



A Profile of Innovative Women Entrepreneurs

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Abstract

Women entrepreneurs, mainly as a result of culture, have been found to have traits different from their male counterparts and yet they grapple with similar business issues including the need to continuously change and innovate. It is therefore striking that very little is known about the innovative practices of women entrepreneurs, especially those in developing countries. In the study attempt is made to generate a profile of innovative women entrepreneurs based on their personal and business characteristics. Data are compiled from a sample of 138 women entrepreneurs in Peninsular Malaysia, and analysed using ANOVA to determine any correlation between the independent and dependent variables. The results indicate that women's entrepreneurial innovativeness is very much affected by their age and education, as well as the type, location and size of business. The study then proceeds with the development of their profile and concludes with several research and managerial implications.

Keywords: Women entrepreneurs, Innovation, Culture, Malaysia

1. Introduction

In Malaysia, issues surrounding women's development have always been central to nation-building. Since women comprise approximately half of the population (Department of Statistics, 2003), their social position greatly affects the country's political and economic scenario. Certainly in the area of management, scholars (Lang & Sieh, 1994; Fontaine and Richarson, 2003; Ong & Sieh, 2003) generally admit that more studies on Malaysian women's participation are needed to help in the formulation of effective socio-economic policies and programmes. From the entrepreneurial point of view, findings of the sort will have many strategic implications on the management of a firm operating in a gender-sensitive society.

The current study aims to add to the general understanding of women entrepreneurs in Malaysia, particularly in relation to innovation. The objective of the research is to generate a profile of innovative Malaysian women entrepreneurs based on certain personal (such as age, level of education, and marital status) and business (such as type, location and duration) characteristics. The quantitative approach is adopted due to its mathematical advantage in handling a larger sample.

2. Literature Review

In *Can Capitalism Survive*, Joseph Schumpeter (1952) argues that the function of an entrepreneur is to reform or revolutionize the pattern of production by exploiting new or untried technology and processes. The notion of the entrepreneur as an innovator is thus believed (Hisrich & Peters, 1998) to have been conceived by Schumpeter. Since then, innovative skills have generally been accepted as one of the critical attributes of successful entrepreneurs (Chell, 2001; Johnson, 2001). Some of the most profitable companies in the world have associated their growth with innovation, which they perceive as the ability to change and reinvent themselves as a way to exploit opportunities.

In most studies on entrepreneurial innovation (Gudmundson et al, 2003; Hayton et al, 2002; Shane, 1993; Thomas & Mueller, 2000), two common characteristics have been observed: One, men are the majority respondents and two, there is no attempt to distinguish male and female responses to a particular stimulus. Sociologists (Best & Williams, 1997; Hofstede, 1998) have often described behavioural differences between men and women in certain cultural settings. Masculine societies, in particular, expect men to be aggressive and women to be passive. They consistently emphasise male-female differences in social status and roles; as a result men and women choose different subjects at school and different careers, and they treat sons and daughters differently at home. Thus through this "social conditioning" process, masculinity - as a cultural value - induces gender differentiated behaviours. With this in mind, any research which combines men and women as a single sample is believed to be seriously misleading.

Research on Malaysian entrepreneurs supports the notion that male and female entrepreneurs possess different personal

and business characteristics. Abdul Rashid (1995) finds in his study of 115 successful entrepreneurs that more women enter business at an older age than men, and more women are either divorced or separated. The women are also more highly educated, and found in less diverse industries. In addition while the women place a higher value on interpersonal relationships, men perceive controlling as a more important function. With such arresting revelations, it is a wonder that related studies have not caught on among local researchers and thus existing literature provide only snapshots of gender differences in the society. Other scholars such as Ong and Sieh (2003) and Sieh et al (1991) have made a more in-depth examination of the characteristics of Malaysian women entrepreneurs but not included innovation issues in their analysis - a gap which the current study sees fit to fill.

The issue of innovation has certainly gained momentum in Malaysia over the last decade, so much so that The Ministry of Science, Technology and Innovation (MOSTI) was set up in 2003 with the objective of promoting the scientific and innovative culture among Malaysians. Working together with other related agencies, MOSTI is responsible for some of Malaysia's most outstanding scientific activities including the joint space project with Russia, and the exhibition on Scientific Excellence in Islamic Civilisation in Kuala Lumpur. It is unfortunate, however, that in Malaysia there is a tendency (Nun, 1988; Chik and Abdullah, 2002) to equate innovation with high technology and ignore the development of novelties in the administrative areas of entrepreneurship such as marketing and human resource. It is of utmost urgency that this malpractice is addressed if the country is really serious about building its competitive advantages.

