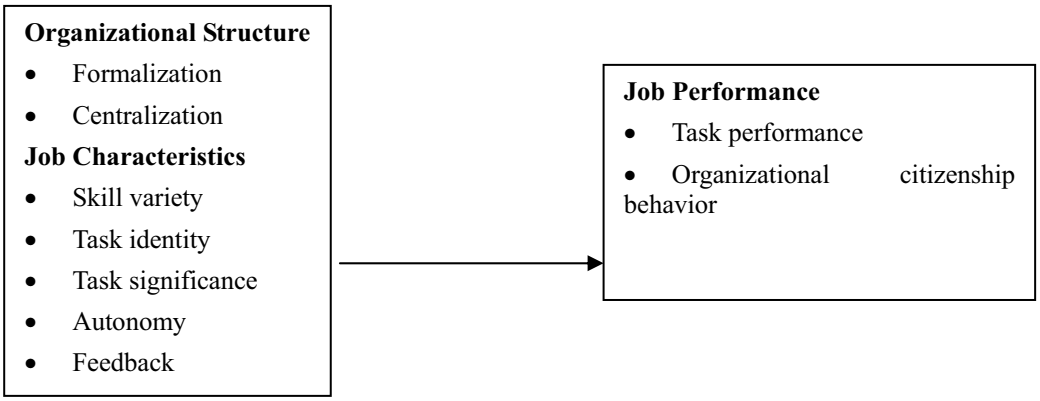

Figure 1. Conceptual framework for predicting the relationship between organizational characteristics and job characteristics and individual performance

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Study on the Main Problems Existing in the Development of China's Foreign Trade

Chunmei Yang
College of Economics
Tianjin Polytechnic University
Tianjin 300384, China
E-mail: jane_ycm@126.com

Abstract

The keep-going growth of foreign trade has had the remarkable promotion effects on China's economic development. Simultaneously, it has also brought the serious environment pressure. This article illustrates the influences of foreign trade on the environment from two aspects: the cargo trade and the foreign capital, analyzes the main problems and their causes, proposes the corresponding countermeasures, such as optimize the structure of industries, orientate the foreign investment correctly, perfect the environmental protection legislation, and so on..

Keywords: Trade and environment, Cost of environment, Problems and causes

Since China's accession to the WTO, the volume of its foreign trade and FDI has been growing rapidly and promoting the economic development remarkably. Meanwhile, we can not neglect that the domestic environmental protection also receives big challenges along with its development of foreign trade and economy, which resulted in accelerating our country environment destruction and the resources consumption. The reasons mainly lie in:

1. The dominant exports are still the high-pollution and energy-consumed products

First, the structure of export commodities has been grading up within 30 years since the reform and opening to the outside world. In 1978, the export of primary products and industrial finished products accounted for 53.5% and 46.5% of the total export. The proportion was transferred to 5.1% and 94.9% respectively in 2007. The export of industrial finished products occupied the absolute dominant position. But on the other side, it possibly also means that the more environmental costs are beard by our country. Here environmental costs refer to the waste water, the waste gas, the industrial soot and dust which are emitted during the manufacturing of the industrial finished products. The environmental costs of industrial finished products are much higher than that of the primary products. Because it involves not only the environmental costs of mining raw materials but also the environmental costs of processing. Therefore, we should see the environment price hidden when we are delighted for the rapid growth of industrial finished products export.

Next, the top five sectors in the export structure of industrial finished products are the chemical industry, metal smelting and the rolling processing industry, the textile industry, the electrical machinery and the equipment manufacturing industry, the transportation and the equipment manufacturing industry, which are also the five pollution-intensive industries in China. Take the textile industry as an example, to produce every 100 meters cotton fabrics needs to consume 3.5 tons water and 55 kilograms coals approximately, simultaneously emit 3.3 tons waste water, 2 kilograms COD and 0.6 kilogram BOD. The emission of waster water of textile industry occupies the fifth among the 40 industries in China, and its emission of COD is the fourth.

As showed in Table 1, the waste water discharge of these five major industrial products export sectors keeps growing year by year from 1996 to 2007. Especially in 2005, three of them discharged waste water over 300,000 tons, among which the most part is ascribed to the textile industry, the electrical machinery and instrument manufacturing industry is to be the next. These high proportions indicate that the pollution sectors are playing a dominant role in our export of industrial products.

Insert Table 1 here

Finally, due to the traditional trade pattern based on irregular exchange of equal value, namely the price of industrial finished products from developed countries are comparatively higher than the value, but that of resources-intensive products from developing countries are much lower, in addition to the disorderly competition between the related export enterprises in the international market, the export of those resources and energy consumed, high pollution products not

only doesn't get reward deserved but created the resources transition consumption and the environmental pollution instead. In a word, the more the products of these sectors export, the bigger our environment is harmed, which is not facilitate the sustainable development of foreign trade.

2. The negative influence on environment from import

The negative influence on environment form is mainly expressed by the sharp increase of those pollutants import volume. The difference of economic development level causes the difference of processing pollutants cost in different country, which drives the developed countries to shift the pollutants interstate for their own benefit. According to statistics, there are 89% of the world's electronic trash are transported to Asia, and 90% of which entered our country each year. Such kind of massive import of those foreign trash do harm intensively to the ecological environment. The water quality, the atmosphere, the cultivated land, the health and the security are endangered seriously by the stack, unpack and treatment of those dangerous wastes.

3. The FDI concentrates in the pollution-intensive and the resource-intensive sector

The amount of absorbing foreign investment of China is always being in the head position among developing countries. In 1983, our country absorbed foreign direct investment only 0.916 billion US dollars in 1983. While it was up to 74.8billion US dollars in 2007, which is increased by 81 times within 24 years. The proportion of overseas-funded enterprises' export in our country total export increased from 41% in 1997 to 58% in 2007. The overseas-funded enterprises become the main force of export in China. But to a certain extent, our country is also becoming "the pollution refuge" of some developed countries because our country's environmental standards are comparatively lower. About 1/4 of FDI in China flow to the pollution industry. 71.5% of FDI invest in manufacture industries, which contribute to the economic development greatly and are also the main pollution industries. FDI in education, hygiene, social security, welfare, public administration, and social societies are comparatively fewer. At the same time, the area distribution of FDI is unbalance, which cause huge population in the middle and west part of China crowd into the east. This kind of unbalanced distribution of investment causes high density of population in the east; which finally result in a series of problems including education, and environment.

4. The environmental protection legal framework is imperfect

Compared with the international standards, our country's environmental protection legal framework is not perfect enough. Neither the relative policies reflect the government's limiting on low-technique, high-pollution, and resources-consumed foreign capital project nor respond the encouragement and preference on the new and high technologies, the resource conservation and environmental protection project. All this causes some regions pursing their present economic development by sacrificing the future benefit. As for the domestic enterprises, they have not demanded to adopt the ISO14000 standard. Without the strict requirements on the environmental technical standards, craft, material, quality and ingredient content of the products, our export products couldn't up to the international standard, not only sent the loose product manufacturing process the pollution limit, which will not only affect the sales of the goods but also create the dual losses of economics and the environment.

Based on the above analysis, we can see the conflict between the rapid development of foreign trade and the damage of environment. In view of the sustainable development of our future economy, the following countermeasures are suggested to be taken:

4.1 To optimize the export structure

On one side, we should urge the enterprises to change their pollution behavior by means of pollution charge, environment revenue, emission permit transaction, deposit, environmental damage liability insurance and so on in order to carry out the environmental costs internalization of export products and promote the coordinated development of trade and environment; On the other hand, by the technical method, we should improve the structure of our export commodities, develop positively the export of green products with the characteristics of wide market coverage fraction, high technique content and more foreign exchange obtaining. While improve the technique content of our traditional export products.; Control the export of pollution-intensive products, such as textiles appropriately, enlarge the management force on these sectors;

For example, under the condition of establishing relative high environmental and energy consumption standards, the government can close the enterprises that couldn't be up to the standards, at the same time, the government could announce the name list of those pollution enterprises to the public, which will make the customers stop buying or importing their products, be helpful in sets up the good image of environmental protection in the international trade and reduce consensus pressure. There is another important thing we must do is to pay great attention to developing the environmental protection industry in order to cultivate the new international competitiveness.

4.2 To formulate the environmental friendly policy of attracting investment

It needs us to pay great attention to the quality of utilizing foreign capital, try to absorb the investment with top level

technology, strong competitive power, good managerial experience, and great reputation. As for the investment project, we must investigate, forecast and evaluate its effect scope and extent on the environment, limit the high-pollution, energy- consume, and low-profit investment, stop firmly the entering of the pollution technology and worn-out equipment; perfect gradually the domestic competitive environment for foreign capital by encouraging the foreign merchant to set up the research and development organization instead of building a plant purely in China.

4.3 To perfect gradually the "green" trade legislation and related environmental standards

For one thing, we should perfect the foreign trade related environment laws and regulations gradually, strengthen the environmental standards, establishes the green inspection and quarantine system, and promote the implement of ISO14000 series environmental standard and the environmental symbol product authentication system in order to guide and support enterprise to achieve the clean production. For another, we should study and grasp the environmental protection laws and regulations promulgated unceasingly by the developed countries, speed up the formulation consummation of laws and regulations related environmental protection in the process of manufacture and sale of various goods according to the new tendency of the international market.

4.4 To Establish and Perfect the green calculation system

For a long time past, the environmental costs have not been being included in export quotation because of the lack of the environmental protection consciousness and the green economic concept. The resources have also become the commodity which may export inexpensive. Then our export is easily hindered by abroad trade protectionism, meanwhile, the national long-term development benefit is also harmed, the ecological environment is caused to be out of balance seriously. Therefore, our country must establish the green national economic calculating and accounting system suitable for ourselves. The wastage of non-renewable resources, the consumption of renewable resource, the destruction and the improvement of environment, the management of pollution and so on should be listed in the calculation system as the social cost in order to realize gradually the commercialization price quantification of resources and environment, payment of the consumption resources and the environment destruction. Only by this can we manage and use the resources effectively. The economy can keep developing sustainable. All this needs us to build a unified working platform; choose an appropriate model, determination the key point and scope of research, and construct a environmental statistic indicators system scientifically and completely.

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Table 1. Waste Water Discharge by Five Major Industrial Products Export Sector 1996-2007

Year	Raw Chemical Materials and Chemical Products	Metal Smelting and the Rolling Processing	Manufacture of Textile	Manufacture of Electrical Machinery and Equipment	Manufacture of Transport Equipment
1996	70502	55534	150935	36211	4559
1997	78364	71254	185931	44475	5731
1998	80446	67112	173991	50625	6943
1999	83354	66900	177362	60451	7149
2000	96978	88341	212238	84593	10141
2001	106593	85619	214160	98511	10189
2002	121746	100547	218601	134519	11455
2003	154345	133587	315198	199982	16932
2003	204766	232608	381460	287530	122803
2005	262223	300468	457910	369851	30533
2006	335956	211926	331959	38239	25708
2007	324026	222004	363237	38660	22048

Unit: 10,000 tons

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Use the Substance-over-Form Convention to Regulate the Related Transaction

Yingxin Chen
School of Management
Shandong University of Technology
Zibo 255049, China
E-mail: cyxzb@sdut.edu.cn

Abstract

Along with the coming of knowledge economic times, many enterprises form large groups by means of capital operations, including merger and purchase, reengineering, and stockholding. As a result, the relationships between enterprises tend to be more complex. Related parties and amounts of related transactions appear. For transactions or items that have inconsistent substances and forms, we must follow the substance-over-form convention in accounting. By this way, we can guarantee the quality of accounting information, regulate the accounting, and promote the development of market economy.

Keywords: Substance over form, Related party transaction, Regulation

Entering the 21st century, Chinese enterprises pursue for scale and knowledge operations. By means of different capital operations, such as merger and purchase, reengineering, and stockholding, many related enterprises form large groups. As a result, the relationship between enterprises becomes more complex and large amounts of related transactions appear. In order to adjust profits and make false balance sheet, related enterprises may mutually adjust and transfer incomes, expenses, and assets by manipulating the related transaction prices, which will lead to the unreasonable allocation of expenses and capitals. It will directly the fairness of financial reports and may cause decision mistakes. Here, we emphasize on the "substance-over-form" convention, aiming at "reflecting real accounting information" and rejecting "serious distortions" of related party transaction. That is a basic precondition for stopping false accounting. As for the related party transaction that does not realize the consistence of substance and form, we must deal with it by the "substance-over-form" convention in accounting.

1. The "substance-over-form" convention's requirements for related parties and its constraints on their transactions

The "substance-over-form" concept firstly appeared in the Statement.4 --- Basic Concepts and Accounting Principles issued by the Accounting Principle Board (APB) in 1970. According to APB, financial accounting should emphasize on the transaction or item's economic substance of transaction, no matter whether the transaction or item has a legal form that differs from its economic substance. In 1997, China issued the first specific accounting convention "Related Parties' Relationship and Transaction Disclosure, which firstly mentions to use the "substance-over-form", instead of merely depending on the legal form, to judge whether there is related relationship or not. China Accounting System for Business Enterprises (2001) formally took the "substance-over-form" convention as one of requirements for enterprise accounting: "Enterprise accounting is based on the transaction or item's economic substance but not its legal form." In recent years, in judging listed companies' certain big cases, the "substance- over-form" convention has been applied frequently. After China's entry into WTO, it is urgent to realize the internationalization of accounting convention in China. In February, 2006, China amended and perfected the former accounting convention and constructed an independently applied accounting convention system that is in accordance with Chinese conditions and the convention of international accounting reports and covers all economic operations in enterprises (except small and medium-sized enterprises), in which the "substance-over-form" convention regulated by China Accounting System for Business Enterprises (2001) is included. Besides, as for the scope of integrated financial reports, the new system lays more stresses on the substance. The mother enterprise should integrate all child enterprises in control into its financial reports, without regard to the proportion of stocks. This item embodies the application of the "substance-over-form" convention.

In China the enterprise accounting convention does not define the related party in special. In 2006, the new amended accounting convention extends the meanings of related party relationship, making specific requirements for the related parties' relationship and transaction disclosure. It emphasizes more on the convention of "substance-over-form". In

other words, whether it is related party relationship, the disclosure of financial reports focuses on the substance but not only the legal form. The disclosure of financial reports is based on whether enterprises are related parties: one party controls directly or indirectly the other party; two parties are mutually controlled or influenced to a great degree; two parties or more parties are under the control of another party. If two parties or more parties share one key manager, the two parties or more parties are not related parties, except that the key manager can control or influence these parties at the same time. It is improper to take joint operators as related parties only because they control certain joint enterprise together. The right way to establish the related party relationship of joint operators is to consider the substance of economic business between joint operators and their mutual influences on each other. As for related parties' relationship and transaction disclosure, it regulates that: no matter whether there is related transaction or not, related enterprises should disclose the mother-child relationship in their financial reports, including the mother enterprise, the final controlling party, and the lowest medium stock controlling enterprise that supplies financial reports openly. The disclosure of related parties' relationship is clearer and more objective. As for the related parties' transaction, cancel the option of disclosing the transaction amount or the proportion, and ask enterprises to disclose the transaction value. As for the unsettled items, disclose the detailed information and value. Under the condition of supplying sufficient proofs, enterprises can disclose that the related transaction adopts the same items with fair transaction.

2. Analyze present conditions of related transaction

Related transactions are popular among listed enterprises in China. And most exist between the listed enterprise and its mother enterprise, or its brother enterprises. In recent years, related transactions between Chinese listed enterprises develop from the equity transfer to the asset replacement, from physical asset transaction to virtual asset transaction. Various related transactions happen and the trend becomes stronger. Amounts of income are from related parties and amounts of capitals flow toward related parties.

In China's security market, asset reengineering, a kind of related transaction, has become an important way for many listed enterprises survive from losses. Thereof, related parties control profits by unfair prices in order to achieve certain goal. It apparently betrays the convention of "substance-over-form". In May, 2005, Shenzhen Stock Exchange declared a delisting of Shenzhen Over-globe Development Co. Ltd. One year later, it fails to list on the market again. In this case, Shenzhen Over-globe is profitable in form since the profit 95 million Yuan is from asset replacement in 2001, which is realized by unfair prices. In perspective of economic substance, it does not survive from losses. As a matter of fact, it gains nothing but manipulate profits. If without restricts on these activities, stockholders may make wrong decisions according to listed enterprise's financial accounting reports, damaging investors' interests. The failure of Shenzhen Over-globe is originated from it betraying the "substance-over-form" convention. Before, in order to achieve certain goal, listed enterprises may establish incomes and manipulate profits by asset replacement and other related transactions. Now it is impossible because these activities betray the "substance-over-form" convention.

(1) In other countries, accounting distortion has already become an extremely severe issue. Accounting betrays the "substance-over-form" convention to a great degree. The accounting scandals that frequently happened in American Securities Market generate a credit crisis to the world, which damages the economic development seriously. In recent years, American economy develops quickly and financial innovations are popular. However, the development of accounting system lags behind the economic development, which presents gray spaces for certain people. For example, Enron makes up false entities and financial reports by manipulating an accounting convention derived from a renting enterprise. Could not it reflect the substance of an economic item?

(2) China is also full of cases in which enterprises, mostly listed enterprises, manipulate profits and betray the "substance-over- form" convention. Recently, Chinese related enterprises manipulate profits by means of unfair related transactions in order to gain huge profits, survive from losses, and avoid taxes in operations. Data show that 1224 enterprises list on Shenzhen Stock Exchange and Shanghai Stock Exchange till 2002. Thereof, 710 listed enterprises have related transactions, accounting for 58% of all listed enterprises, concerning 2129 related transactions and 127.1 billion Yuan. In 2002, among the 510 listed enterprises in Shenzhen Stock Exchange, 412 listed enterprises disclose their related transactions, accounting for 80.78% of the total. According to information from Shenzhen Stock Exchange, in 2003, among the total 506 listed enterprises, 431 listed enterprises have related transactions, accounting for 80.01% of the total.

(3) Chinese listed enterprises mange related parties' assets by entrusted operations and realize relatively better profits. This phenomenon is common now. Till late 2001, the Ministry of Finance sets up regulations on the accounting of trust and entrusted operations, establishing the upper limit of entrusted profits. As a result, the conversely entrusted operation that entrusts bad assets to related parties appears. Although this method could not bring about direct interests for enterprises, it can delete the potential losses and increase the interests of listed enterprise indirectly. For example, mother enterprise decreases the fees paid by listed enterprises, or directly pay management fees, ad fees, and pensions for listed enterprises, or refund the fees paid by listed enterprises before.

(4) Analyzing the present conditions of related party transaction, we can conclude: no matter whether a transaction is related or unrelated in form, the transaction substance and its influence on listed enterprise is the only standard to judge whether relevant accounting is proper or not. In other words, what the important is the substance of transactions between listed enterprises, but not the legal forms.

3. Exercise the "substance-over-form" convention properly and regulate the related parties' transaction

Applying the "substance-over-form" convention to restrain the related party transaction is meaningful for regulating the accounting and stopping listed enterprises manipulating accounting information by related party transaction. However, it could not solve all problems. Only when we exercise the "substance-over-form" convention reasonably and properly, can we prevent the activities that disturb economic orders.

(1) Enhance management and supervision and avoid a subjective use of the "substance-over-form" convention

The application of the "substance-over-form" convention needs to make best use of accountants' professional knowledge. It leaves a larger space for accountants in the accounting policy field. To apply the convention properly will benefit the reliability of accounting information. But if emphasize the convention too much, it will affect the verification of accounting information, and even serves as an excuse for subjective accounting. Some enterprises even take its subjectivity as a tool for manipulating profits and a shield for illegal activities. Therefore, the government should keep in improving the execution of laws and the quality of supervisors. No matter what it is registered accountants' audit or accounting supervision agencies' check on enterprise accounting information, it is necessary to grasp the essence of the "substance-over-form" convention.

(2) Improve accountants' comprehensive qualities, and ensure the effective application of the "substance-over- form" convention

To improve the accountants' professional evaluation level is a basic precondition for understanding and applying the "substance-over-form" convention properly. First of all, accounts should study and master the accounting laws and regulations, pay more attention to the state reform policies in accounting, taxation, finance, and industry, be good at analyzing and summarizing experiences, improving the logically thinking ability, distinguishing ability, and evaluation ability; Secondly, be loyal to objective facts, build up the attitude of being objective and just, the spirit of being careful and seeking for the truth, master and apply the "substance-over-form" convention properly; Finally, enhance the professional moral education of accountants. As for the last point, we can take references from other countries' experiences. For example, add courses concerning professional morals to accountants' degree education. Test examinees' professional morals by adding relevant questions to accountants' profession and quality tests.

(3) Coordinate the "substance-over-form" convention with other accounting requirements

In accounting practice, the application of "substance-over-form" convention may conflict with other accounting requirements, such as the accrual basis. In this circumstance, accountants should make evaluations and choices based on which one could improve the relevance of accounting materials more.

(4) Perfect enterprises' internal accounting control system, and ensure the application of the convention of "substance-over-form"

In supervising the quality of accounting information, we should not only emphasize on the construction of accounting information's post examination, but also build up a set of quality supervision system for beforehand control and post control. In dealing with certain economic business that has inconsistent form and substance, it is necessary to consult with the registered accountant and listen to his or her suggestions before composing the financial reports. For some questionable and unsettled items, it is better to ask advices from the supervision department and then make relevant accounting reports.

Due to the diversity of related party transaction in development, it is vital for accountants to make correct and professional judgments according to the "substance-over-form" convention, if the economic substance is not in accordance with the legal form. The "substance-over-form" convention serves as an important character of accounting information quality. The quality of accounting information is the criterion for evaluating the whole accounting, which influences the orderly operation of economy and the social stability.

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A Research Analysis on Employee Satisfaction in terms of Organizational Culture and Spiritual Leadership

Bulent Aydin (Corresponding author)
Department of Business Administration
Gebze Institute of High Technology (Gyte)
Assan A.S., Yunus Mah. PO box 34873, Kartal, Istanbul, Turkey
Tel: 90-532-777-7131 E-mail: bulentaydin@kibarholding.com

Adnan Ceylan (Assoc. Prof.)
Department of Business Administration
Gebze Institute of High Technology (Gyte)
PO box 41400, Istanbul Cad., Gebze Kocaeli, Turkey
Tel: 90-532-777-7131 E-mail: aceylan@gyte.edu.tr

Abstract

In this study, we have constructed an original model and carried out a research analysis in metalworking manufacturing. The main subject of the research model is to investigate the employee satisfaction in terms of organizational culture and spiritual leadership; and the aim is to contribute to academic researchers as well as businesses, about how to maximize the employee satisfaction. The research was applied on 578 employees of the related industry. By the results, it has been determined that the constructed model is significant (at the $p<0.001$ level) and employee satisfaction has positive significant correlations with organizational culture and spiritual leadership (at the $p<0.001$ level). Additionally, the total explained variance of employee satisfaction depending on these two variables has come out as the value of 0.77.

Keywords: Employee satisfaction, Organizational culture, Spiritual leadership

1. Introduction

People join various organizations in most part of their lives. The organizations are strong social tools to arrange the relationships between the individuals. An organization is a constitution where two or more people come together to achieve a goal (or goals) whose behaviors are managed according to specified rules (Applewhite, 1965). Another definition is that, organizations are goal directed, boundary maintaining, and socially constructed systems of human activity, which focuses attention on the social processes involved in the genesis and persistence of organizations (Aldrich, 1999). When an individual wants to achieve his goals, which require more power than he has, he must cooperate with others. As above statements, it may be understood that the organizations satisfy the individual's needs with interactive and collaborative working.

The complexity of environmental changes forces firms to search more efficient operational exploration for their development process. This means, increasing the efficiency will play important role in accelerating the development of the organizations. It is sure that there may be many factors affecting the organizational effectiveness and one of them is the employee satisfaction. Effective organizations should have a culture that encourages the employee satisfaction (Bhatti & Qureshi, 2007). In the context of these statements, our research analysis will investigate the employee satisfaction as a dependent variable. Besides, the independent variables have been selected as organizational culture and spiritual leadership, which are important concepts for organizations and should be fully investigated. Hence, our study will try to find out the effects of organizational culture and spiritual leadership on employee satisfaction in the metalworking manufacturing.

The study is an original study as being applied on the metal industry. This sector has been selected for several reasons. The metal sector has great significance in the Asian economy as well as in the global economy. The experts in this

sector create their strategy maps by following the global market conditions. Therefore our study gains an international importance. Besides the global view, we selected this sector for some other reasons. Since the metalworking manufacturing is heavy industry, the working conditions in this sector is so hard. The results of this study will help to cope with these hard working conditions. From social work perspective, there is significant number of employees in the metal industry of the world. In this manner, the subject will concern a great number of people. In addition, investing on this sector requires great amount of capital goods, which may discourage the investors. Therefore, the investors will gain a different point of view in the decision process of investing on this sector. Lastly, there are not considerable researches related with the development of this sector (depending on the factors stated in our model). Hence, the organizations will gain an extensive vision to grow in the sector and this will help to raise the standards of professional social work. Furthermore, our study may contribute to the globally acting sectors other than metal that are challenging similar problems.

2. Literature review

2.1 Employee satisfaction

Utilizing from the employees is important for the effectiveness of the firms. This contributes to have competitive advantage; and mostly, human resource management (HRM) deals with this subject in the organizations. There is the 'employee concept' in the center of HRM. These employees may be working for that firm or have the possibility of working for that firm. HRM can be defined as the management of the decisions and actions related with the employees in the organization to implement the strategies for creating competitive advantage. Another definition about HRM is from Armstrong (2000), that it is the strategically management of the members of an organization who contribute to the achievement of that organization's objectives. These definitions make us conclude that HRM is a strategic business and should be concerned strategically. Strategy may be defined as the statement of; what an organization wants to become, the objectives it wants to reach and, how to reach to these objectives (Armstrong, 2000). Strategic HRM (SHRM) helps the organization in reaching its objectives, and the main players in SHRM are the "employees". Lawler (1986) argued that a firm's HR strategy should be centered on developing skills and ensuring motivation and commitment (Wallace, Eagleson, & Waldersee, 2000). In this statement, 'ensuring the motivation' is concerned with the employee satisfaction. That is why; the satisfaction of the employees takes an added importance.

Employees are more loyal and productive when they are satisfied (Hunter & Tietyen, 1997), and these satisfied employees affect the customer satisfaction and organizational productivity (Potterfield, 1999). Employee satisfaction is defined as the combination of affective reactions to the differential perceptions of what he/she wants to receive compared with what he/she actually receives (Cranny, Smith, & Stone, 1992). Therefore, the organizations should try to supply the employee expectations in order to approach the employee satisfaction. In addition, emotional state of the employees may also affect their satisfaction. This forces the managers to create and sustain the desired working environments in the organizations. One the other hand, as stated by Organ and Ryan (1995), the employee satisfaction is one of the basics of organizational citizenship behavior (Ozdevecioglu, 2003). That is, the well-satisfied employees will work more willingly and this contributes to the effectiveness of their organizations.

There is no limit for the employees to reach the full satisfaction and it may vary from employee to employee. Sometimes they need to change their behaviors in order to execute their duties more effectively to gain greater job satisfaction (Miller, 2006). Having good relationships with the colleagues, high salary, good working conditions, training and education opportunities, career developments or any other benefits may be related with the increasing of employee satisfaction. When investigating the employee satisfaction, it should be known that; -an employee may be more satisfied by a satisfying item, whereas the other employee may be less satisfied with the same item-. Because of this, analyzing the employee satisfaction from a large perspective will be better. That means; the sum of all satisfying factors composes that employee's satisfaction level. As a general definition, the employee satisfaction may be described as how pleased an employee is with his or her position of employment (Moyes, Shao, & Newsome, 2008). To investigate what the employees are satisfied by and measuring the employee satisfaction in the workplace is critical to the success and increases the profitability of the organization for having competitive advantage (Kelley, 2005). Therefore, researching the employee satisfaction in terms of different factors and, on various areas (such as manufacturing industry, service industry or etc) will enrich the literature and contribute to organizations.

2.2 Culture and the organizations

The people learn most of the behaviors and beliefs from the people they grow up with. Although each individual has unique talents and personal preferences, the behaviors and beliefs of the people in the same organizations show common properties. This helps the organizations to create their own cultural properties. Since the members in the organizations work together in performing a job, the created culture will enable the organization members to understand each other easily and work effectively. Deshpande and Webster (1989) make a definition for culture that, it is the pattern of shared values and beliefs that help members of an organization understand organizational functioning and thus teach them the behavioral norms in the organization (Kandemir & Hulth, 2004). Culture is the shared knowledge and schemes

created by a set of people for perceiving, interpreting, expressing, and responding to the social realities around them (Lederach, 1995), and is an active living phenomenon through which people jointly creates and recreates the worlds in which they live (Morgan, 1997). The beliefs and ideas of the organizations have created the culture, which cannot be seen but its physical manifestations are felt in the work place. Actually, the working environment is surrounded by the culture, which shapes the job relationships and processes in the organizations. For Schein (1992), the organizational culture helps the organizations to solve its problems of external adaptation and internal integration by creating a shared pattern. As the new members come into the organization, they perceive and think these problems in this shared pattern. According to these definitions; a group of people come together to perform a job, they need a set of rules to act in common manner and they need to know how to act in various circumstances. Knowing how the other members of the organization act in the same circumstances, gathers the organization members under the same umbrella. Organizational culture is also taken into consideration in the decision making process of long-term plans for strategic planning. O'Cass and Ngo (2007) state that market-oriented behaviors (which generally take place in the organizations' strategy maps) are driven by the organizational culture that manifests itself in specific behaviors. That is why the strategic planners place much emphasis on the strong role of culture. This helps the organizations to have competitive advantages and nourishes the organizational health.

2.2.1 Related dimensions of the organizational culture

It is widely accepted in the literature that the organizational culture is a complex concept. It may be analyzed from various perspectives. In accordance with our research analysis, the multidimensional nature of organizational culture will be investigated in terms of involvement, collaboration, transmission of information, learning, care about clients, strategic direction, reward and incentive system, system of control, communication, coordination and integration (Ginevičius & Vaitkūnaitė, 2006). For Ginevičius and Vaitkūnaitė (2006), the first dimension -involvement- is providing favorable conditions for all the members of the organization for decision making and giving various ideas or suggestions. Collaboration is the encouragement of the teamwork rather than individual work. Transmission of information is defined as the reaching of new or other important information to the employees in due time. Learning is the process of the activities to increase the existing knowledge. Care about clients is related with the satisfaction of the customers. Strategic direction deals with achieving the pre-identified goals and plans of the organization. Reward and incentive system provides motivation for the employees. System of control assists the managers in supervising the employees. Communication is the lifeblood for an organization that builds bridges among the employees within the organization. Coordination and integration is different from communication that it ensures to work effectively with the persons from other departments or groups when carrying out common activities.

As a matter of fact, we may increase the number of the organizational culture dimensions and each of the organizational culture dimensions has different roles on the organization's progress. The selected dimensions in this paper are believed to be the basic and important ones for metalworking industry.

2.3 Leadership in the organizations

2.3.1 Definition of the leadership

According to Conger (1993), the turbulent environment of the twenty-first century requires newer forms of leadership at all levels of the organization (Ford & Ismail, 2006). The organization may lose or gain in the market because of its own leadership ability. Leadership may be defined as the lifting of people's vision to a higher sight, the raising of their performance to a higher standard, the building of their personality beyond its normal limitations (Drucker, 1985). It analyzes attributes and capabilities of the organization in leadership positions, to assist the individuals in the development of their interpersonal relationships and other related skills. These capabilities, attributes and the strategic choices of the leaders add value to organization and inspire their teams to implement those strategies. The players in the leadership are; the leader and the followers. The leader's characteristics and behaviors influence the follower and, -the influencing process and its outcomes that occur between the leader and the followers- are analyzed by the leadership concept (Antonakis, 2006). Organizational leadership inspires active followership and the members follow the leader's idea or a systematic process. The systematic processes involve transactions among the followers, which are managed by the leaders. In addition to this, leadership is a dynamic process and different conditions require different leadership activities. For Hunt (2004), leadership is an influencing process between leaders and the followers and sometimes the roles are changed between the followers and the leaders, where the followers also may legitimize and influence the leaders, so it is not only a top-down process but also exercised sideways, diagonally, and down-up throughout an organizational hierarchy (Antonakis, 2006).

2.3.2 Spiritual leadership

In the rapidly changing global world, the persons need for leadership ethics more than they've needed before. Therefore, investigating the leadership in a deeper manner comes into question. A narrower concept "spiritual leadership" is a type of leadership and will be investigated in our study. The spiritual leadership is about creating value for the organization.

As the organization members know their own responsibilities, a value based leadership will occur in the organization. This common value will keep the organization members together which also helps the organizational tasks to be done willingly. Additionally, by this leadership type, the followers will contribute to compose a better work-environment.

The notion of spirituality in the workplace has come into a considerable prominence in the last decade (Gibbons, 2000). Spirituality is the source of harmonizing expression of compassion and wisdom, and sometimes healing the compassion and wisdom, which become in the mind (Maxwell, 2003). It is an intangible concept, composes in the members' mind, flourishes there and inspires to the big strategic projects. It is one of the fundamentals of volunteer working. Although spiritual leaders often espouse the values such as love, harmony, unity, compassion, peace, truth or honesty; they so often get instead is greed, cynicism, arrogance, impatience, self-doubt, envy, and moral decline (Kakabadse, Kouzmin, & Kakabadse, 2002). Comparing these values make the spiritual leaders find better ethical ways for their followers. In the spiritual leadership, the value is loaded to all over the organization by the help of the ethical skills of the leader. Another important factor for the spiritual leaders is to develop new specialized skills. This means that the leader has to renew him to accommodate for the changes becoming around the organization and the leader has to develop the ability of making big picture analysis. The spiritual leaders are the key players in the organizations, and they are empowered with the roles in helping facilitate the effort of change. Fostering a positive and successful change for the organization begins at the top and works down. This requires loading responsibilities to the members, which may be as hard to succeed. In spiritual environment, the members share the responsibilities more willingly and this facilitates the leader's role.

2.3.3 The theory of spiritual leadership

The theory of spiritual leadership is developed within an intrinsic motivation model that incorporates vision, hope/faith, and altruistic love, theories of workplace spirituality, and spiritual survival; where the spiritual survival variables are meaning/calling and membership (Fry, Vitucci, & Cedillo, 2005). Due to this statement, it can be said that the followers are strictly motivated with the spiritual leaders. There becomes a different atmosphere, which has been created by the spiritual leaders. This atmosphere composes a coherence between the leaders and the followers, which affects the working environment positively. 'Operationally, spiritual leadership comprises the values, attitudes, and behaviors that are necessary to intrinsically motivate one's self and others, so they have a sense of spiritual survival through calling and membership which entails: 1. Creating a vision wherein leaders and followers experience a sense of calling in that life has meaning and makes a difference; 2. Establishing a social/organizational culture based on the values of altruistic love whereby leaders and followers have a sense of membership, feel understood and appreciated, and have genuine care, concern, and appreciation for both self and others' (Fry et al., 2005, p 838). These definitions direct us to research the spiritual leadership in terms of vision, hope/faith, altruistic love, meaning/calling and membership. Vision defines the attractive future for an organization, which is also in motivator role. It is in the future, not in present. The leader has a crucial role in creating the vision and supervising it, which composes bridges between today and tomorrow. The second dimension of spiritual leadership is altruistic love, which is to love everybody with no exception. In altruistic love, the people prefer to suffer themselves instead of suffering the others. The third dimension of the spiritual leadership is hope/faith, which keeps followers looking forward to the future and provides the desire and positive expectation that ensures to create effort through intrinsic motivation (Fry et al., 2005). The other dimension is "meaning/calling", in which the organization members believe that the job they do is important and meaningful for them and it makes difference in the people's lives. As the last dimension, "membership" means that the organization understands the members and appreciates them.

3. The research model and hypotheses

Related to our subject, we have constructed a relationship between the concepts, and created a model. According to the model, employee satisfaction is affected by organizational culture (which has nine sub-dimensions and adapted from Ginevičius and Vaitkūnaitė, 2006) and spiritual leadership (which has five sub-dimensions and adapted from Fry et al., 2005). The model for this research (depending on these factors) may be seen on (figure 1).

According to our model, we have constructed four hypotheses to test:

Hypothesis 1: There is significant correlation between organizational culture and employee satisfaction (in the framework of researched area).

Hypothesis 2: There is significant correlation between spiritual leadership and employee satisfaction (in the framework of researched area).

Hypothesis 3: The constructed model (as in figure 1) is significant (in the framework of researched area).

Hypothesis 4: The total explained variance of employee satisfaction, depending on organizational culture and spiritual leadership is greater than %50 (in the framework of researched area).

4. Methodology

The research plan has been stated as; researching for the survey questions on the literature, constructing the best fitting survey from the alternatives, reaching the participants and informing them for the survey, gathering the data, refining the data, measuring the data and analyzing the data.

To maximize the employee satisfaction, we will find out the relative effects of the two independent variables. To calculate how to maximize the employee satisfaction, we will create a mathematical equation. In order to constitute this equation, we have applied a survey instrument on the employees of metal industry. After performing the correlation analysis as well as testing the reliability and the sufficiency of the survey instrument, we will analyze what percent of the total variance of the employee satisfaction will be explained by the variables of organizational culture and spiritual leadership. Moreover, the importance level of each of these two variables on employee satisfaction will be determined.

4.1 Scales

Two different scales were used to gather data. There are six descriptive items for the first type of questions. The second type of questions (73 items) is about the dimensions of "organizational culture" (39 items), "spiritual leadership" (26 items) and employee satisfaction" (8 items). In the second type of questions, the respondents have filled the statements in -Likert response categories- ranging from 1 to 5, which (1) is strongly disagree and (5) is strongly agree.

Employee satisfaction value has been calculated as the sum of organizational culture and spiritual leadership. Additionally, the value of organizational culture and spiritual leadership has been calculated as the sum of their own sub-dimensions. To perform our research, we have searched for the related scales in the literature. The scales have been obtained after a detailed investigation of the literature. The origins of these scales can be seen on (table 1).

4.2 Sample and data collection

We drew our sample from the employees of metalworking firms in Turkey. The selected firms have had manufacturing process. They are all profit organizations. After specifying the sample, we have formed the survey instrument and searched for the potential participants to send the questionnaire. More than 1000 contacts were made or attempted. Some of them were ineligible, some of them refused to participate in the survey, some of them did not respond although they accepted to participate. A total of more than 600 surveys returned, however, about 60 of them had excessive missing values and were excluded from the analysis. Finally, the valid responses have reached to 578. The participants joined to the research by clicking the link of the survey on the internet, which was developed by a web programmer. In addition to this way of collecting the data, we have sent the questionnaire to the participants via electronic mail. In some occasions, we telephoned to the firms to inform about the survey and requested to join it. The data were collected within about eight months, between the autumn of 2007 and spring of 2008.

4.3 Analysis and results

After gathering the data, we have entered them in SPSS (Statistical Package for the Social Sciences) version 11.5. These entered data have been analyzed by some of SPSS tools, which are descriptive statistics, reliability analysis, factor analysis, correlation analysis and regression analysis.