When applying the concept of innovation to entrepreneurs, the general definition offered by Zaltman et al (1973) is perhaps the most relevant to the current study as it includes individuals as a possible unit of analysis; by so doing the authors have made the measuring of innovation much easier as the degree of novelty or newness may be measured based only on the entrepreneur's perception. It is concurrent with the definition proposed by Rogers and Shoemaker (1971) in the sense that something is an innovation if the individual himself/herself sees it as new, regardless of how other members of the society perceive it. The description is also useful in that it takes into account other forms of novelty than product, such as practices and ideas. Thus based on these earlier works, Johanessen et al (1998) are able to offer a more comprehensive definition of innovation for entrepreneurs - one which considers a whole range of business elements including the product and/or service, supplies, marketing, process and general administration. A more contemporary concept (Damanpour & Gopalakrishnan, 2001; Kanter, 2001; Gudmundson et al, 2003) of entrepreneurial innovation also includes the notion of adding value for the consumers as well as achieving higher efficiency and effectiveness or some other business objectives.

In the present context, entrepreneurial innovativeness is defined as follows. This definition is considered appropriate as it reflects novelties which have already been carried out by the entrepreneur, instead of a personality inclined towards innovation (Thomas & Mueller, 2000) which is even more intangible and difficult to measure: "The level of novelty implemented by an entrepreneur with regards to the products, services, processes, technologies, ideas or strategies in various functions of the business which may facilitate the realization of its objectives. The degree of novelty or newness is as perceived by the individual entrepreneur."

3. Research Methodology

The quantitative research process begins with the formulation of a questionnaire which consists of 2 sections: Personal and Business Background, and Implementation of Innovations. The questionnaire is then judged for content validity and pre-tested on a group of conveniently selected respondents to assess its clarity and ease of completion. Based on the recommendations received, it is modified and subsequently mailed to the study sample; a period of 2 months is allocated for the questionnaires to be returned. Data are then entered into the computer and henceforth analysed using the Statistical Package for Social Sciences (SPSS) application.

The first part of the survey instrument consists of 9 items which have been adapted from Sieh et al (1991), and are intended to capture the personal and business background of the respondents. These variables are: Age Group, Marital Status, Highest Educational Attainment, Form of Ownership, Type of Business, Duration of Business, Business Location, Average Annual Income and Number of Full-time Employees. The answer options are designed to yield either nominal or ordinal data, which are often useful as descriptive statistics (Zikmund, 2003). The fifteen items used to measure entrepreneurial innovativeness represent changes and novelties which have been observed to be common among Malaysian women entrepreneurs such as introducing new products or services, opening up new branches, using new technology or machinery, and changing the organization structure. The five-point Likert scale ranges from 1=Never implemented to 5=Continuously implemented, with 3=Not sure as the mid-point. The level of innovativeness is measured by totaling up the mean scores of the fifteen items. The total means are then compared using ANOVA for the various respondent categories to determine any significant relationships between innovativeness and the 9 categorical variables.

In the study, the population is defined as women who fulfill the ensuing criteria. One, they are business owners or shareholders actively involved in the operation and decision-making of the said business; those who are mere investors are not included as it is unlikely that they are wholly familiar with the strategic initiatives of the business. Two, they

are registered as at November, 2006, with either the Small and Medium Industries Development Corporation (SMIDEC) or the Ministry of Entrepreneur and Cooperative Development (MECD); these databases are chosen because they contain all the necessary background information on the entrepreneurs including their position in the organization, full address and contact number as well as the nature of their business. And finally, three, due to financial and time constraints only those based in Peninsular Malaysia are considered. After filtering out incomplete addresses and double entries, the sampling frame consists of 1,021 units.

4. Discussion of Results

Prior to the conduct of further statistical tests, two criteria – scale reliability and normality of data – first need to be met to produce results which are meaningful and genuine. The Cronbach's alpha statistics are used to determine the internal consistency of the entrepreneurial innovativeness (EI) scale. The standardized alpha of 0.871 falls within the acceptable range of > 0.7 thus assuring the reliability of the scale. Normality of data is checked through the inspection of Kolmogorov-Smirnov ($p > 0.05$), skewness (-2.0 to +2.0) and kurtosis (-2.0 to +2.0) statistics, as well as the normality plots. The results demonstrate that the EI data have passed the Kolmogorov-Smirnov criterion where $p > 0.200$. Inspection of skewness and kurtosis statistics shows that both values fall within the range -2.0 to +2.0, thus indicating that the data do approach normality. Moreover the normal, detrended normal and boxplots indicate that the data have not violated the assumption of normality (Pallant, 2001).