4.3.1 Results of the descriptive statistics

As the first analysis, we have described the basic features of the data with the descriptive statistics to provide simple summaries about respondents. Out of 578 respondents, the average age of individuals who joined the survey is 32.75 (Mean=32.75, Standard Deviation =7.94); the average of total working year is 11.01 (Mean=11.01, Standard Deviation =7.91); the average of working year on their today's firm is 7.69 (Mean=7.69, Standard Deviation =6.21). As descriptive findings, 8% of 578 employees are graduated from primary school (44/578), 67% of them are graduated from high school (387/578), 25% of them are graduated from college (147/578). The respondents who are between the age of 19 and 25 are 20% (116/578), between 26 and 35 are 47% (272/578), between 36 and 45 are 24% (141/578), older than 46 are 8% (49/578). The managers consist of 7% of total (40/578). The employees working on the production department are 56% (322/578) and the other departments are 44% (256/578). The rate of the respondents whose job-life is between 1 and 10 years is 54% (314/578); 11 and 20 years is 32% (183/578); more than 20 years is 14% (81/578). The rate of the respondents who have been working on their today's firm for 1 to 10 years is 71% (410/578); for 11 to 20 years is 24% (138/578); for more than 20 years is 5% (30/578).

4.3.2 Results of the reliability analysis

The second applied analysis at SPSS was the reliability analysis. The computation of Cronbach's alpha on the reliability of a test is a good alternative in SPSS (Hatcher, 1994). The Cronbach's alpha value has come out as 0.78 for organizational culture items, 0.94 for spiritual leadership items and 0.99 for employee satisfaction items. For Vavra (1999), a scale is reliable if its Cronbach's alpha value is equal or above the value of 0.70 (Ozdogan & Tuzun, 2007). Since the Cronbach's alpha values of our scales are above 0.70, we have proved that the scales we used for our research are all reliable.

4.3.3 Results of the factor analysis

The third analysis is the factor analysis in order to specify a set of observed variables in terms of a small number of factors. In the factor analysis, -the factor loadings- show, what percent of each question has been loaded to the factors. By the help of factor analysis, reducing a large amount of data to identify the common characteristics of a group of variables will facilitate to interpret the results of the research. Furthermore, the total explained variance (which we have calculated by the factor analysis tool on SPSS) shows the capacity of questions whether they have been able to measure the items (organizational culture, spiritual leadership and employee satisfaction).

In factor analysis, it is a common rule that -the values above 0.50 in rotated component matrix- are acceptable (Albayrak, 2005). We will analyze the results due to this statement. Therefore, for the results of the factor analysis of the 'organizational culture'; involvement and collaboration, communication, coordination and integration have gone to the first factor. Learning, reward and incentive system, and system of control have gone to the second factor. Care about clients and strategic direction have gone to the third factor and transmission of information has gone to the fourth factor. The factor analysis also helps us to know the value of the cumulative explained variance of organizational culture items, which has come out as 0.936.

In our research, the other variable 'spiritual leadership' has been measured in terms of vision, hope/faith, altruistic love, meaning/calling and membership. According to the results of rotated component matrix of the factor analysis; hope/faith and membership have meant the same thing for the respondents (have gone to same factor), but the other dimensions have all gone to different factors. The cumulative explained variance of spiritual leadership items has come out as 0.941.

Subsequently, we have investigated the factor analysis results of the employee satisfaction. The employee satisfaction has been measured as one-dimensional and as expected, we have had only one factor for this variable. In addition, the cumulative explained variance of employee satisfaction items has come out as 0.954.

The next analysis that we have applied to our research is to find out the results of "Kaiser-Meyer-Olkin (KMO) test" and "Bartlett's Test of Sphericity". These tests inform the researchers about the adequacy level of factor analysis (Semerci, 2004). In order to conclude whether the amount of data is sufficient to measure our research and adequate for the factor analysis, we have performed these two tests. Consequently, the results of Bartlett's test of our research are significant (at the level of $p<0.001$) for all of the three variables and, the measures of Kaiser-Meyer-Olkin tests are; 0.972 for organizational culture, 0.934 for spiritual leadership and 0.939 for employee satisfaction. Kaiser-Meyer-Olkin test result is adequate above the value of 0.50 and the result is to be considered better as this value approaches to 1 (Aydin, 2007). Therefore, results of these tests indicate that our scale is sufficient to measure the variables.

4.3.4 Results of the correlation analysis

After proving that the scales are reliable and sufficient to measure our data, we may search for the correlation analysis. The correlation analysis gives the results about the variables whether they tend to vary together or not. The results of the correlation analysis of our research variables may be seen on (table 2). As seen on (table 2), there is significant correlation (at the $p<0.001$ level) between organizational culture and employee satisfaction. This means that hypothesis 1 is supported. Additionally, the hypothesis 2 is also supported, which states that the relationship between spiritual leadership and employee satisfaction is significant (at the $p<0.001$ level).

4.3.5 Results of the regression analysis

As the other statistical tool, we have applied the regression analysis to our research. We have investigated whether the constructed model is significant or not. In addition, the regression analysis tool in SPSS has calculated the 'total explained variance' of our model. In SPSS, from the model summary table in the output of regression analysis, the regression equation has been composed and this equation indicates the mathematical relationship between the dependent variable (employee satisfaction) and independent variables (organizational culture and spiritual leadership). Regression analysis is one of the important analyses of our research as it informs us what percent of the employee satisfaction can be explained by organizational culture and spiritual leadership.

Since the research questions have the capacity of measuring the variables, we will be able to investigate the significance of the model. To test the third hypothesis, we should see the ANOVA results of the regression analysis table (see table 3). The ANOVA table informs us that our model is significant (at the level of $p<0.001$) and it has proved that the hypothesis 3 is supported.

The organizational culture and spiritual leadership can explain 77% of the total variance of employee satisfaction. This is the R square value that may be seen on model summary part of (table 3). According to the results of model summary part of regression table (table 3) our fourth hypothesis is supported since the R square value is greater than 0.50.

Besides, by analyzing the coefficients part in (table 3), the equation is formed as;

(Employee Satisfaction)=-5.531 + 2.165 X (Organizational Culture) + 0.673 x (Spiritual Leadership)

This equation informs the audiences about the importance level of the variables as; how to maximize the employee satisfaction in metalworking manufacturing, depending on organizational culture and spiritual leadership.

5. Conclusion and discussion

The results of this study have original implications for businesses as well as academic researchers that employee satisfaction has positive significant correlations with organizational culture and spiritual leadership in metalworking firms. We may consider that the total explained variance (0.77) of the employee satisfaction is above a good level; however, it should be better to discuss and find out other factors to join the model and increase the concerned value. The regression analysis results indicate that the organizational culture gets more importance than spiritual leadership in satisfying the employees. This means that, spiritual leadership does not have as much considerable effect as the cultural dimensions on employee satisfaction in metalworking area. There may be many factors causing this. This is an important discussion area. Future studies may analyze the reasons why spiritual leadership is less important than organizational culture in this sector. We believe that the results of this study may be useful for metalworking firms as well as other globally acting organizations in planning their strategic maps and increasing their effectiveness. Nevertheless, as another discussion area, we suggest the researchers to study on the other international business areas to compare the results and reach a detailed and sensible conclusion.

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Table 1. Scale origins

Scales	Adapted from
Organizational Culture Scale	Ginevičius & Vaitkūnaitė (2006).
Spiritual Leadership Scale	Fry et al. (2005)
Employee Satisfaction Scale	Quareo, a company that designs and implements Customer Relationship Management solutions. Quoted in; Michelman (2003)

This Table informs about the origins of the survey items.

Table 2. Correlation analysis results (Source: SPSS 11.5)

		Employee Satisfaction
Organizational Culture	Pearson Correlation	0.720*
	Sig. (2-tailed)	0.000
	N	578
Spiritual Leadership	Pearson Correlation	0.389*
	Sig. (2-tailed)	0.000
	N	578

*Correlation is significant at the 0.01 level (2-tailed).

Correlation table informs about relationship between dependent and independent variables

Table 3. Regression Analysis Results (Source: SPSS 11.5)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.876[a]	0.767	0.766	0.57701

a Predictors: (Constant), Spiritual Leadership, Organizational Culture

ANOVA [b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	635.770	2	317.885	954.777	0.000[a]
	Residual	193.439	581	0.333		
	Total	829.209	583			

a Predictors: (Constant), Organizational Culture, Spiritual Leadership

b Dependent Variable: Employee Satisfaction

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.531	0.197		-28.037	0.000
	Spiritual Leadership	0.673	0.027	0.504	24.891	0.000
	Organizational Culture	2.165	0.055	0.792	39.117	0.000

a Dependent Variable: Employee Satisfaction

The regression table informs about the explained total variance of employee satisfaction, significance of the model and coefficients of the variables.

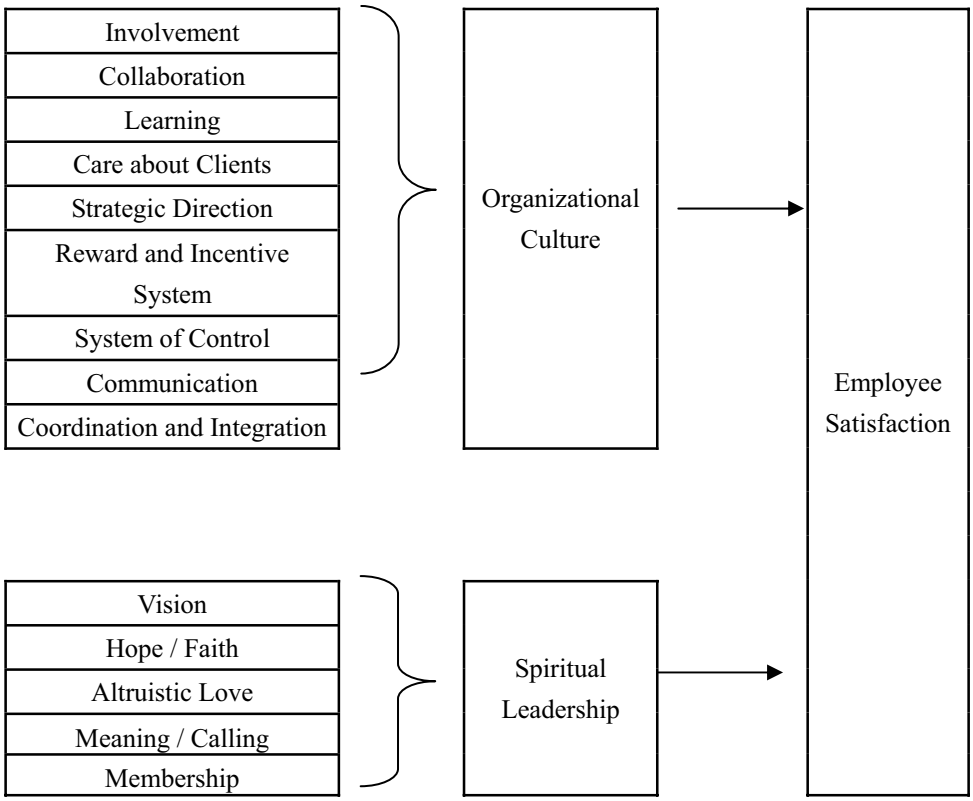

Figure 1. The model of the research

The Figure describes that employee satisfaction is dependent on organizational culture and spiritual leadership.

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Performance Measures: An Application of Economic Value Added

Nikhil Chandra Shil, ACMA
Department of Business Administration
East West University
43, Mohakhali C/A, Dhaka – 1212, Bangladesh
Tel: 9887-989 ext 253 E-mail: nikhilacc@yahoo.com

Abstract

Economic Value Added (*EVA*) is a value based performance measure that gives importance on value creation by the management for the owners. Profit maximization as a concept is age-old, wealth maximization is matured and value maximization is today's wisdom. Stern Stewart's *EVA* raises storm in corporate world and gives a new way to think about rewarding management. Usability of *EVA* largely depends on the quality of accounting information system, as traditional information system will not provide sufficient information to compute true *EVA*. Thus, *EVA* is required to be tailored in line with accounting system, management philosophy and the degree of demand of such a system. In this paper, an earnest effort has been made to explain theoretical foundation of *EVA* with its origination, definition, ways to make it tailored, adjustments required, scope and some other related issues. The methodology used is a type of theoretical mining of logics resulting a step-by-step process required for *EVA* implementation. As corporate house plans to move from traditional to value based performance measures, *EVA* would yield good result and the paper may become helpful to them to comprehend the methodology.

Keywords: Value Based Performance Measure, Tailored *EVA*, Residual Income (*RI*), Accounting Distortions, Shareholders' Value, Value Based Measure, Market Value Added, True *EVA*

1. Introduction

Economic Value Added (*EVA*) is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise. Thus, in modern economics and finance area, *EVA* holds an important part that has less debate among practitioners. It is the performance measure most directly linked to the creation of shareholders wealth over time. Shareholders are very much choosy for their interest into the business and they like management to come up with very specific solution. By the time, it is established that the very logic of using *EVA* is to maximize the value for the shareholders. More explicitly, *EVA* measure gives importance on how much economic value is added for the shareholders by the management for which they have been entrusted with. *EVA* is exceptional from other traditional tools in the sense that all other tools mostly depend on information generated by accounting. And we know, accounting, more often produces historical data or distorted data that may have no relation with the real status of the company. But, *EVA* goes for adjustments to accounting data to make it economically viable.

Under conventional accounting, most companies appear profitable but many in fact are not. As Peter Drucker put the matter in a *Harvard Business Review* article, "Until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it had a genuine profit. The enterprise still returns less to the economy than it devours in resources…until then it does not create wealth; it destroys it." Company may intentionally pay tax to prove that they have made profit for their shareholders and thus a falsification is done with owners that is not a rare corporate practice. *EVA* corrects this error by explicitly recognizing that when managers employ capital they must pay for it, as if it were a wage. It also adjusts all distortions that are very much prevalent in the information generated by conventional accounting. Thus, it is the most demanded tool for the owners in every situation. It has been implemented in numerous large companies to motivate managers to create shareholder value (Dodd and Chen, 1996). The decision role is very simple; if the *EVA* is positive, the company creates shareholder wealth. Negative *EVA* indicates that shareholder wealth is destroyed (Stewart, 1991). De facto, *EVA* is the same as residual income (*RI*) that has been in existence for several decades. The only significant difference between the two lies in the handling of accounting distortions (Dodd and Chen, 1997). *EVA* removes existing distortions by using up to 164 adjustments to

traditional accounting data (Stewart, 1991; Blair, 1997). These distortions are disregarded in the RI calculation. In this paper, an earnest effort has made to introduce *EVA* as a value based performance measurement tool. Thus the paper targets the readers who have no previous idea on the technicality of *EVA*. An all-out effort is deployed to make it all-inclusive theoretically so that it can be used as a manual or guideline for implementing *EVA* for the first time. At first, *EVA* is defined with historical backgrounds. Later on, some steps are identified to simplify the *EVA* implementation process. Finally, advantages of using *EVA* are discussed with reference to other performance measurement tool. Scope of *EVA* is also defined with references to various research interests to give a tool a particular shape.

2. Historical background

EVA is not a new discovery. An accounting performance measure called residual income is defined to be operating profit subtracted with capital charge. *EVA* is thus one variation of residual income with adjustments to how one calculates income and capital. According to Wallace (1997, p.1) one of the earliest to mention the residual income concept was Alfred Marshall in 1890. Marshall defined economic profit as total net gains less the interest on invested capital at the current rate. According to Dodd & Chen (1996, p. 27) the idea of residual income appeared first in accounting theory literature early in this century by e.g. Church in 1917 and by Scovell in 1924 and appeared in management accounting literature in the 1960s. Also Finnish academics and financial press discussed the concept as early as in the 1970s. It was defined as a good way to complement *ROI*-control (Virtanen, 1975, p.111). In the 1970s or earlier residual income did not got wide publicity and it did not end up to be the prime performance measure in great deal of companies. However *EVA*, practically the same concept with a different name, has done it in the recent years. Furthermore the spreading of *EVA* and other residual income measures does not look to be on a weakening trend. On the contrary the number of companies adopting *EVA* is increasing rapidly (Nuelle, 1996, p. 39; Wallace, 1997, p. 24 and Economist 1997/2). We can only guess why residual income did never gain a popularity of this scale. One of the possible reasons is that Economic value added (*EVA*) was marketed with a concept of Market value added (*MVA*) and it did offer a theoretically sound link to market valuations.

The origins of the value added concepts date all the way back to the early 1900's (Bromwich & Walker, 1998, p. 392). Stern Stewart & Co trademarks *EVA* in 1990's when the tool is introduced and subsequently adopted by several major corporations that lead *EVA* to have successful stories at the very beginning. Mainly professional literature mostly aimed at presenting, promoting or discussing the *EVA* concepts in relation to consulting work. While most of this, partly anecdotal, literature looks at the advantages of the concept with a few critical views also. Subsequent sources are too numerous for an extensive listing, but for instance there is material such as Milunovich & Tsuei (1996), Anctil, Jordan & Mukherji (1998), Damodaran (1999), Mouritsen (1998), Bowen & Wallace (1999), and Dodd & Johns (1999). There also is much WWW based material such as Mäkelä (1998), Weissenrieder (1999), and Stern Stewart & Co. (2000).

Empirical research literature measuring the strength of the relation between market returns (or market value) and *EVA* compared to the relation between market returns and the traditional income measures. O'Byrne (1996, p.125) concludes, "*EVA*, unlike *NOPAT* [net operating profit after taxes] or other earnings measures like net income or earnings per share, is systematically linked to market value. It should provide a better predictor of market value than other measures of operating performance." Also Uyemura, Kantor & Pettit (1996) arrive at similar conclusions. Stark & Thomas (1998, p. 445) provide "some support for the advocates of the use of *RI* for planning and control" from the market relation. However, Biddle, Bowen & Wallace (1997) find "little evidence to support the Stern Stewart claim that *EVA* is superior to earnings in its association with stock return or firm values". Chen & Dodd (1997) conclude that *EVA* measures provide relatively more information than the traditional measures of accounting in terms of the stock return association, but that *EVA* should not entirely replace the traditional measures since measures such as *E/P*, *ROA* and *ROE* have incremental value in monitoring firm performance. They also observe that there is no significant difference between *EVA* and the traditional *RI* in terms of the association with stock returns.

Some literature *EVA*luates *EVA* as a management tool from the point of view of the accounting measurement. O'Hanlon & Peasnell (1998) thoroughly discuss *EVA* as a value-based performance indicator, Stern Stewart Co intricate adjustments, *EVA* benchmarks, and *EVA*-based bonuses. Bromwich & Walker (1998) add to the theoretical discussion by pondering the *EVA* debate all the way from Hicksian income concepts. Pfeiffer (2000) considers mathematically *EVA* vs. discounted cash flow methods for resolving internal agency problems in decentralized decision-making. Besides the theoretical discussion, understanding is needed about the numerical behavior of the *EVA* under different conditions and about *EVA's* numerical relationship to the accounting measures like Return on Investments (*ROI*), Return on Equity (*ROE*) and to economic profitability measures like the Internal Rate of Return (*IRR*).

3. *EVA* Definition

EVA is the amount of economic value added for the owners by management. The thrust area for today's management is to find means to create value for the owners. It is now established that the accounting profit in no cases represents the

real value created for the owners. But, it may originate the calculation. In other words, accounting profit is required to be converted into economic profit. Under *EVA*, all distortions in conventional accounting are identified and accounting profit is adjusted to make it distortion free and finally we get the amount of *EVA*. Stewart defined *EVA* (1990, p.137) as Net operating profit after taxes (*NOPAT*) subtracted with a capital charge. Algebraically, it can be stated as follows:

$$EVA = NOPAT - Capital\ Costs$$
$$\Rightarrow NOP\ (1 - T) - Capital\ Employed \times Cost\ of\ Capital$$
$$\Rightarrow Adjusted\ NOP\ (1 - T) - Capital\ Employed \times WACC$$
$$\Rightarrow Adjusted\ NOP\ (1 - T) - [Capital\ Employed \times \{(R_e \times \frac{E}{CE}) + (R_d \times \frac{D}{CE})(1 - T) + \cdots\}]$$
$$\Rightarrow Return - Capital\ Employed \times WACC$$
$$\Rightarrow (Rate\ of\ ROI - WACC)\ Capital\ Employed \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (eq.1)$$

From the above derivation it is clear that *EVA* computation requires a lot of hurdles to be passed. Net operating profit is adjusted for accounting distortions and a charge on capital employed at the rate of weighted average cost of capital (*WACC*) is subtracted from *NOPAT* to reach to the amount of *EVA*. It aims to tell about what happens to the wealth of shareholders. As per equation 1, earning a return greater than the cost of capital increases value for the owners and vice versa. For listed companies Stewart defined another measure that assesses if the company has created shareholder value. If the total market value of a company is more than the amount of capital invested in it, the company has managed to create shareholder value. If the case is opposite, i.e., the market value is less than the amount of capital invested; the company has destroyed shareholder value. Stewart (1990, p.153) calls it as Market Value Added (*MVA*) and can be equated as follows:

$$MVA = Market\ Value\ of\ the\ Company - Capital\ Invested$$
$$\Rightarrow Market\ Value\ of\ Equity - Book\ Value\ of\ Equity\ (assuming, Capital\ invested = BV\ of\ Equity)$$
$$\Rightarrow (MV - BV)\ No.of\ shares\ outstanding$$
$$\Rightarrow Present\ Value\ of\ All\ Future\ EVA \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (eq.2)$$
$$In\ other\ words,$$
$$Market\ Value\ of\ Equity = Book\ VAlue\ of\ Equity + Present\ Value\ of\ All\ Future\ EVA \ \ldots\ldots (eq.3)$$

MVA is identical by meaning with the market-to-book ratio. The difference is only that *MVA* is an absolute measure and market-to-book ratio is a relative measure. If *MVA* is positive that means that market-to-book ratio is more than one. Negative *MVA* means market-to-book ratio less than one. If a company's rate of return exceeds its cost of capital, the company will sell on the stock markets with premium compared to the original capital (has positive *MVA*). On the other hand, companies that have rate of return smaller than their cost of capital sell with discount compared to the original capital invested in company. Whether a company has positive or negative *MVA* depends on the level of rate of return compared to the cost of capital. All this applies to *EVA* also. Thus positive *EVA* means also positive *MVA* and vice versa. But, *MVA* is not a performance metric like *EVA*, rather it is a wealth metric, measuring the level of value a company has accumulated over time.

The implementation process of *EVA* parallels the successful implementation of Stern Stewart 4Ms, e.g., measurement, management system, motivation and mindset. *EVA* at the very beginning looks for a measurement base for converting accounting profits into economic reality. Without commitment from management, the implementation of *EVA* is impossible. Management system should be streamlined with the basic *EVA* philosophy. It should be guaranteed that the application of *EVA* is well accepted by all. And finally, mindset should be cultivated into the corporate culture to make it the focal point for reporting, planning and decision-making.

4. *EVA* as a Management Tool

EVA is superior to accounting profits as a measure of value creation because it recognizes the cost of capital and, hence, the riskiness of a firm's operations (Lehn & Makhija, 1996, p.34). It is used as a value based performance measure tool more widely. In this context, *EVA* is compared with some traditional measures and with some other value based measures as well.

4.1 EVA vs. Traditional Measures

EVA is based on the common accounting based items like interest bearing debt, equity capital and net operating profit. It differs from the traditional measures mainly by including the cost of equity. Salomon and Laya (1967) studied the accounting rate of return (*ARR*) and the extent to which it approximates the true return measured with *IRR*. Harcourt (1965), Solomon and Laya (1967), Livingston and Solomon (1970), Fischer and McGowan (1983) and Fisher (1984)

concluded that the difference between accounting rate of return (*ARR*) and the true rate of return is so large that the former cannot be used as an indication of the later (De Villiers, 1997, pp. 286-87).

Among all traditional measures, return on capital is very common and relatively good performance measure. Different companies calculate this return with different formulas and call it also with different names like return on investment (*ROI*), return on invested capital (*ROIC*), return on capital employed (*ROCE*), return on net assets (*RONA*), return on assets (*ROA*) etc. The main shortcoming with all these rates of return is in all cases that maximizing rate of return does not necessarily maximize the return for shareholders. Observing rate of return and making decisions based on it alone is similar to assessing products on the "gross margin on sales" -percentage. The product with the highest "gross margin on sales" percentage is not necessary the most profitable product. The difference between *EVA* and *ROI* is actually exactly the same as with *NPV* (Net present value) and *IRR* (Internal rate of return). *IRR* is a good way to assess investment possibilities, but we ought not to prefer one investment project to the other on the basis of *IRR* only.

Mathematically *EVA* gives exactly the same results in valuations as Discounted Cash Flow (*DCF*) or Net Present Value (*NPV*) (Stewart, 1990, p. 3; Kappi, 1996), which are long since widely acknowledged as theoretically best analysis tools from the stockholders' perspective (Brealey & Mayers, 1991, pp. 73-75). In the corporate control, it is worth remembering that *EVA* and *NPV* go hand in hand as also *ROI* and *IRR*. The formers tell us the impacts to shareholders wealth and the latters tell us the rate of return. There is no reason to abandon *ROI* and *IRR*. They are very good and illustrative measures that tell us about the rate of returns. *IRR* can always be used along with *NPV* in investment calculations and *ROI* can always be used along with *EVA* in company performance. However, we should never aim to maximize *IRR* and *ROI* and we should never base decisions on these two metrics. *IRR* and *ROI* provide us additional information, although all decisions could be done without them. Maximizing rate of returns (*IRR, ROI*) does not matter, when the goal is to maximize the returns to shareholders. *EVA* and *NPV* should be in the commanding role in corporate control and *ROI* & *IRR* should have the role of giving additional information.

4.2 EVA vs. Other Value-based Measures

EVA is not the only value-based measure rather we have a good number of tools that are also used for the same. Some are developed by consulting industries and others are by academics. Consultants like to use their particular acronym to establish it as their personal brand though it would not differ very much of the competitors' measures. Thus the range of these different acronyms is wide. Some of such measures are mentioned here in a tabular format so that readers can grasp them easily.

Insert Table 1 here

Many of these shareholder value measures are based more on cash flows that make them more effective than *EVA*. On the other hand, these other measures are quite complicated to calculate and based on more subjective data than *EVA*. At least *CFROI* and *CVA* defer most of the depreciation into later years in order to achieve smooth return or smooth capital costs. *EVA* is the most widely used Value-Based performance measure (Myers, 1996, p.42) probably just because it happens to be an easier concept compared to the others. In implementing *EVA*, one of the most important things is to get the people in organizations to commit to *EVA* and thereby also to understand *EVA* (Klinkerman, 1997).

5. Steps in *EVA* Computation

EVA computation requires some basis steps. The common steps are exemplified here that may be modified due to the typical nature of business or processes where it has been used.

Step 1: Collect and Review Financial Statements

EVA is based on the financial data produced by traditional accounting system. Most of the data come from either income statement or balance sheet both of which are available from general-purpose financial statements.

Step 2: Identify the distortions and adjustments required to make it distortion free

Stern Stewart has identified around 164 potential adjustments to *GAAP* and to internal accounting treatments, all of which can improve the measure of operating profits and capital. As financial statements are mendatorily prepared under *GAAP*, distortions will be there and identification of distortions is an art that requires a sound understanding of *EVA* technicalities to identify and to adjust them as well. Now the question comes, to what extent it can be adjusted. Let's have a look at the following *EVA* spectrum.

Insert Figure 1

The "Basic *EVA*" is the unadjusted *EVA* quoted from the *GAAP* operating profits and balance sheet. "Disclosed *EVA*" is used by Stern Stewart in its published *MVA/EVA* ranking and computed after a dozen standard adjustments to publicly available accounting data. "True *EVA*", at the extreme right is the accurate *EVA* after considering all rel*EVA*nt adjustments to accounting data. But our interest is at the "Tailored *EVA*". Each and every company must develop their tailored *EVA* definition, peculiar to its organizational structure, business mix, strategy and accounting policies – one that

optimally balances the trade-off between the simplicity and precision. Once the formula is set, it should be virtually immutable, serving as a sort of constitutional definition of performance.

Step 3: Identify the company's capital structure (CS)

A company's capital structure (*CS*) comprises all of the money invested in the company either by the owner or by borrowing from outsiders formally. It is the proportions of debt instruments and preferred and common stock on a company's balance sheet (Van Horne, 2002). Stewart (1990) defined capital to be total assets subtracted with non-interest bearing liabilities in the beginning of the period. However, it can be computed under anyone of the following methods:

Direct Method: By adding all interest bearing debts (both short and long term) to owner's equity.

Indirect Method: By subtracting all non-interest bearing liabilities from total liabilities (or total assets).

Step 4: Determine the company's weighted average cost of capital (*WACC*)

Estimation of cost of capital is a great challenge so far as *EVA* calculation for a company is concerned. The cost of capital depends primarily on the use of the funds, not the source (Ross et. al., 2003). It depends on so many other factors like financial structures, business risks, current interest level, investors expectation, macro economic variables, volatility of incomes and so on. It is the minimum acceptable rate of return on new investment made by the firm from the viewpoint of creditors and investors in the firms' securities (Schall & Haley, 1980). Some financial management tools are available in this case to calculate the cost of capital. A more common and simple method is Weighted Average Cost of Capital (*WACC*) (Copeland et. al., 1996).

For calculating *WACC*, we have to know a lot of other issues like

1) Components of capital employed like equity, debt etc;

2) Respective weight of various components into total amount of capital employed;

3) Factors that affect the risk and return of various components in a capital structure;

4) Standalone cost of all such components in a capital structure.

The overall cost of capital is the weighted average of the costs of the various components of the capital structure. The cost of each component of the firm's capital – debt, preferred stock, or common stock equity – is the return that investors must forgo if they are to invest in the firm's securities (Kolb & DeMong, 1988). The Capital Asset Pricing Model (*CAPM*) is a common method in estimating the cost of equity (Copeland et. al., 1996). The *CAPM* is stated in equation 4.

$$R_E = R_f + \beta(R_M - R_f) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (eq.\ 4)$$

Thus, *CAPM* postulates that the cost of equity (R_e) is equal to the return on risk-free security (R_f) plus a company's systematic risk, called beta (β), multiplied by the market risk premium ($R_M - R_f$) (Copeland et. al., 1996). Risk premium is associated with the specific risks of a given investment (Block & Hirt, 2002). For large *U.S.* companies, the recommended market risk premium is 5 to 6 percent (Copeland et. al., 1996; Stewart, 1991). For publicly traded small companies, the market risk premium is significantly higher with values around 14 percent (Ross et. al., 1999). In our environment, market risk is so volatile that the appropriate premium, demanded by the owners against their investment, for even the large companies cannot be accurately estimated. Even no company takes the responsibility to work in this area. Thus, the use of *CAPM* is not impossible but difficult. Dividend discount model is another popular model in this case where market price of a share is equal to the present value of future streams of dividends (Khan and Jain, 1999). The model is given in equation 5 that can be solved for cost of equity if market price per share (*P*), earnings per share (*E*), retention ratio (*b*) and growth rate (*g*) is known.

Calculating cost of other components in a capital structure is quite simple and in most of the cases publicly available. We can fit all information into the following equation (6) to compute *WACC* provided that standalone cost for each component (common equity - *ce*, preferred equity - *pe*, debt - *d*, others - *x*), respective weights (*W*) and corporate tax rate (T_c) is available:

$$WACC = (R_{ce} \times W_{ce}) + (R_{pe} \times W_{pe}) + (R_d \times W_d)(1 - T_c) + (R_x \times W_x) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (eq.\ 6)$$

Step 5: Calculate the company's Net Operating Profit after Tax (NOPAT)

NOPAT (eq. 7) is a measure of a company's cash generation capability from recurring business activities and disregarding its capital structure (Dierks and Patel, 1997). *NOPAT* is derived from *NOP* simply by subtracting calculated taxes from *NOP* [$NOPAT = NOP \times (1 - T_c)$]. But adjustments should be made to the accounting profit to convert it into economic profit.

NOPAT = Net operating profit - {(Net operating profit ? excess dereciatio n ? other increase in reserves) × (tax rate)}.... ....(eq. 7)

Step 6: Calculation of Economic Value Added

Finally, the *EVA* can be calculated by subtracting capital charges from *NOPAT* (eq. 7) as shown in eq. 8 (Stewart, 1991; Reimann, 1988).

$$EVA = NOPAT - Capital\ Employed \times WACC \quad \text{.....} \quad (eq.8)$$

If the *EVA* is positive, the company created value for its owner. If the *EVA* is negative, owner's wealth gets reduced.

6. Scope and Advantages of *EVA*

EVA as a management tool can be used in all managerial functions provided that it has been made tailored with the context. It has a strong relationship with share prices. As per eq. 3, the market value of a company is its book value plus the current value of future *EVA*. Stewart (1990, pp.215 - 218) has first studied this relationship with market data of 618 *U.S.* companies and presents the results in his book "The quest for value". Lehn and Makhija (1996) study *EVA* and *MVA* as performance measures and signals for strategic change. Their data consists of 241 *U.S.* companies and cover years 1987, 1988, 1992 and 1993. However, Tero Telaranta (1997) has conducted a study about the correlation of *EVA* and share prices and concluded that *EVA* is not any better than traditional performance measures.

EVA based bonus plan produces positive results within an organization. Wallace (1997) studies the effects of adopting management bonus plans based on residual income measures. The study also suggests superior performance with the companies using *EVA*. Motivating bonus system normally encourages managers to exceed the normal performance level and even after the payment of the management's bonuses, the return to shareholders is more than it would have been without the bonus system. *EVA* bonus systems are also good in decreasing agency problems. *EVA* might also be suitable to uniting the interests of the management/owners and ordinary employees. According to professors Michael J. Jensen from Harvard Business School and Kevin J. Murphy from University of Chicago the biggest problem with top management salaries is that managers are currently paid like bureaucrats rather than like value maximizing entrepreneurs (Jensen & Murphy 1990, p.1). They also state that traditional bonus systems produce far too small incentives for good performers and guarantee too big compensation for mediocre performers (1990, p.3). *EVA* can also be used in Group-level controlling of operations. *EVA* may also ensure optimum capital structure by making the firm properly levered. But, adopting *EVA* simply as a performance measurement metric, in the absence of some ideas as to how you're going to create value, isn't going to get you anywhere (Kroll 1997, p.109). Thus, proper understanding is important to define its scope and to retrieve the maximum benefits out of it.

7. Limitations of *EVA*

EVA has a lot of advantages though it is not free of limitations. Some of the limitations are pointed out below:

1) *EVA* is criticized to be a short-term performance measure. Some companies have concluded that *EVA* does not suit them because of their focus on long-term investments. An example is offered by American company *GATX* (Glasser, 1996), which leases transportation equipment and makes fairly long-term investments.

2) The true return or true *EVA* of long-term investments cannot be measured objectively because future returns cannot be measured; they can only be subjectively estimated.

3) *EVA* is probably not a suitable primary performance measure for companies that have invested heavily today and expect positive cash flow only in a distant future.

$$P = \frac{E(1-b)}{K_e - g} \quad \text{.....} \quad (eq.5)$$

4) The periodic *EVA* fails to estimate the value added to shareholders, because of the inflation and other factors.

5) *EVA* suffers from wrong periodizing. A company may have a lot of undepreciated new assets in its balance sheet and it might show negative *EVA* even if the business would be quite profitable in the long run.

6) Traditional financial ratios are commonly used for distress prediction. It was observed that *EVA* does not have incremental value in the predicting.

8. Conclusion

During the 1990's value based management has made a strong entry in the assortment of management tools in the form of *EVA* as marketed in particular by Stern Stewart & Co. Since then, it has successfully taken an important place in corporate world and we have seen maximum utilization of it. The central idea of *EVA* is subtracting the cost of capital from the firm's profits to measure, as the term indicates, the economic additional value produced by the firm to its owners over the weighted cost of the capital employed. It is well accepted from both side of the coin, i. e., owners and management. Owners are happy to see the amount of value added and management is happy to get reward proportionately. But, the challenge is to implement it for the first time. If the tool is not welcomed at the very beginning,

it will produce nothing. Keeping *EVA* simple is also viewed as an important feature in successful implementation (Gressle, 1996).

EVA has some inherent limitations also. Major limitations are generated due to the conventional accounting system that produces time-barred data. Thus, calculating true *EVA* becomes a challenge. But, we can make it tailored through *EVA* team, formed for successful implementation of the tool. The team will be responsible to find out all distortions and the way to adjust them to convert accounting profit into economic profit.

EVA has both advantages and limitations. Thus, using *EVA* only is no case a good decision. Rather, it should be used with other to take decisions more effectively. Companies may go for simulations over past several years' performance to find out the areas where *EVA* as a managerial tool is stronger over others. And where other tools show important correlations. Then, a set of tools can be used simultaneously in line with the philosophy of management.

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Table 1. Some value-based measures in addition to *EVA*: at a glance

Title of the value based measure	Developed by	How to calculate?
Cash flow return on investment (*CFROI*)	Boston Consulting Group (*BCG*) and *HOLT* Value Associates	$CFROI\left(\frac{Gross\ Cash\ Flow}{Gross\ Assets}\right)$, is calculated in two steps. First, inflation-adjusted cash flows are compared with the inflation-adjusted gross investment. Then, the ratio of gross cash flow to gross investment is translated into an internal rate of return by recognizing the finite economic life of depreciating assets and the residual value of non-depreciating assets such as land and working capital (Myers, 1996).
Cash Value Added (*CVA*)	Academicians	*CVA* = Operating Cash Flow (*OCF*) - Operating Cash Flow Demand (*OCFD*). *OCF* is the sum of Earnings before Depreciation, Interest and Tax (*EBDIT*, adjusted for non-cash charges), working capital movement and non-strategic investments. *OCFD* represents the average capital costs per year (in absolute terms) that is constant over the investment period. (Ottoson & Weissenrieder, 1996)
Shareholder value Added (*SVA*)	Dr. Alfred Rappaport and *LEK*/Alcar Consulting Group	Estimated future cash flows are discounted to present value to calculate the value of the firm continuously. Measuring the current performance is based on comparing these cash flow estimates and period's real cash flow (Rappaport 1986, p.183).
Adjusted Economic Value Added (*AEVA*)	Academicians	It is unlike to *EVA* in the sense that it uses current value of assets instead of book values.
Refined Economic Value Added (*REVA*)	Academicians	It uses the market value of the firm in the beginning of the period instead of book value (Bacidore et al 1997, p.15).