4.1 Frequency Analysis

Table 1 presents the results of frequency analysis conducted on the sample (See Table 1). Based on the mode values for all the other nine variables, it may be said that most of the respondents:

- are in their 30s,
- are married and have children,
- hold either SPM or STPM,
- are sole proprietors,
- are in the consumer services sector,
- have been operating for 1 to 5 years,
- are located in the city,
- earn less than RM200,000 per annum, and
- have between 1 to 4 employees.

The current findings imply that the growth of Malaysian women entrepreneurs has been somewhat sluggish. For instance, similar to the situation fifteen years ago (Sieh et al, 1991), most women entrepreneurs today are still small operators both in terms of income and number of employees. They are also still predominantly found in the services sector, implying that women entrepreneurs have not really achieved much in penetrating a wider range of industries.

One explanation which may be offered for the slow growth is the economic crisis of the late 1990s which forced many Malaysian businesses into depression; in those circumstances women-owned enterprises, due to related problems such as difficulty in obtaining loans, could have faced extreme difficulty to survive, much less grow. The other reason is that perhaps Malaysian women entrepreneurs are, above all else, wives and mothers; the percentage of respondents who are married, either with or without children, appears to remain high throughout the studies (consistently more than 60%). It is believed that family commitments may have limited their ability to maximise their business potential. On a more positive note, some development in educational attainment may be deduced. In the study by Sieh et al (1991), approximately 13% of the corresponding sample had received only primary school education; here those

who fall into the same category make up just 8% of the total sample. The difference of 5% seems to be due to a rise - by roughly the same amount - in the secondary school category.

4.2 ANOVA with Post-Hoc Tests

ANOVA tests are handy in determining the significance of mean differences across groups. In the study it is employed to examine innovative differences across the various groups of respondents structured according to the nine categorical variables. As the size of the data is very large, here only the significant results are discussed further; significant differences are observed for six categorical variables i.e. Age, Educational Attainment, Type of Business, Location of Business, Annual Income and Number of Employees. At the outset it must also be stated that the p-values of the Levene's tests for homogeneity of variance indicate that the criterion has not been violated in all the ANOVA procedures.

4.2.1 Age

The p-value of the ANOVA test is 0.027 (< 0.05) which indicates a significant difference(s) among the four groups of age. Further inspection of the post-hoc test results shows that the differences, significant at the 95% confidence interval, lie between the 50+ yrs group and two others (the 30-39 years and 40-49 years age groups). The mean score for EI appears to be the lowest for the 50+ yrs age group (40.4000) and highest for those in their 40s (48.5610).

4.2.2 Educational Attainment

The ANOVA test yields a p-value < 0.05 , indicating at least one significant difference amongst the five groups. The post-hoc test results reveal that these differences exist between those with primary education and two other groups, i.e. those with SPM/STPM and those with a degree/diploma. The EI mean is lowest for the primary school leavers (35.7273) and highest for those with SPM/STPM (49.0333) followed by degree holders (48.6000).

4.2.3 Type of Business

The ANOVA p-value of 0.028 implies the existence of significant difference(s) among the five business sectors. Based on the post-hoc results, the difference appears to be between the manufacturing and distribution groups. The EI mean score is highest for the distributors (50.5250) and lowest for manufacturers (38.4167).

4.2.4 Location of Business

Significant difference(s) is observed amongst the five groups, since p-value of the ANOVA test is > 0.05 . Post-hoc data indicates that these differences exist between those located in villages and three other groups (those in cities, those in large towns and those in small towns). The EI score is lowest for those operating in villages (36.3333) and highest for the city-dwellers (48.3273) and followed by those in large towns (48.2105).

4.2.5 Annual Income

The p-value of the ANOVA test is 0.001 (< 0.05) which indicates a significant difference(s) among the five groups of income. Further inspection of the post-hoc test results shows that the differences, significant at the 95% confidence interval, lie between the $< \text{RM}200,000$ group and two others (the $\text{RM}200,000 - 500,000$ and the $> \text{RM}5,000,000$ income groups). The mean score for EI appears to be lowest for the $< \text{RM}200,000$ group (43.7640) and highest for those earning $> \text{RM}5,000,000$ (58.0000).