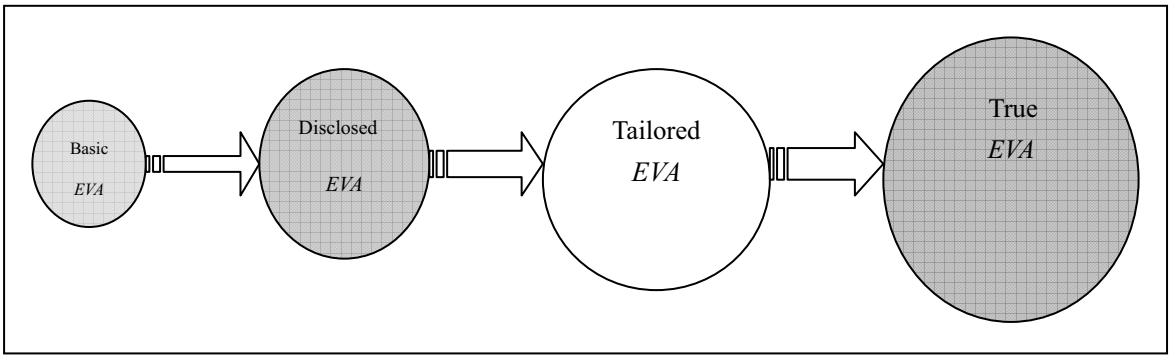

Figure 1. The *EVA* Spectrum (Hoque, Akter & Shil, 2004, p. 139)

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Application of Dynamic Programming Model in Stock Portfolio —under the Background of the Subprime Mortgage Crisis

Feixue Yan
Accounting School
Shandong Economic University
Jinan 250014, China
E-mail: 40903601@qq.com

Feng Bai
Accounting School
Shandong Economic University
Jinan 250014, China
E-mail: 93680604@163.com

Abstract

Known as "Financial 9.11", the U.S. subprime mortgage crisis causes great shock to the global economy. Meanwhile, global stock markets are in constant turmoil and suffer heavy losses one after another. Stock portfolio can disperse investment risks effectively to maximize investment income. This paper introduces dynamic programming method, establishes dynamic programming model and allocates funds between stocks in stock portfolio reasonably so as to maximize income, thus providing an effective approach to solute similar fund allocation issues.

Keywords: Dynamic programming model, Stock portfolio, Subprime mortgage

1. Introduction

Over the past year, a financial tsunami caused by structural faults of U.S. subprime debt market sweeps through Wall Street. Series of giant-like financial institutions collapse. The shock waves shake global financial markets, which is named "Financial 9.11". Global stock markets which are also affected by the subprime mortgage crisis shroud in an atmosphere of pessimism faction. If investors can not be informed accurately of investment information, they don't know which stock can bring greater benefits or which one shares smaller investment risk. In such a turbulent stock market, the portfolio can effectively help us circumvent the risk, thus maximize the gross investment return.

Modern portfolio theory originated in Harry Markowitz's paper "portfolio" released in 1952 and its same name monograph published in 1959. In the article and monograph above, Markowitz elaborated on the basic assumptions, theoretical basis and general principles of "portfolio", which laid his historical role—a pioneer of the portfolio theory(Li Guancong, 2006). Stock portfolio refers to the investment project group which is formed when investors consciously decentralized invest funds in a variety of stocks, thus get maximize return on investment. However, how to allocate funds rationally among a variety of stocks so as to make maximum benefit from the portfolio? This is the main issue this paper researches on.

2. The basic idea of dynamic programming

The American scholar Berman et al put forward dynamic programming in 1951 which provides an effective approach to such issue as distribution of funds. The unique feature of dynamic programming is that it uses decision-making by stages in the multi-variable complex decision-making issue, and changes it into a decision-making issue of solving several single variables (Liu Song & Wan Junyi, 2005). The basic principle of it is "optimization principle ", namely an optimal program with such a nature—regardless of the initial state and item, relative to the state produced by the initial item, subsequent items certainly constitute the best sub-items. It means any sub-item of an optimal item is always optimal (Liu Tao, 2000).

The key to Dynamic programming method is to write out basic recursive relationship correctly. The first step is to divide the process of the issue into several interrelated stages, select appropriate state variables ,decision-making variables and definite an optimal value function, so that a big problem can be transformed into a hierarchy of congener

sub-problems, then solve them one by one. That's to start from boundary conditions and recur the optimal solution stage by stage. Meanwhile, use optimal solution of the anterior sub-problem in each sub-problem solving process in turn, and finally the optimal solution of the last sub-problem is that of the whole issue (Sun Xiaojun, 2002).

3. Application of dynamic programming model in stock portfolio

3.1 Case Introduction

Suppose a company decides to invest ¥60,000 to buy 4 stocks. The company hopes to confirm the optimal portfolio through a rational allocation of funds, so as to maximize investment return. After market investigation and experts forecast, the relationship between return (unit: ¥10,000) and investment (unit: ¥10,000) of each stock is as follows.

Insert Table 1 here

3.2 Establishment of Dynamic Programming Model

We establish dynamic programming model through dynamic programming method to solve how to allocate funds rationally, so as to maximize return of the portfolio. Due to the special structure of the issue, we will regard it as a multi-stage decision-making issue to solve stage by stage. Therefore, we introduce the following dynamic parameters (Yang Xuezhen, 2000):

(1)S—Total investment

(2)n—Item number of the portfolio

(3)u_k—decision variable, investment assigned to Item k

(4)$g_k(u_k)$—Stage objective function, return of u_k

(5)S_k—State variables, investment of Item k to Item n

(6)$S_{k+1}= S_k-u_k$ State transition equation

(7)$f_k(S_k)$—maximize return of S_k

Therefore, we can get the reverse DP (Dynamic Programming) equation as follows:

$$\begin{cases} f_k(S_k)=\max\{g_k(u_k)+f_{k+1}(S_{k+1})\} & 0\le u_k\le S_k, k=n,n-1,\cdots,1 \\ f_{n+1}(S_{n+1})=0 \end{cases}$$

Take advantage of the recursive relationship above, we finally solute $f_1(S_1)$ which is the maximum return of the issue, while portfolio allocation scheme is also optimal. This is the "reverse algorithm" of dynamic programming method (Yuan Zining, 2007).

3.3 Solving dynamic programming model

In this case, we regard the process of allocating funds to one or several stocks as a stage. Now we use "reverse algorithm" of dynamic programming method to solve the whole issue stage by stage, given $S=S_1=6$.

3.3.1 The first stage

Given k=4,namely investing $S_4(S_4=0,1,2,3,4,5,6)$in the fourth stock , in this case,

$f_4(S_4)= \max\{ g_4(u_4) + f_5(S_5)\}$ $0\le u_4\le S_4$

Obviously, if $S_4=0, f_4(0)=0$

if $S_4=1, f_4(1)=60$

if $S_4=2, f_4(2)=80$

if $S_4=3, f_4(3)=100$

if $S_4=4, f_4(4)=120$

if $S_4=5, f_4(5)=130$

if $S_4=6, f_4(6)=140$

Table 2 shows the results above:

Insert Table 2 here

3.3.2 The second stage

Given k=4,namely investing $S_3(S_3=0,1,2,3,4,5,6)$ in the third and fourth stocks, which makes maximum return on the investment allocated to the two stocks. In this case,

$f_3(S_3)= \max\{g_3(u_3) + f_4(S_4)\}$ $0\le u_3\le S_3$

(1) If S_3=0, $f_3(0)$= max{ $g_3(u_3)+f_4(S_4)$}= max{$g_3(0)+f_4(0)$}=0

Optimal item in this case is (0, 0), namely investment allocated to the two stocks is 0, thus optimal return is also 0.

(2) If S_3=1, $f_3(1)$= max{$g_3(u_3)+f_4(S_4)$}, $0\le u_3\le 1$

Namely: $$f_3(1)=\max\begin{Bmatrix} g_3(0)+f_4(1) \\ g_3(1)+f_4(0) \end{Bmatrix}=\max\begin{Bmatrix} 0+60 \\ 50+0 \end{Bmatrix}=60$$

Optimal item in this case is (0,1), namely investment allocated to the two stocks is 10,000, including investment in the fourth stock is 10,000 while that in the third one is zero. Optimal return at this time is 60,000.

(3) If S_3=2, $f_3(2)$= max{$g_3(u_3)+f_4(S_4)$}, $0\le u_3\le 2$

Namely: $$f_3(2)=\max\begin{Bmatrix} g_3(0)+f_4(2) \\ g_3(1)+f_4(1) \\ g_3(2)+f_4(0) \end{Bmatrix}=\max\begin{Bmatrix} 0+80 \\ 50+60 \\ 120+0 \end{Bmatrix}=120$$

Optimal item in this case is (2,0), namely investment allocated to the two stocks is 20,000, including investment in the third stock is 20,000 while that in the fourth one is zero. Optimal return at this time is 1200,000.

Empathy, if S_3=3,$f_3(3)$=180,Optimal item is(u_3,u_4)=(2,1)

if S_3=4,$f_3(4)$=230,Optimal item is(u_3,u_4)=(3,1)

if S_3=5,$f_3(5)$=260,Optimal item is(u_3,u_4)=(4,1)

if S_3=6,$f_3(6)$=280,Optimal item is(u_3,u_4)=(4,2)

The results above are given in Table 3 as follows:

Insert Table 3 here

3.3.3 The third stage

Given k=2,namely investing S_2(S_2=0,1,2,3,4,5,6)among the second ,third and fourth stocks, which makes maximum return on the investment allocated to the three stocks. In this case,

$f_2(S_2)$= max{$g_2(u_2)+f_3(S_3)$} $0\le u_2\le S_2$

Using the same calculation method as the second stage, the final calculation results can be expressed as follows:

Insert Table 4 here

3.3.4 The fourth stage

Given k=1, namely investing S_1 (S_1=S=6) among the four stocks, which makes maximum return on the investment allocated to them. In this case,

$f_1(S_1)$ = max {$g_1(u_1)+f_2(S_2)$} $0\le u_1\le 6$

Therefore,

$$f_1(6)=\max\begin{Bmatrix} g_1(0)+f_4(6) \\ g_1(1)+f_4(5) \\ g_1(2)+f_4(4) \\ g_1(3)+f_4(3) \\ g_1(4)+f_4(2) \\ g_1(5)+f_4(1) \\ g_1(6)+f_4(0) \end{Bmatrix}=\max\begin{Bmatrix} 0+310 \\ 40+270 \\ 100+230 \\ 130+180 \\ 160+120 \\ 170+60 \\ 170+0 \\ 130+180 \end{Bmatrix}=330$$

Optimal item in this case is (u_1,u_2,u_3,u_4)=(2,0,3,1),namely investment allocated to the four stocks is 60,000 ,including investment in the first stock is 20,000 , in the second one is 30,000 , in the fourth one is 10,000 , while that in the second one is zero. Optimal return at this time is 3,300,000.

4. Ending words

Application of dynamic programming model is designed to help investors select the optimal portfolio among a number of investment items and disperse investment risks effectively in order to get maximize return (Zhang Xiaomin, 2008). In practice, the relationship between return and investment of each stock is mainly judged by information on the stock market grasped by investors and their own experience. Especially under current conditions, the U.S. subprime mortgage crisis brings great uncertainty to the global economy, revenue can hardly reasonable forecast which requires us to conduct an in-depth investigation and accurate predictions. At the same time, there is a positive correlation between risks and returns of a stock to a large extent .The greater the risk, the greater the return, and vice versa. But it does not exclude the possibility that because of some special factors such as force majeure and national macroeconomic policies, risks and returns present a reverse change (Zhou Huaren, 2006). In summary, as for application of dynamic programming model in stock portfolio, there is still much to be improved and supplemented, on which we need further explore and research.

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Table 1. Return and Investment

Return \ Item / Investment	u_1	u_2	u_3	u_4
0	0	0	0	0
1	40	40	50	60
2	100	80	120	80
3	130	100	170	100
4	160	110	200	120
5	170	120	210	130
6	170	130	230	140

Table 2. Optimal Return and Optimal Item

S_4	0	1	2	3	4	5	6
$f_4(S_4)$	0	60	80	100	120	130	140
Optimal item u_4	0	1	2	3	4	5	6

Table 3. Optimal Return and Optimal Item

S_3	0	1	2	3	4	5	6
$f_3(S_3)$	0	60	120	180	230	260	280
Optimal item (u_3,u_4)	(0,0)	(0,1)	(2,0)	(2,1)	(3,1)	(4,1)	(4,2)

Table 4. Optimal Return and Optimal Item

S_2	0	1	2	3	4	5	6
$f_2(S_2)$	0	60	120	180	230	270	310
Optimal item (u_2,u_3,u_4)	(0,0,0)	(0,0,1)	(0,2,0)	(0,2,1)	(0,3,1)	(1,3,1)	(2,3,1)

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The Relationship between Manufacturing and Service Provision in Operations Management

Xin Jiang
School of Foreign Languages
Changzhou Institute of Technology
Tong Jiang South Road No. 299, Changzhou 213002, Jiangsu, China
E-mail: jiangx@czu.cn

Abstract

Operations management is a large segment which is concerned with the existence of any organization. Every organization has an operations function to produce some type of products and/or services. It is well-known that manufacturing differs from service provision in many aspects. The main difference between products and services would be tangibility. While the outputs of manufacturing are tangible, the outputs of service provision are intangible. Some industries are the mixture of both manufacturing and service provision, which provide both products and services. Likewise, the operations managements which different industries apply are also very different. This article is concerning these differences in different areas, providing some industries and some companies for the analysis.

Keywords: Tangible, Intangible, Customer contact, Product oriented, People oriented, Technology development, Quality control, Integrated, Value chain, Supply chain, NPD, JIT

Introduction

Operations management is about the way organizations produce goods and services.

(N. Slack et al., 1998, p.3)

Operations management is a large segment which is concerned with the existence of any organization. Every organization has an operations function to produce some type of products and/or services.

It is well-known that manufacturing differs from service provision in many aspects. The main difference between products and services might be the tangibility. While the outputs of manufacturing are tangible, the outputs of service provision are intangible. Some industries are the mixture of both manufacturing and service provision, which provide both products and services. Likewise, the operations managements which different industries apply are also very different. This essay is concerning these differences in different areas.

All operations are concerned with input-transformation-output process. Such process in different sorts of areas might be significantly different.

1. Products and services

1.1 Pure products

Manufacturing inputs materials to produce products during the process of transformation. As for the process of manufacturing itself, there's nearly no services involved, but just producing the goods.

For example, the car manufacturing, for such particular field, the manufacturer only produces cars with slight services included. In other words, it is the industry which produces pure product. The whole process of manufacturing cars is concerning the transformation of the materials and a little service. Moreover, production doesn't occur at the same time with consumption. Manufacturers produce cars and then sell the cars to the customers. Most of the entire process is producing the cars. There's low customer contact during the process. The output, namely the car can be evaluated easily by its appearance and inside parts because it is tangible. Consequently, the quality of the car is evident and can be judged relative objectively. As far as the service in the car industry is concerned, it is obvious that such manufacturing industry embraces just a little bit services, such as bring the cars which can be transported to the market and sell them. Thus, the chances of contacting with the customers are very rare. Furthermore, if the cars didn't be sold out, they can be stored.

1.2 Mixture of products and services

There are many different sorts of industries all over the world. Some industry is the mixture of providing products as well as providing services, which is in the middle of the class. Accordingly, such kind of industry must contain both

product and service.

Take restaurant for example, restaurant which we are fairly familiar with is a typical mixed industry. The restaurant not only provides the food which can be considered as product, but also the service. In such industry, customer contact is relatively higher than manufacturing industry which is above mentioned. In the restaurant, customers can enjoy food as well as service at the same time. In other words, production and consumption emerge simultaneously. As far as the main difference tangibility is concerned, while it is easy for evaluating the quality of the food in the restaurant, it is hard for appraising the quality of the service restaurant provides. The reason why it is hard for appraising the quality of the service provided by the restaurant is the nature of the service, which is intangible. So, no specific criteria for the evaluation of the service exist. Thus, the evaluation of the service could be very subjective. As for the overall transformation process of such kind of industry, the ratio of the food and the service is nearly 1:1. Therefore, more customer contact is involved in this kind of industries. The food of the restaurant can be stored and transported. Conversely, the service can not be stored and transported because the service is intangible.

2. Pure services

In some of the industries, there is only service provision, such as the clinic or hospital.

Clinic which provides the pure service to the patients has its own characteristics which are totally different from the two above mentioned industries. The input of the clinic is the customer. As such, the output is the customer as well. In the whole process of the transformation, customers enjoy the service only, nothing else. In such process, production and consumption are simultaneous. When doctors provide pure service, customers can enjoy it at one time. However, as above mentioned, the pure service which doctor provide is like the service restaurants provide and it can not be stored or transported. Due to the intangibility, the quality of the service provided in the clinic is difficult to judge the same as all kinds of services. Moreover, the entire process is high customer contact.

3. Operations management

Operations management is concerned with the design, planning, control and improvement of an organization's resources and processes to produce goods or services for customers.

(R. Johnston, S. Chambers, C. Harland, A. Harrison, N. Slack, 1998, p.15)

Industries of different types are required different patterns of operations. As N. Slack (1998) mentioned, operations management is concerned with activities, decisions and responsibilities of operations managers. Operations managers are the staff of the organization who have particular responsibility for managing some, or all, of the resources.

Again, operations managers can be called different names of different areas as a result of their different duties. For instance, he or she might be called the 'store manager' in a supermarket, the 'fleet manager' in a distribution company or the 'administrative manager' in a hospital.

Operations function is considered as one of the three core function of the organization, concerning satisfying customer requests for products and services.

3.1 Operations management in manufacturing

The principle role of the manufacturing firm is to turn physical raw materials into tangible products. A tangible product is one that can be physically touched, valued in monetary terms, visualized, and described by dimensional terms such as weight, length, height, volume, etc.

(D. L. Waller, 1999, p.6)

According to the example of car industry, it is clear that car industry just produce cars during the entire transformation process. The activities of operations in car industry are to make components to assemble the cars through the product line, namely, to transform raw materials or components into finished goods destined for final consumers. There is less client contact in manufacturing. The clients only make an appearance on delivery of the finished cars or perhaps at the start of the operation if the car is of new design. Car manufacturing is usually a higher proportion of technicians and engineers.

3.2 Operations management in mixed industry of manufacturing and service provision

As for mixed industry such as restaurant, it is easily seen that such kind of industry combines the generic characteristics of both the manufacturing and the service.

Restaurants produce food as well as provide service. So, operations managers or manageress are responsible to pay attention to both the products and the services on the running of the services. It is concerned with the production of the food and the services the waiter/waitress provide to the customers.

4. Operations management in services

A service industry also provides a product but this product is often (but not always) intangible and cannot be described in the same dimensional terms as manufactured goods (D. L. Waller, 1999, p.6).

As the example of the clinic above given, clinic just provides medical services, namely, the treatment which is the pure service. Compared with manufacturing, there is generally more client contact of the operating environment. Furthermore, as opposed to car manufacturing, clinic is more people oriented.

5. The analysis of manufacturing and service provision in specific industries and companies

5.1 Manufacturing in Korea's automobile industry

According to Koichi and Shimokawa (1999), the global automobile industry was showing an unprecedented scale of change in 1990's and the wave of the globalization had directly affected the international automobile industry. Along with the convergence of the world economy, the automobile industry is developing faster and faster beyond national borders.

Korea's economy is widely known as the "economic miracle" due to the rapid economic growth in less than four decades with poor endowment of natural resources (Unedited Working Paper, 2004). Such a rapid growth has transformed the whole country from poor traditional agricultural society to the modern industrial state within just a very short span of time (Kim and Kang, 2004). Consequently, Korea becomes one of the typical examples for great development in the world scale.

Automobile industry as one of the major industries in South Korea starts in 1940s and developed primarily in 1960s. Hyundi Motor, Daewoo Motor, Kia Motor, and Ssangyong Motor were the four major automotive companies in Korea. (Wang, 2003) According to UK Trade and Investment (2000), it says Korea's automotive industry ranked sixth in the world production, despite the 1997 economic crisis.

As we know, for a long period, Japanese automobile industry has been seen as the benchmark of the world's auto industry. In particular, Toyota was a typical example in such an area. It's so called "secret weapon" in Toyota was a unique manufacturing system and employed worldwide. Moreover, in the new era, successful business models must include new values and new kinds of thinking (Reingold, 1999). That's why Toyota could be successfully highly developed within a very short time span.

Likewise, Korean automobile industry was developing so speedy that shocked both the U.S. and Japan. The trend of its development is likely to exceed the U.S. and Japan's automotive industry in a way. As the report by J. D. Power (Chen and Hao, 2004) shown, the customers' satisfactory rate of Hyundai automobiles has already exceeded American and European brands. Korean automobile industry was regarded as the 'vane' in the international automotive market.

5.1.1 Technology development and quality control in Korea's automobiles

Compared with rival countries, Korean automobile industry was developing speedily and won the market share largely based on its advanced technology and high quality in only 10 years. "Korean Speed" was shocking the world and was worth being learnt. (Chen and Hao, 2004)

Change is in the air (Reingold, 1999). In today's knowledge-based world, technology as an essential part in automobile industry is ever changing. The reasons why Korean automobile industry developed so quickly and successfully were they were highly concerned about the automotive technology development as well as automotive quality improvement. There are many associations and institutes here in Korea and assist its domestic auto industry to gain much more new technology in the field of automobiles, for instance, Korea Automotive Technology Institute (KATECH), Korea Automobile Testing and Research Institute (KATRI), and Korea Industrial Technology Association (KITA). (UK Trade and Investment, 2000) According to Schnapp (1979), different automotive companies from different regions would differ in many aspects, such as natural resources, technology, strategies, and management. Due to the cooperation, Korean automobile industry learnt advanced technology as well as excellent management from other countries. Based on abundant knowledge, Korean auto industry improved its own domestic brands by highly increasing the quality. As a consequence, the auto industry in Korea won huge global market share as due to the high quality in the field of operations management.

5.2 Operations in digital camera industry

Likewise, a few big players dominate the digital camera industry. Most of the operators in this industry are Japanese companies. The current markets in the scope of the world can be divided into two main parts: developing market (e.g. China and Southeast Asia) and mature market (e.g. Japan, US and Europe). Competition in this industry is based on price, resolution and new product development. The key to success in this industry is technological innovations. Due to the speedy technology development, the rate of obsolescence in the industry is very high. Besides, branding can affect the total consumptions as well. (Group Analysis, 2005)

5.2.1 Competition concerning operations in digital camera industry

The competition in this industry depends on prices and technology. In order to clearly understand the actual circumstances on competitive rivalry, the following part would be considered as relative information to help gain the results of the overall competitive rivalry at present. (Group Analysis, 2005)

SONY

Sony is recognized worldwide and possesses a renowned reputation in high-tech industries. The market share of Sony in west EU accounts for 14% (IDC, 2005). Sony applies differentiation with price premium and product leadership as its current strategies. The competitive advantages of Sony are product excellence and the strong barnding. The pricing of Sony is at somewhere between Canon and Nikon. (Group Analysis, 2005)

NIKON

Nikon is good at producing professional digital cameras and the firm focus on the high-end market only. The market share of Nikon in west EU accounts for 10.4% (IDC, 2005). Nikon's current strategy is focused differentiation. The company has the competitive advantages of technology innovation and brand reputation in the high-end digital camera market, enjoying the high price as well. (Group Analysis, 2005)

CANON

Canon enjoys high reputation in the world scope in camera industry. Canon aims at both high-end market and low-end market. In terms of high-end market, Canon and Nikon are the two main competitors, who have similar capabilities in technology innovation and have the similar price in high-end market. What is more, Canon was ranked the first highest in NPD (New Product Development) and was considered as the leading brand for digital cameras in America in 2004 (News Release, Feb 1, 2005). The market share of Canon in west EU accounts for 16.8% (IDC, 2005). Canon adopts differentiation as well as new product development as its current strategies and has the competitive advantage of innovative capability. (Group Analysis, 2005) Moreover, Canon is expected to become the leader of digital camera industry.

Canon is now facilitating operation processes. In digital camera industry, Canon has consistently turned in strong performances, thus enabling the company to expand its market share greatly. Apart from the high performance, Canon designs, develops and manufactures its own lenses, image processors and color rendering software. Hence, Canon continues to stay ahead of the digital camera market in terms of its advanced technologies. (News Release, Feb 1, 2005) Additionally, Canon also conducting the new production reform in the form of a strategic alliance with Toshiba to gain better performance. (Canon Collection, 2005)

Through the effectiveness in operation, Canon achieved excellent performance and produced high quality products with beautiful designs, which added value to marketing activities and the finished products are more likely to well respond to the present market and customers' needs. (Group Analysis, 2005)

Service is an important part to add the extra value to the final products. Better service will definitely brings a better financial performance in the end. As one of the biggest players in digital camera industry, Canon is more focusing on business-to-business services and the firm has a Canon Service Centre. (Group Analysis, 2005)

As concluded of the whole value chain inside Canon Corporation, it is very efficient and effective, the value chain are integrated well and running smoothly. The entire processes of Canon's value chain are unique and based on economics of scale, thus hard to copy. (Group Analysis, 2005)

OLYMPUS

Olympus was well operated in the last few years, however, the current situation is becoming unsatisfying and its ranking among the whole industry fell rapidly nowadays. The main market of Olympus is at the low-end. According to IDC (2005), Olympus market share in west EU accounts for 12.5%. Olympus also applies differentiation as its current strategy. The competitive advantages of Olympus involves friendliness and easy for entry-level consumers. The price of Olympus digital camera is lower than Sony, Canon and Nikon. (Group Analysis, 2005)

KODAK

Kodak is not among the top 5 in the world digital camera industry. Kodak possesses the main market in the US and is ranked top in North America. The company adopts low cost as its current strategy, therefore, the price of Kodak digital camera is the lowest among the five players. The competitive advantage of Kodak is easy to use. (Group Analysis, 2005)

5.3 Manufacturing and service provision in Starbucks

Starbucks was established in 1971. Presently, there have been 6,132 stores in the United States and 2,437 international stores. They are planning to open at least 1,500 company operated stores on a global basis, and intend to expand their

locations to neighborhoods, off highways and in rural areas. In addition, they have increased their ultimate projected growth from 25,000 to at least 30,000 stores worldwide, with at least 15,000 locations outside the United States (Starbucks Annual Report, 2004).

5.3.1 Starbucks' value chain

Both support and primary activities inside Starbucks' value chain are integrated to create the value. quality control, flat organizational structure, human resource management and technology development are defined as support activities. (Johnson & Scholes, 2002) Regarding primary activities, there are five main areas; amongst these activities, operation and marketing are the most essential parts. (Coursework, 2005)

5.3.1.1 Support activities

Starbucks applied total quality management throughout the whole supply, transportation, manufacturing and operations processes. This created value by ensuring consistency in superior coffee served and services provided. The existence of a flat organizational structure in turn contributes to flexibility in policies and changes implementation with respect to current market conditions. Most importantly, it allows effective and efficient decision making. (Coursework, 2005)

As far as human resource management is concerned, Starbucks recruited managers with diverse backgrounds to provide valuable experience and insights. (Kachra, 2002) Starbucks ensure all staffs were trained for at least 24 hours before they are ready to serve customers. In a sign of great respect, they were known as Baristas instead of shop assistants or waiters. This goes only to show that Starbucks treats the staffs as an asset. It also acknowledges the importance of knowledge transfers and strongly encourages it through baristas mentorship and training. One of the ways that Starbucks implemented to ensure consistency of the "Starbucks experience" throughout the cafe was achieved through rewards like stock options and higher salary. (Kachra, 2002) It aims to motivate the employees and to increase the morale and shape a loyal employee. Hence, it lowered turnover rates and decreased the costs dramatically. Moreover, satisfied employee will normally provide better customer services. (Davies, 2003)

The last element under support activities is technology integrated. In order to be a leader in this industry, Starbucks actively seeks to introduce new features, for instances, being the first to introduce wireless internet services in the café. Starbucks foresees the wide usage and adoption of technology in customer's everyday life. The most crucial aspect will have to be the usage of supply chain operations to forecast and schedule the primary activities. It ensures JIT (Just-In-Time) is achieved while decreasing costs incurred in storage and transportation of the goods. (Coursework, 2005)

5.3.1.2 Primary activities

Inbound logistics includes sourcing, receiving and storing the coffee beans from suppliers. Due to Starbucks' close relationship with their coffee exporters, the company is able to get the finest coffee beans. In addition, such a good relationship was maintained by working directly with exporters and suppliers as well as training them (Kachra, 2002).

Operation is the process of making the coffee in the store and packaging products. Starbucks had its unique specialty coffee produced through an innovative process, involving roasting, blending and packaging. In particular, roasting was considered not only a complete science, but more of a technological art (Kachra, 2002). Through the usage of technology in the process ensures coffee's quality and its freshness.

Outbound logistics is collection, storage and distribution of coffee (Coursework, 2004). For instance, Starbucks utilizes worldwide express courier such as UPS for reliable and efficient transportation (Kachra, 2002).

Starbucks integrated the value chain through the supply chain management allows it to respond to changes in orders, timing and scheduling of the deliveries to its maximum efficiency. The timely communications between each of the value chain variables allow prompt and updated actions, which in turn ensure its ability to reduce costs and increase efficiency. (Coursework, 2005)

Marketing and sales is the most important part of the value chain and it is about how consumers become aware of Starbucks coffee and purchase it and marketing strategies has pushed effective expansion and fast development of Starbucks. (Coursework, 2005)

Firstly, location strategy was used to reach high brand awareness. The company used lobbying to change city regulations to get the best place in town, locating its stores in affluent areas only, which is beneficial for revenue growth (Sheth, 2000).

Due to the changing lifestyle, there is an increasing number of people who pay more attention on the quality of life. With the objective of capturing Starbucks target market which is made up of the educated and young adults with average income, selling memorable coffee experience with a cup of high quality coffee in a place of comfortable ambience. This contextual business idea was so successful that consumers were willing to pay premium price for this Starbucks experience, service and quality. (Coursework, 2005)

Apart from in-store consumption, Starbucks expands sales to home, work and travelers. The company also diversifies its products, like selling pastries, cakes and CDs. Starbucks expansion was evident both horizontally and vertically, using licensing and partnerships. Furthermore, Starbucks licensed its name to other coffee house, penetrating various regions. Starbucks reached agreements with other providers like Barnes and Noble bookstores to United Airlines to sell Starbucks coffee in their establishments. (Sheth, 2000) However, Starbucks need to consider the possibility of brand dilution with the increasingly number of partnerships. The crucial issue of how Starbucks can ensure and maintain universally high quality of coffee and service levels throughout the partnerships remains.

Besides national expansion in the US which is now reaching saturation, Starbucks is already present in Japan, Europe, South East Asia and Middle East by joint venture, wholly owned subsidiaries and licensee (Subhadra, 2003).

Services include all the activities that enhance or maintain the value of the product (Coursework, 2004). Starbucks ensure "customer experience" in the cafes through friendly and well trained staff. Every café have at least one coffee masters wearing the black apron who is assigned to give trainings and mentorship to fellow barristers Furthermore, Starbucks created a website to educate, inform and seeks to convince customers to drink their coffee. Customers treat the store as a meeting place whereby they can relax, chat, read and enjoy the ambience. This experience is further enhanced by a wide selection of high quality coffee, relaxing music while surfing through the wireless Internet in a chic environment with a homely layout. (Coursework, 2005)

Starbucks' capabilities were derived from the process of combining all the resources and capabilities inside Starbucks. Through a complex integrated value chain, effective marketing strategies, and services from talented people, Starbucks was able to sustain its competitive advantages and distinctly differentiate itself from other coffee retailers and established its leadership position in the specialty coffee industry. (Coursework, 2005)

5.3.2 Sustaining competitive advantage

Looking back to Starbucks current situation, it is apparent that tactics are used to build the 'Starbucks' experience culture', which employees are feeling proud to work for, and that customer are feeling enjoyable and relaxed to stay with. (Coursework, 2005)

Starbucks is a world-famous company that is successful in specialty coffee industry. However, to further push its global development forward requires continual inprovement. Starbucks should stick on product and service excellence to maintain the stable relationships with quality suppliers and ensuring healthy two-way communication with employees. Furthermore, Starbucks should keep adding new value to products and services, as the new demand for products and services are continually evolving. And cost control would be an essential issue for its effective growth as well. In particular, the extremely high costs spending on transforming an inherent consumption idea in educating its global customers to accept a new service. Therefore, the company needs to balance the expenditures and earnings. To pursuit the prosperous future development, Starbucks may need to think over and re-evaluate its overall strategy, especially its global expansion more carefully for sustaining the healthy operation and continuous growth. (Coursework, 2005)

6. Conclusions

Manufacturing is different from the service provision in many aspects. While manufacturing provides tangible products, service provision provides intangible services. The core difference between products and services might be the tangibility. Furthermore, manufacturing is low customer contact. Conversely, service provision is high customer contact.

Likewise, the responsibility of the operation managers/manageress in manufacturing is totally different from the operation managers/manageress in service provision. On the running of the business, operations management in manufacturing is more product oriented, however, operations management in service provision is more people oriented.

In conclusion, all the organizations need to make proper operation and strategies for achieving its overall objectives for a long-term development. 'Fit' is considered to be a key to make the operation perfect, and it is necessary for an organization to notice the main differences between manufacturing and service provision, which can lead the organization to the success. As a manager who is responsible for running the business globally, he must adopt strategic thinking, perfect operation and keep the changeable environment in mind. 'Think out of the box' is expected in operating world businesses (Coursework, 2005).

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Relationship between Interactional Justice and Pay for Performance as an Antecedent of Job Satisfaction: an Empirical Study in Malaysia

Azman ISMAIL (Corresponding author) & Nurzawani ZAKARIA
Faculty of Cognitive Sciences and Human Development
Universiti Malaysia Sarawak
Kota Samarahan 94300, Sarawak, MALAYSIA
Tel: 60-8258-1558 E-mail: iazman@fcs.unimas.my

Abstract

This study investigated the effect of pay for performance and interactional justice on job satisfaction using 132 usable questionnaires gathered from employees who have worked in seventeen GIATMARA centers in two states of Malaysia, that are Kuala Lumpur and Selangor (GIATMARAKLS). Outcomes of stepwise regression analysis showed that relationship between interactional justice and pay for performance features (i.e., adequacy of pay and participation in pay systems) positively and significantly correlated with job satisfaction. Further, this result confirms that interactional justice does act as a full mediating variable in the pay for performance models of the organizational sample. In addition, conclusion and implications of this study are elaborated.

Keywords: Pay for performance, Interactional justice, Job satisfaction

1. Introduction

Compensation is also known as salary and wages, remuneration, reward and/or pay system. These terms are often used interchangeably in organizations, but its meaning refers to the same thing (Bergman & Scarpello, 2002; Milkovich & Newman, 2008). Traditionally, development of compensation system in working organizations was based on cost control and internal equity variables (Anthony, Perrewe & Kacmar, 1994; Henderson, 2006; Kanter, 1989), and the levels and structures of pay for employees are determined based on their job structure, which takes into account aspects such as tenure, seniority, length of service, and membership. Adoption of such pay systems, although may still be appropriate and applicable in manufacturing-based industries which operate in very stable and highly predictable business conditions (Mahoney, 1989, 1992; Kanter, 1989), is gradually perceived as insufficient to attract, retain and motivate good employees to increase organizational productivity (Bergmann & Scarpello, 2002; Maurer, Shulman, Ruwe & Belcherer, 1995).

Recently, compensation practices have taken on a strategic focus with advocates expressing the need for the development of compensation theory and practice to be associated with organizational strategy. Accordingly, compensation practitioners express that shifting the paradigms of their compensation systems from traditional job based pay to performance based pay will be more efficient to achieve organizational strategy and goals (Lawler, 2000; Lee, Law & Bobko, 1999). Pay for performance has two major types: pay for group performance (team based pay and gainsharing) and pay for individual performance (e.g., merit pay, lump sum bonus, promotion based incentives and variable pay) (Henderson, 2007; Milkovich & Newman, 2008). However these pay systems have different types, they use the similar criterion to allocate pays, that is an employers rewarding additional pays to basic pay in order to meet high performers' needs and expectations (Chang & Hahn, 2006; Lawler, Ledford & Chang, 1993; Lee et al., 1999). In other words, the rules for distributing rewards, the fluctuations of pay levels and structures are now contingent upon the level of performance, skills, knowledge and/or competency exhibited by the employees and not the nature of their job structure (Amuedo-Dorantes & Mach, 2003; Appelbaum & Mackenzie, 1996; Lee et al., 1999).

Many scholars think that pay for performance and pay for job have used different treatments in allocating rewards, but the ability of management to properly implement both pay systems will attract, retain and motivate employees to achieve the major objectives of the organizational pay system: efficiency (i.e., improving performance, quality, customers, and labor costs), equity (i.e., fair pay treatment for employees through recognition of employee contributions and employees' needs) and compliance with laws and regulations (Gomez-Mejia & Balkin, 1992a & 1992b; Milkovich

& Newman, 2008). Hence, it may lead employees to sustain and increase organizational competitiveness in a global economy (Appelbaum & Mackenzie, 1996; Lawler, 2000).

Extant research in pay for performance highlights that properly implemented pay for performance characteristics may positively affect job satisfaction (Janssen, 2001; McClausland, Pouliakas & Theodossiou, 2005). For example, adequacy of pay and participation in pay systems have been identified as the salient characteristics of pay for performance system (Fay & Thompson, 2001; Ismail, Hock & Sulaiman, 2007; Lee et al., 1999). Many scholars often interpret adequacy of pay from cultural, organizational and individual perspectives. In terms of cultural perspective, an individualistic culture perceives adequacy of pay as equity (e.g., equitable or inequitable pay) whereas a collective culture perceives adequacy of pay as equality, pay for the length of service or seniority and pay for individuals' needs (Giacobbe-Miller, Miller & Victorov, 1998; Money & Graham, 1999). In terms of organisational context, adequacy of pay is often defined as the type, level and/or amount of pay to that are provided by an employer to its employee who work in different job groups based on the organizational policy and procedures (Anthony et al., 1996; Henderson, 2007). From an individual perspective, adequacy of pay is often viewed based on a social comparison theory, which posits that an individual perceives the adequacy of the type, level and/or amount of pay based on a comparison between what an he/she receives and what he/she expects. An individual will perceives the type, level and/or amount of pay as adequate if he/she views that the pays are provided equitable with his/her contribution (e.g., ability to perform job, merit, skills and/or performance) (Adams, 1965 & 1968; Skarlicki & Folger, 1997; Sweeney & McFarlin, 1993).

Besides that, participation in pay systems is often seen as an employer encourages employees in different hierarchical levels and categories to discuss and share information-processing, decision-making, and/or problem-solving activities related to pay systems (Belcher & Atchison, 1987; Ismai et al., 2007). Most organizations practice two major participation styles: participation in pay design (e.g., start-up stages of pay system) and participation in pay administration (e.g., operation stages of pay system) (Belfield & Marsden, 2003; Kim, 1996 & 1999; Lee et al., 1999). Participation in the design of pay systems refers to employees are given more opportunity to provide ideas in establishing pay systems for achieving the major goals of its system, stakeholders needs and/or organizational strategy (Gomez-Mejia & Balkin, 1992a & 1992b; Lawler et al., 1993). Participation in the administration of pay systems refers to employee participation in both input and output. Participation in input means employees provide suggestions to determine the enterprise's goals, resources, and methods. Participation in output means employees are permitted to share the organization's rewards of profitability and/or the achievement of productivity objectives (Coyle-Shapiro, Morrow, Richardson & Dunn, 2002; Kim, 1996 & 1999). For example, a pro-social organisational behavior literature highlights that making constructive suggestions in performance based pay system (e.g., merit pay and gainsharing plans) will encourage employees to be honest in making personal contributions, this may lead to improved job satisfaction **(**Giacobbe-Miller et al., 1998; Lawler, 1995; Mani, 2002).

Surprisingly, a thorough review of such relationships reveals that effect of pay for performance characteristics of job satisfaction is indirectly affected by feelings of interactional justice (Adams, 1963 & 1965; Ismail et al., 2007; Tang & Sarfield-Baldwin, 1996). In an organizational behavior perspective, many scholars, such as Greenberg (1996, 2003), McShane and Von Glinow (2006) and Skarlicki and Folger (1997) view interactional justice as an important aspect of organizational justice theories, which states that an individual often sensitive to the quality of interpersonal treatment that they receive from their managers during the enactment of organizational procedures. If an individual perceives that decision makers (e.g., manager or supervisor) practice fair treatments (e.g., shows respect and accountable) in performance appraisal systems, this will invoke employees' feelings of interactional justice.

Application of the justice theory in pay for performance framework shows that the ability of managers to use fair treatments in determining the type, level and/or amount of pay based on performance ratings and appreciating employees' constructive suggestions in pay for performance plans will strongly invoke employees' feelings of interactional justice. As a result, it may lead to an increased job satisfaction (Bies, Shapiro & Cummings, 1988; Greenberg, 1996 & 2003; Tang & Sarfield-Baldwin, 1996; Skarlicki & Folger, 1997). However numerous studies have been done, little is known about the mediating role of interactional justice in performance based pay literature (Adams, 1963 & 1965; Ismail et al., 2007; Shaw, Duffy, Jenkins & Gupta, 1999). Therefore, it motivates the researchers to examine the mediating effect of interactional justice in the relationship between pay for performance characteristics and job satisfaction that occurs in Malaysian GIATMARA centers (GIATMARAKLS).

2. Literature review

GIATMARAKLS is a training institution that was established in 1986 by Malaysian government to specially train indigenous with up to date hands on courses that enable them to work as entrepreneurs, businessmen and high employability in global marketplace (GIATMARA Malaysia, 2008). At the initial stage of data collection procedure, the in-depth interviews were conducted involving five experienced employees who have sufficient knowledge about performance based pay system. The results of the interviews highlight that performance based pay have been implemented at all levels in the organizations. In this pay system, performance appraisal systems is used to measure

employee performance and outcomes of this appraisal will be used to determine pay rises. For example, percentages of merit increment, bonus and certain benefits are different between high performing employees (i.e., excellence service award employees) and non high performing employees (i.e., non excellence service award employees). In order to ensure equity in compensation management, the managers use standardized allocation rules to determine the type, level and/or amount of pay (e.g., recognitions, incentives and pay preferences), and recognizing employees' views when attending informal and/or formal meetings organized by the management of this organization (e.g., departmental and group work meetings). A further investigation of the interviews' results reveals that the ability of managers to practice good interaction styles (e.g., show respect and accountable) in dealing with employees' demands and complaints has been a major factor that may increase employees' fairness about the design and administration of pay for performance. As a result, it may induce positive personal outcomes, especially job satisfaction. Although the nature of this relationship is interesting, little is known about the influence of feelings of interactional justice in the performance based pay models of the studied organizations (Zakaria, 2007). Therefore, it motivates the researchers to further explore this issue.

The mediating role of interactional justice in the pay for performance model of GIATMARAKLS gains strong support from performance based pay studies mostly conducted in US organizational settings. For example, Money and Graham (1999) conducted a study about causal model of salesperson performance and satisfaction based on a sample of U.S. group (153 sales representatives and 146 sales managers) and Japanese group (175 of sales representatives and 93 sales managers). This study showed that higher levels of pay and valence for pay had been a strong motivating factor for U.S. and Japanese sales forces, this could lead to higher job satisfaction. Besides that, Pettijohn, Pettijohn and d'Amico (2001) examined the performance evaluation system based on a sample of 115 sales people and found that open discussion and explanation in evaluation methods provided more opportunity for employees to determine pay rates. These practices had increased employees' understanding, positive perceptions, satisfaction and appreciation to the pay rates. As a result, it could lead to greater job satisfaction.

The performance based pay literature is consistent with the notion of interactional justice theories, namely Leventhal's (1976) self-interest model, Lind and Tyler's (1988) group value model, and Folger, Konovsky & Cropanzano's (1992) due-process appraisal system. For example, Leventhal's (1976) self-interest model suggest six justice rules in making decisions: decisions based on accurate information, apply consistent allocation procedures, do correct decisions, suppress bias, practice moral and ethical standards in decision-making and ensure allocation process meet recipients' expectation and needs. Lind and Tyler's (1988) group value model suggest three types of relational judgments about authorities: standing or status recognition (e.g., assessments of politeness, treatment with dignity, and respect individuals' rights and entitlements), neutrality (e.g., decision-making procedures are unbiased, honest and decision based on evidence), and trust (e.g., motives of the decision-maker are fair and reasonable or otherwise).

Folger, Konovsky & Cropanzano's (1992) due-process appraisal system suggest three justice characteristics; adequate notice (e.g., explanation, discussion and feedback about performance criteria), fair hearing (e.g., informing performance assessments and their procedures through a formal review session) and judgment based on evidence (e.g., applying consistent performance criteria and honesty and fairness principles, as well as providing better explanations about performance ratings and reward allocations). If these justice decisions are properly done by managers, this may determine the adequacy of pays and respect employees' views in the process of distributing the type, level and/or amount of pay based on performance ratings. These practices will strongly invoke employees' feelings of interactional justice, this may lead to higher job satisfaction (Money & Graham, 1999; Pettijohn et al., 2001).

The literature has been used as foundation to develop a conceptual framework for this study as shown in Figure 1.

Based on the framework, it seems reasonable to assume that perceive fairness about managers' treatments in distributing the type, level and/or amount of pay and allowing employees to give constructive suggestions will influence GIATMARAKLS employees as this practice influences Western employees. Interactional justice theories suggest that if GIATMARAKLS employees perceive fairness about the treatments provided by managers in distributing the type, level and/or amount of pay and respecting employees' views, this may lead to greater job satisfaction. Therefore, it was hypothesized that:

H1: Interactional justice mediates the effect of participation in pay systems on job satisfaction

H2: Interactional justice mediates the effect of adequacy of pay on job satisfaction

3. Methodology

3.1 Research design

This study used a cross-sectional research design that allowed the researchers to integrate compensation management literature, the in-depth interview, the pilot study and the actual survey as a main procedure to gather data. Using such methods in may gather accurate data, decrease bias and increase quality of data being collected. The use of such methods may gather accurate and less biased data (Cresswell, 1998; Sekaran, 2000). The unit of analysis for this study

was employees who have worked in seventeen GIATMARA centers from two states of Malaysia, namely Kuala Lumpur and Selangor (GIATMARAKLS). At the initial stage of this study, in-depth interviews and pilot study were conducted in the headquarter of GIATMARA, Kuala Lumpur. The in-depth interviews involved four experienced employees, namely two supervisors and three supporting staff. Information gathered from the interviews was used to develop the content of a pilot survey questionnaire. Next, a pilot study was done by discussing the survey questionnaires with the five experienced employees, that are three supervisors and two supporting staff. Their opinions were sought to verify the content and format of survey questionnaires for an actual study. Back translation techniques were used to translate the survey questionnaires into English and Malay languages in order to increase the validity and reliability of research findings (Cresswell, 1998; Sekaran, 2000).

3.2 Measures

The survey questionnaire had 4 sections. Firstly, adequacy of pay was measured using 5 items that were modified from pay design literature (Henderson, 2007; Milkovich & Newman, 2008; Kim, 1996 & 1999; Gomez-Mejia, 1992a & 1992b). Secondly, participation in pay system was measured using 5 items that were modified from pay administration literature (Greenberg, 1996, 2003; Milkovich & Newman, 2008; Money & Graham, 1999; Pettijohn, et al., 2001). Thirdly, interactional justice was measured using 9 questions that were modified from organizational justice literature (Cohen-Charash & Spector, 2001; Cropanzano, Byrne, Bobocel & Rupp, 2001; Folger et al., 1992; Greenberg, 1996, 2003; Skarlicki & Folger, 1997). Finally, job satisfaction was measured using 18 items that were modified from job satisfaction literature (Oldham, Hackman & Stepina, 1978; Warr, Cook & Wall, 1979). The items used in the questionnaires were measured using a 7-item scale ranging from "strongly disagree/dissatisfied" (1) to "strongly agree/satisfied" (7). Demographic variables (i.e., gender, age, race, status, length of service, salary and position) were used as a controlling variable because this study focused on employee attitudes.

3.3 Sample

After obtaining permission to conduct a survey from the studied organizations, a convenient sampling technique was used to distribute 250 survey questionnaires to employees who have worked in every department in the organizations. Of the total number, 132 usable questionnaires were returned to the researchers, yielding 52.8 percent of the response rate. The survey questionnaires were answered by participants based on their consents and a voluntarily basis. Thus, a Statistical Package for Social Science (SPSS) version 15.0 was used to analyze the validity and reliability of measurement scales and thus test research hypotheses.

4. Discussion and results

Table 3 shows the profile of respondents in GIATMARAKLS. Majority respondents were males (52.3%), management employees (44.7%), ages between 26 to 35 years old (49.2%), diploma holders (31.8%), and workers who served less than 5 years (53%).

The questionnaires had 37 items, which related to four variables: participation (5 items), adequacy of pay (5 items), distributive justice (9 items), and job satisfactions (18 items). Table 2 shows that the factor analysis with direct oblimin rotation was done for five variables with 37 items. The Kaiser-Mayer-Olkin Test (KMO) which is a measure of sampling adequacy was conducted for each variable and the results indicated that it was acceptable. Specifically, these statistical results showed that (1) all research variables exceeded the acceptable standard of Kaiser-Meyer-Olkin's value of 0.6, (2) all research variables were significant in Bartlett's test of sphericity, (3) all research variables had eigenvalues larger than 1, (4) the items for each research variable exceeded factor loadings of 0.40 (Hair, Anderson, Tatham & Black, 1998), and (5) all research variables exceeded the acceptable standard of reliability analysis of 0.70 (Nunally & Bernstein, 1994). These statistical results showed that the measurement scales used in this study met the acceptable standard of validity and reliability analyses as shown in Table 2.

Table 3 shows the results of Pearson correlation analysis and descriptive statistics. The means for all variables are from 3.0 to 3.2, signifying that the level of participation, adequacy of pay, interactional justice, and job satisfaction are ranging from moderately high (3.0) to highest level (7). Pay for performance (i.e., participation and adequacy of pay) positively and significantly correlated with job satisfaction ($r=0.52$, $p<0.01$; $r=0.62$, $p<0.01$, respectively), indicating that these variables are important antecedents of job satisfaction. The correlation coefficients for the relationship between the independent variable (i.e., participation and adequacy of pay) and the mediating variable (i.e., interactional justice), and the relationship between the dependent variable (i.e., job satisfaction) were less than 0.90, indicating the data were not affected by serious collinearity problem (Hair et al., 1998). Thus, these statistical results provide further evidence of validity and reliability for measurement scales used in this research (Hair et al., 1998; Nunally & Bernstein, 1994).

Stepwise regression analysis was recommended to assess the magnitude and direction of each independent variable, and vary the mediating variable in the relationship between many independent variables and one dependent variable (Foster, Stine & Waterman, 1998). Baron and Kenny (1986) suggest that a mediating variable can be considered when it meets

three conditions: first, the predictor variables should be significantly correlated with the hypothesized mediator. Second, all the predictor and mediator variables should also be significantly correlated with the dependent variable. Third, a previously significant effect of predictor variables should be reduced to non-significance or reduced in terms of effect size after the inclusion of mediator variables into the analysis (Wong, Hui & Law, 1995). In this regression analysis, standardized coefficients (standardized beta) were used for all analyses (Jaccard, Turrisi & Wan, 1990).

Table 4 shows the results of testing hypotheses in Step 3. The inclusion of interactional justice in Step 3 of the process reveals that interaction between interactional justice and pay for performance characteristics (i.e., participation and adequacy of pay) positively and significantly correlated with job satisfaction (ß=0.54, p<0.000), therefore H1 and H2 were supported. Before the inclusion of interactional justice in Step 2, both pay for performance characteristics (i.e., participation and adequacy of pay) were found to be significantly correlated with job satisfaction (Step 2: ß=0.51, p<0.000; ß=0.61, p<0.000, respectively). In terms of explanatory power, the inclusion of pay for performance characteristics in this step had explained 67 percent of the variance in dependent variable. As shown in Step 3 (after the inclusion of interactional justice into the analysis), the previous significant relationship between pay for performance characteristics (i.e., participation and adequacy of pay) did not change to non significant (Step 3: ß=0.28, p<0.000; ß=0.29, p<0.000), but the strength of the relationship between such variables was decreased. In terms of explanatory power, the inclusion of interactional justice in this step had explained 80 percent of the variance in dependent variable. This result confirms that interactional justice does act as a full mediating variable in the pay for performance model of the studied organizations.

5. Conclusion and implications

The findings of this study confirm that interactional justice does act as a full mediating variable in the pay system models of the studied organizations. In the organizational context, managers use compensation policy and rules set up by the stakeholder to determine the type, level and/or amount of pay for high performers. Employees perceive that the managers able to allocate sufficient rewards based on their performance. Besides that, managers encourage employees who work in different job groups to participate in the design and administration of pay systems. Employees perceive that the managers actively practice such participation styles among employees who work in different job groups. When employees perceive that they receive adequate pays from their employers and they are actively involve in the pay system, this has increased employees' feelings of interactional justice. As a result, it may lead to an increased job satisfaction in the organizational sample.

The implications of this study can be divided into three categories: theoretical contribution, robustness of research methodology, and practical contribution. In terms of theoretical contribution, the findings of this study highlight two major issues: firstly, adequacy of pay indirectly affects job satisfaction via feelings of interactional justice. This result is consistent with studies by Adams (1963, 1965), Allen and White (2002), and Money and Graham (1999). Secondly, participation in pay systems indirectly affects job satisfaction through feelings of interactional justice. This result is consistent with studies by Pettijohn et al. (2001), Kim (1996 & 1999), and Lawler (1995). In sum, this study has provided a great potential to understand the influence of feelings of interactional justice in the pay for performance model of the organizations, as well as to support and extend previous research conducted in most Western countries.

With respect to the robustness of research methodology, the data gathered from compensation management literature, the in-depth interviews, the pilot study and the survey questionnaire have exceeded a minimum standard of validity and reliability analyses, this can lead to the production of accurate findings. In terms of practical contributions, the findings of this study may be used to upgrade the efficiency of designing and administering pay for performance in organizations. The improvement efforts can be done in two major aspects: firstly, the extra rewards for high performers can be perceived more valuable if the type, level and/or amount of pay are revised according to current national cost of living and organizational changes. This may help them to give more focus on achieving organizational goals because they view that extra rewards fulfill their expectations, standards of living and statuses in society. Secondly, the content and method of management development programs need to emphasize on creative soft skills (e.g., stimulate employees' intellectuals in doing job, respect employees' voices, counsel employees to increase their potentials to achieve better career, learn new problem solving skills approach and share the organizational interests) may upgrade the ability of managers to practice good interaction styles in managing compensation system. If organizations heavily consider such suggestions, this will decrease employees' misconceptions and misjudgments, as well as increase their appreciations and understanding about the implementation of performance based pay. This perception can motivate positive subsequent attitudinal and behavioral outcomes (e.g., satisfaction, commitment, performance and positive work ethics), which in turn, lead to sustain and maintain organizational competitiveness in a global economy.

As a conclusion, this study confirms that interactional justice does act as a mediating variable in the relationship between pay for performance and job satisfaction in the organizational sample. This result has also supported performance based pay literature mostly published in Western countries. Therefore, current research and practice within the pay system model needs to consider perceptions of interactional justice as a critical aspect of the pay systems. This

study further suggests that HR managers and/or managers should be trained to practice consistently good treatments while allocating rewards and involving employees in making reward decisions. The ability of HR managers and/or managers to practice such treatments will strongly invoke employees' feelings of interactional justice, which in turn lead to increased positive attitudinal and behavioral outcomes. Thus, such positive outcomes may help to maintain and sustain organizational strategy and goals.

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Table 1. Participant Characteristics (N=132)

Gender (%)	Education Levels (%)
Male =52.3	Degree =18.9
Female =47.7	Diploma =31.8
Position (%)	Higher School Certificate =4.5
Management =44.7	Malaysia Certificate of Education =24.2
Non-management = 55.3	Skill based Certificate =20.5
Age (%)	**Length of Service (%)**
18-25 years =25.0	21 & above years =3.8
26-35 years =49.2	16-20 years =5.3
36-45 years =15.2	11-15 years =11.4
46 & above =10.6	6-10 years =12.9
	1-5 years =53.0
	< 1 year =13.8

Table 2. The Results of Validity and Reliability Analyses for Measurement Scales

Measure	Item	Factor Loadings	KMO	Bartlett's Test of Sphericity	Eigenvalue	Variance Explained	Cronbach Alpha
Adequacy of pay	5	0.53 to 0.81	0.85	375,93, p=.000	3.42	68.40	0.88
Participation	5	0.53 to 0.83	0.76	238,19, p=.000	2.87	57.47	0.81
Interactional justice	9	0.53 to 0.83	0.88	969,45, p=.000	5.90	65.55	0.91
Job satisfaction	18	0.40 to 0.71	0.92	1572,31, p=.000	9.35	51.93	0.94

Table 3. Descriptive Statistics and Pearson Correlation Analysis

Variables	Mean	Standard Deviation	Pearson Correlation (r)			
			1	2	3	4
1. Participation	3.2	1.1	(1)			
2. Adequacy of Pay	3.0	1.0	0.53**	(1)		
3. Interactional Justice	3.0	1.0	0.36**	0.57**	(1)	
4. Job Satisfaction	3.0	1.0	0.52**	0.62**	0.73**	(1)

Note: Correlation Value is significant at **p<0.01 Reliability estimation are shown diagonally (value 1)

Table 4. Stepwise Regression Analysis Results on the Relationship between Pay for Performance Characteristics, Interactional Justice and Job Satisfaction

Variables	**Dependent Variable**		
	Step 1	**Step 2**	**Step3**
Control Variables			
Gender	-0.02	-0.03	-0.09
Position	0.07	0.01	0.00
Age	0.25	0.18	0.12
Education Level	-0.11	-0.00	-0.01
Length of Service	-0.14	-0.12	-0.06
Independent Variables			
Participation		0.51***	0.28***
Adequacy of pay		0.61***	0.29***
Mediating Variable			
Interactional Justice			**0.54*** **
R Square	0.202	0.67	0.80
Adjusted R Square	0.030	0.41	0.60
R Square Change	0.041	0.45	0.09
F	1.069	14.24***	27.36***
F Δ R Square	1.069	45.28***	66.55 ***

Note: ***significance level at 0.001

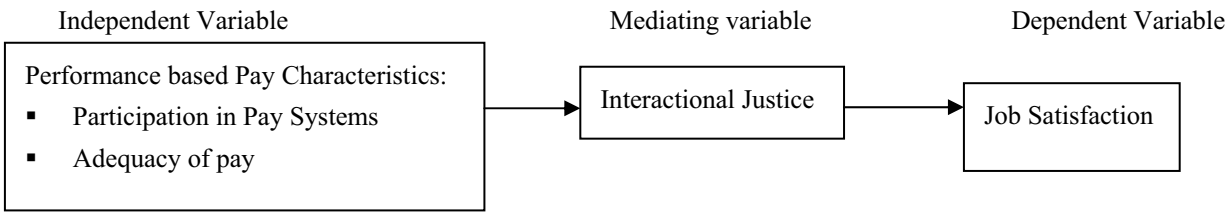

Figure 1. Interactional Justice Mediates the Effect of Performance based Pay Characteristics on Job Satisfaction

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Study on the Enterprise Sustainable Growth and the Leverage Mechanism

Rui Huang & Guiying Liu
College of Industry and Commerce Administration
Tianjin Polytechnic University
Tianjin 300387, China
E-mail: rhuangrui@126.com

Abstract

The sustainable growth is the necessary condition for the survival and the development of the enterprise, and it is thought as the scale to measure the strength of the enterprise. In this article, we first compared the James·C·VanHorne sustainable growth model and the Robert·C·Higgins sustainable growth model, and analyzed the main mechanism of two sorts of leverage, i.e. the influencing degree of different intervals to the profits, and established the sustainable growth model based on the leverage effect, and simply validated the data. The sustainable growth model based on the leverage effect could make the investors consider the functions of two sorts of leverage, design various financial indexes suiting for the survival and development of the enterprise, reasonably invest and finance to realize the sustainable growth of the enterprise before they grasp the investment and financing situation of the enterprise.

Keywords: Enterprise sustainable growth, Degree of Operating Leverage (DOL), Degree of Financial Leverage (DFL)

1. Introduction

The financial idea of the sustainable growth means the actual growth of the enterprise must harmonized with its resources. The quicker growth will induce the shortage of the corporate resources and even the financial crisis or bankruptcy. And slower growth will make the corporate resources can not be effective utilized, which will also induce the survival crisis of the enterprise.

VanHorne's sustainable growth model is the quantitative description of the sustainable growth rate which is the variance of the sales income, i.e. SGR or ΔS/S.

$$SGR(\frac{\Delta S}{S}) = \frac{b(\frac{NP}{S})(1+\frac{D}{Eq.})}{(\frac{A}{S}) - b(\frac{NP}{S})(1+\frac{D}{Eq.})} \tag{1}$$

Where, A/S is the rate of the total assets and the sales, NP/S is the net profit rate, b is the retained profits (1-b is the dividend ratio), D/Eq. is the ratio of the debt and the equity, S is the sales in the recent year (the sales of the initial year), and ΔS is the absolute variance of the sales in the recent year.

But the sustainable growth rate model put forward by Higgins is to denote the sustainable growth rate as the quotient of the yearly retained earning variance and the initial net value.

$$g = \frac{E(1-\frac{Div.}{E})}{OE} = \frac{\Delta RE}{OE} \tag{2}$$

Where, g is the yearly net income growth rate or the sustainable growth rate, E is the yearly income, Div. is the yearly dividend, ΔRE is the retained profit variance, and OE is the initial yearly net assets.

Higgins analyzed the variance of the growth rate form the sources of the growth, and he considered the important function of the return on equity and extended the sustainable growth rate formula as the expression including multiple variables influencing the corporate growth rate. Through this method, we can extend the formula.

$$\text{g = sales net profit rate} \times \text{asset turnover rate} \times \text{equity multiplier} \times (1\text{- payout ratio}) = \frac{NP}{S} \times \frac{S}{A} \times \frac{A}{Eq.} \times (1-\frac{Div.}{E}) \tag{3}$$

This model can be divided into three parts. The first part is the ratio about the management, i.e. the asset turnover ratio.

The second part is the ratio about the financial indexes, and it includes the equity multiplier and the payout ratio, and the third part is the sales net profit rate which can be further divided into the ratios about the management and the financial indexes. In this article, we will introduce DOL and DEL to indicate the influence of the leverage coefficient on the sustainable growth rate.

2. Leverage effect

2.1 Operating leverage

The generation reason of the operating leverage is that the resource consumption or the total cost in the production and management process must include a part of fixed costs. The existence and the variance of the fixed costs are the root of the operating leverage, and they are the essential, not the surface of the operating leverage effect. If the fixed costs don't exist in the total costs generated in the corporate management process, the operating leverage effect will not occur.

The operating leverage is defined as the influence or function of the sales variance to the profits in certain proportion of the fixed costs. The operating leverage is generally denoted by the degree of operating leverage (DOL), and it is the ratio of the earnings variance before interest and tax (EBIT) and the sales variance rate, i.e. the percentage of the profit variance before interest and tax (ΔEBIT) induced by the output (or sales) variance. The formula of the operating leverage degree is

$$DOL = \frac{\Delta EBIT / EBIT}{\Delta S / S} \tag{4}$$

For the computation, according to formulas EBIT= Q (P-V)-F and ΔEBIT= ΔQ (P-V), the formula (4) can be changed to

$$DOL = \frac{Q(P-V)}{Q(P-V)-F} = \frac{S-C}{S-C-F} \tag{5}$$

Where, Q is the sales quantity, P is the sales unit price, V is the variable cost of the unit sales, F is the sum of the fixed costs, S is the turnover, and C is the amount of the variable costs which can be confirmed by the product of the variable cost rate and the sales amount.

From the formula (5), when the operating status of the enterprise tends towards the breakeven point, i.e. (P-V)Q=F, the operating leverage degree achieves the maximum, and the operating risk of the enterprise achieves the maximum. Any tiny changes about the variance will induce the large changes about EBIT, and the EBIT will slide between the profit and the loss. When other variables keep constant and the sales quantity Q gradually increases, the marginal contribution will increase and the proportion of the marginal contribution in the fixed assets will gradually increase, and the function of the operating leverage will gradually decrease, i.e. the operating risk of the enterprise will gradually decrease. For the enterprise with serious loss, the operating leverage can not fully exert the function, and the small change about the variable will contribute little to enhance the EBIT of the enterprise. Only when the financial status of the enterprise will begin to gradually improve, the operating leverage will gradually exert the function. This sort of change tendency embodies the instructive function of the DOL on the variance of the corporate sustainable growth rate.

2.2 Financial leverage

Financial leverage is the utilization of the debt financing when constituting the capital structure decision. And it is an important factor to measure whether the corporate capital structure is reasonable. People usually call the influence of the loan capitals as the financial leverage function. The financial leverage function of the debt usually is measured by the DFL which means the multiplier of the corporate equity capital income variance relative to the profit variance rate before the tax.

$$DFL = \frac{\Delta EPS / EPS}{\Delta EBIT / EBIT} \tag{6}$$

For the computation, according to EPS= (EBIT-I)(1-T)/N and ΔEPS=ΔEBIT(1-T)/N, the formula (6) can be changed to

$$DFL = \frac{EBIT}{EBIT - I} \tag{7}$$

The reasonable usage of the financial leverage can bring extra profits for the corporate equity capital, and because the financial leverage is influenced by many factors, so the immeasurable financial risks will occur when obtaining the profits of the financial leverage. Therefore, we should seriously study the financial leverage and analyze various factors influencing the financial leverage.

The financial leverage coefficient can be used to predict the after-tax profit and the earnings per share of common stock, and its main function is to measure the financial risk degree of the enterprise. When the enterprise is in the loss, i.e. when the after-interest profit is less than zero, the financial leverage coefficient obtained through the formula (7) must be negative. When the enterprise achieves the critical point of the financial effect, i.e. when the after-interest profit of

the enterprise (i.e. EBIT-I) is zero, the financial leverage coefficient will be infinite, and the financial risk degree achieves the maximum. When the after-interest profit of the enterprise exceeds zero, the financial leverage coefficient is bigger, the influence of EBIT on the after-tax profit will be larger, and the financial risk degree will be higher, on the contrary, the financial leverage coefficient is smaller, the financial risk degree will be lower.

3. Establishment of the model

(1) The computation of the asset turnover ratio considers the influence of the operating leverage degree, and the computation formula of the asset turnover ratio utilizes the formula (5).

$$\frac{S}{A} = \frac{C + \frac{F}{DOL - 1}}{A} = \frac{C}{A} + \frac{F}{A} \times \frac{1}{DOL} \tag{8}$$

Where, C/A is the ratio of the variable cost and the total asset, and F/A is the ratio of the fixed cost and the total asset.

In this way, the change of the asset turnover ratio is influenced by the ratio of the variable cost and the total asset, the ratio of the fixed cost and the total asset and the operating leverage degree. From the formula (8), when the ratio of the variable cost and the total asset and the ratio of the fixed cost and the total asset is bigger, the asset turnover ratio is higher, and the increase of the fixed cost will also induce the decrease of the operating leverage degree, and both integrated effect will influence the increase of the enterprise. When the operating status of the enterprise tends towards the breakeven point, i.e. when it tends towards the (P-V)Q=F, the operating leverage degree achieves the maximum, and the asset turnover ratio of the enterprise tends toward zero and the enterprise presents the zero growth. When other variables keep constant and the sales Q gradually increase, the marginable contribution increases, and the proportion of the marginable contribution in the fixed assets gradually increase, and the function of the operating leverage gradually decreases, and both integrated effect will make the growth rate of the enterprise gradually decrease, which accords with the analysis of the operating leverage.

(2) The computation of the net profit rate should consider the influence of the financial leverage coefficient, and the formula (7) can be utilized to change the computation formula of the net profit rate.

$$\frac{NP}{S} = \frac{(EBIT - I)(1 - T)}{S} = \frac{(EBIT / DFL)(1 - T)}{S} = \frac{EBIT}{S} \times \frac{1}{DFL} \times (1 - T) \tag{9}$$

In the formula (9), EBIT/S is the rate of the earnings variance before interest and tax, and the rate of the income tax is supposed as 40% in the article.

So the change of the net profit rate will be influenced by the profit rate before the interest and tax and the variance of the financial leverage coefficient. The above analysis of the financial leverage coefficient value comes into existence vice verse, and when the financial leverage coefficient is negative, and the after-tax profit is less than zero, and the net profit rate is negative, and the enterprise will be recombined or bankrupted. When the financial leverage coefficient is infinite, the net profit rate tends towards zero, and when the financial leverage coefficient is positive and the increase of the financial leverage coefficient is induced by the increase of the loan interest, and the profit after tax will increase because of the tax shield, i.e. the net profit rate increases and the growth rate of the enterprise increases, on the contrary, the financial leverage coefficient is smaller, the growth rate of the enterprise is lower.

From the formula (8), the formula (9) and the formula (3), we can obtain the sustainable growth model of the leverage effect.

$$g = \left(\frac{EBIT}{S} \times \frac{1}{DFL} \times (1 - T) \right) \times \left(\frac{C}{A} + \frac{F}{A} \times \frac{1}{DOL} \right) \times \frac{A}{Eq.} \times (1 - \frac{Div.}{E}) \tag{10}$$

From the formula (10), the influencing factors of the corporate sustainable growth rate include the profit rate before the tax and interest (EBIT/S), the degree of financial leverage (DFL), the rate of the variable cost and the total asset (C/A), the ratio of the fixed asset and the total assets (F/A), the degree of operating leverage (DOL), the equity multiplier (A/Eq.) and the payout ratio (Div./E).

4. Model example and application meaning

When simulating the sustainable growth model based on the leverage effect, suppose the F/A, the EBIT/C, the A/Eq. and the Div./E are fixed, and the interest on debt of the enterprise is unchangeable (10% in the article). Under the situation that some conditions are fixed, in the continual accounting period, we simulate the change tendency of SGR and prove the model through the example.

Example: To indicate the sustainable growth rate, we design the primary inputs or variables of the first year of certain company (seen in Table 1).

Suppose the company has sufficient subsequent equity capitals to increase of the variable costs.

Utilize the formula (10) to compute the sustainable growth rate, and the change tendencies of the obtained SGR and other variables are seen in Table 2.

The formulas which can be used include

$$NP_{i+1} = NP_i \times (1 + SGR_{i+1})$$

$$EBIT_{i+1} = (EBIT_i - D \times 10\%) \times (1 + SGR_{i+1}) + D \times 10\%$$

$$S_{i+1} = EBIT_i + C_i + F$$

$$C_{i+1} = C_i \times EBIT_{i+1} / EBIT_i$$

$$A_{i+1} = (C_{i+1} + F) / 2$$

$$DFL_{i+1} = EBIT_i / (EBIT_i - D \times 10\%)$$

$$DOL_{i+1} = (S_i - C_i) / (S_i - C_i - F)$$

$$DL_{i+1} = DFL_{i+1} \times DOL_{i+1}$$

$$SGR_{i+1} = \frac{EBIT_i}{S_i} \times \frac{1}{DFL_{i+1}} \times (1 - 40\%) \times (\frac{C_i}{A_i} + \frac{F}{A_i} \times \frac{1}{DOL_{i+1}}) \times \frac{A_i}{(A_i - D)} \times (1 - 0.05)$$

Table 2 shows the changes of the profit before the interest and tax, the sales income, the variable costs, the DOL, the DFL, the total leverage degree and the growth rate under the situation that the rate of the profit before the interest and tax and the variable costs, the ratio of the objective assets and the total costs and the objective payout ratio are fixed and there are not subsequent fixed costs and debt financing, i.e. in the continual accounting period, the sustainable growth rate of the enterprise is positively proportional with the DOL and the DFL and the total leverage degree, which indicates that if the enterprise keeps fixed objective asset sales rate and other fixed indexes, so the growth rate of the company will gradually decrease, i.e. the functions of two sorts of leverage will be weakened, and the changes of the enterprise growth rate, the DOL and the DFL gradually change slowly, which also reflects the positive correlation among three parties.

The financial leverage is the reasonable utilization of the debt, and the operating leverage is the reasonable utilization of the fixed costs. We supposes under the situation that other factors influencing the leverage and the initial fixed costs of the enterprise increases and the increase of the initial fixed costs are only assumed by the increase debts, and we can obtain the change tendency of the corresponding sustainable growth rates of the different fixed costs (seen in Table 3).

From Table 3, we can see that when the increase of the initial fixed costs is assumed by the fixed debt, with the increase of the fixed costs, the DOL and DFL of the enterprise will increase, and the total leverage degree will increase, and the sustainable growth rate will increase, which indicates the tax shield function of the debt, and the positive correlation among the DOL, DFL and the SGR.

Through the example analysis of the model, managers can obtain the change tendency of the SGR in the continual accounting period. Through the combination of these two sorts, managers can analyze the growth mode which suits for the actuality of the industry to realize the optimal growth.

The analysis of the leverage effect possesses strong instructive meaning for the SGR of the enterprise.

(1) The leverage effect exists objectively, and its reasonable utilization will increase the value of the enterprise.

(2) The leverage effect has the associated effect, and the existence of the DFL restricts managers, and we should consider the pressure of the repayment and the possibility of future bankruptcy when reasonably utilize the tax offset function of the interest. When the existence of the DOL restricts that the managers reasonably arrange the proportion of the fixed costs, we should also consider the operating ability and the financing ability of the enterprise.

(3) The leverage effect reflects the risks faced by the enterprise, and the comprehensive risk management combining with the information offered by the risk management department will produce good effect.

First, managers should analyze the leverage effects of the enterprise and make DOL and DFL in the values that they can exert active functions when they make decisions, and then obtain the reasonable values of various operating rates from the analysis of the growth rate model, and realize the optimization of the corporate capital structure and the operating efficiency.

5. Conclusions

In this article, we analyzed the disadvantages of the sustainable growth model, established the sustainable growth model based on the leverage degrees, and proved that the fixed costs and the debt interest influenced the leverage degrees and influenced the main rule of the corporate growth in the subsequent period, and the final conclusion was that the SGR is positively proportional with two leverage coefficients, and the DFL possessed the instructive function for the investors, and investors could obtain the initial investment of the corporate fixed costs, the proportion of the debt capitals and the objective value of the relative financial rates through the prediction analysis when they studied out the SGR in the next period.

The SGR model based on the leverage effect in this article supposed that the enterprise could possess sufficient subsequent equity capitals to compensate the capital demands induced by the continually increase of the variable costs when the enterprises had not subsequent fixed costs and debt financing kept unchangeable in the continual period. In practice, to suit of the economic tendency of the increasingly drastic market competition and the increasingly expanding enterprise size, the investment of the fixed costs and the debt financing can not be kept constant, which is the disadvantage of the model, and we should further explore and study it in future works and leanings.

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Table 1. Table of primary inputs or variables

Symbols	Primary inputs or variables	Sum or ratio
S	Initial owner equity capital (million Yuan)	600
EBIT/C	Ratio of EBIT with variable cost (invariable)	60/380
A/S	Objective asset selling rate (invariable)	0.45
Div./E	Objective payout ratio (invariable)	0.05
i	Debt interest rate (%)	10
D	Debt capital (million Yuan) (invariable)	180
F	Fixed cost (million Yuan) (invariable)	160
NP	Initial retained profits (million Yuan)	25

Table 2. SGR change tendency in the continuity interval

Period	1	2	3	4	5	6	7	8	9	10	11
NP	25	29.7	35.0	41.5	48.5	56.7	66.1	77.0	89.6	104.2	121.1
EBIT	60	67.9	76.8	87.1	98.9	112.5	128.2	146.3	167.3	191.7	219.8
S	600	658	724	799	885	985	1100	1233	1387	1566	1772
C	380	430	487	552	626	712	812	927	1060	1214	1392
A	270	295	323	356	393	436	486	543	610	687	776
DFL		1.429	1.361	1.306	1.261	1.223	1.191	1.163	1.140	1.121	1.104
DOL		3.667	3.357	3.082	2.837	2.618	2.423	2.248	2.094	1.956	1.835
DL		5.238	4.568	4.025	3.576	3.201	2.884	2.616	2.387	2.192	2.025
SGR(%)		18.78	17.96	17.42	17.05	16.80	16.62	16.48	16.38	16.30	16.23

Table 3. SGR change tendency with changeable fixed costs in the continuity interval

Variable \ Period		1	2	3	4	5	6	7	8	9	10	11
F=140 D=160	DFL		1.364	1.308	1.261	1.223	1.191	1.163	1.140	1.120	1.103	1.089
	DOL		3.333	3.058	2.813	2.595	2.401	2.229	2.075	1.940	1.820	1.715
	DL		4.545	3.998	3.549	3.174	2.859	2.593	2.366	2.173	2.008	1.867
	SGR(%)		18.25	17.64	17.23	16.94	16.73	16.58	16.46	16.36	16.28	16.22
F=150 D=170	DFL		1.395	1.334	1.283	1.241	1.206	1.177	1.152	1.130	1.112	1.096
	DOL		3.500	3.207	2.948	2.716	2.510	2.325	2.162	2.016	1.888	1.774
	DL		4.884	4.278	3.783	3.372	3.028	2.736	2.489	2.279	2.099	1.945
	SGR(%)		18.49	17.78	17.32	16.99	16.76	16.59	16.47	16.37	16.29	16.22
F=160 D=180	DFL		1.429	1.361	1.306	1.261	1.223	1.191	1.163	1.140	1.121	1.104
	DOL		3.667	3.357	3.082	2.837	2.618	2.423	2.248	2.094	1.956	1.835
	DL		5.238	4.568	4.025	3.576	3.201	2.884	2.616	2.387	2.192	2.025
	SGR(%)		18.78	17.96	17.42	17.05	16.80	16.62	16.48	16.38	16.30	16.23
F=170 D=190	DFL		1.463	1.389	1.329	1.280	1.239	1.205	1.175	1.151	1.129	1.111
	DOL		3.833	3.506	3.216	2.958	2.727	2.520	2.336	2.171	2.025	1.896
	DL		5.610	4.870	4.275	3.786	3.379	3.036	2.746	2.498	2.287	2.107
	SGR(%)		19.13	18.16	17.54	17.13	16.84	16.64	16.49	16.39	16.30	16.23
F=180 D=200	DFL		1.500	1.418	1.353	1.300	1.256	1.219	1.188	1.161	1.138	1.119
	DOL		4.000	3.654	3.350	3.078	2.835	2.618	2.423	2.249	2.095	1.958
	DL		6.000	5.183	4.533	4.002	3.561	3.191	2.878	2.612	2.385	2.191
	SGR(%)		19.54	18.39	17.68	17.21	16.89	16.67	16.51	16.39	16.31	16.24

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