4.2.6 Number of Employees

The ANOVA test yields a p-value < 0.05 , indicating at least one significant difference amongst the four groups. The post-hoc test results reveal that these differences exist between those with no employee and two other groups, i.e. those with 1-4 employees and those with 20-50 employees. In this case, those with no employee have the lowest score of EI (39.3429) while those with 20-50 employees have the highest (55.8000).

4.3 Innovation Differentials

Table 2 displays the mean scores for each of the fifteen items used to measure EI (See Table 2). Based on these mean values, it may be said that the three most popular forms of innovation among the women are:

- Item 3: Promote existing products or services to new target markets,
- Item 6: Improve the quality of existing products or services,
- Item 15: Develop new promotional techniques,

On the other hand the three least popular are:

- Item 5: Move to a new location,
- Item 8: Open new branches,
- Item 13: Reorganise the departments/functions in your organization.

Hence it seems that innovations which involve product development and promotion activities are preferred to those which necessitate physical mobility. It is quite likely that women tend to avoid the latter due to their higher commitment to domestic affairs; strategies such as relocating to a new premise might require them to uproot the entire family or force them to be apart from the children and must therefore be minimized.

5. Conclusion

Results of the ANOVA have provided some preliminary statistical evidence showing that the entrepreneurial innovativeness of these women is associated with their age, educational attainment, type and location of business, annual income and number of employees. Innovative women entrepreneurs tend to be in their 40s, and have at least pre-university education. They are most likely to be operating in the distribution sector, located in the city, earning more than $\text{RM}5,000,000$ per annum and have 20-50 employees. Their most common methods of innovating involve product development and promotional activities, and they tend to shy away from innovations which require physical mobility.

The results indicate that the most innovative women will have had enough experience in life and business, yet not so old that they may no longer have the drive and stamina to change. Those with higher education have the greatest advantage probably because of the more sophisticated training they receive; likewise, city-dwellers have the full benefit of more advanced infrastructure. The high score obtained by the distributors may be due to their greater flexibility in time-management as most are perhaps direct selling agents. Last but not least, larger sales and manpower also appear to give advantage because of the resources required in carrying out innovations.

The above findings have several research and managerial implications. For academics, the interest must surely be in determining the generalisability of such conclusions to women from other cultures. Cross-cultural studies involving samples from other developing countries, as well as developed ones, are particularly encouraged. Also, it would be interesting to conduct the same study on a male sample and find out whether any significant difference exists between male and female responses. In particular, researchers may want to determine whether the aversion to relocating is a unique female characteristic or applicable also to Malaysian men.

Worthy of further inspection is the non-significant relationship between marital status and innovativeness. For so long, research has shown that work-family conflict (Lee & Choo, 2001) is a substantial issue for women. Personal or family commitments are often used to explain why women lag behind their male counterparts in terms of performance (Gregg, 1985; Neider, 1987). Yet in this study the data do not support that notion. Could it be that women have moved with the times and found some ingenious ways to cope with their personal commitments so that they no longer hamper their performance? Or is it merely the inadequate sample size that has produced this rather unexpected outcome? Or perhaps there are other mediating and moderating variables which, if included in the research, may explain better the situation.

From the practical point of view, the study reinforces the need for all relevant parties to acknowledge the importance of all types of innovation, not just product and technological ones. Malaysian women entrepreneurs, as shown in the study, exhibit creativity and innovativeness not only through new products, but also by developing new marketing techniques, administrative procedures and flexible operating hours. Since these alternative methods of innovation also contribute to the overall success of the business, it would be foolish for business players, trainers and policy-makers alike to ignore their significance in all managerial tasks. Certainly where women are concerned, traditional Malaysian perspectives of innovation may no longer be sufficient.

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Table 1. Results of the Frequency Analysis

Variable	Frequency	%	Cumulative %
Age			
- 20 to 29 yrs	23	16.7	16.7
- 30 to 39 yrs	49	35.5	52.2
- 40 to 49 yrs	41	29.7	81.9
- 50 and above	25	18.1	100.0
Marital status			
- Single	27	19.6	19.6
- Married and w/out children	8	5.8	25.4
- Married and with children	96	69.6	94.9
- Divorced/widowed	7	5.1	100.0
Educational attainment			
- Degree/diploma	40	29.0	29.0
- STPM/SPM	60	43.5	72.5
- SRP	21	15.2	87.7
- Primary school	11	8.0	95.7
- Others	6	4.3	100.0
Form of ownership			
- Sole proprietorship	115	83.3	83.3
- Partnership	13	9.4	92.8
- Company	10	7.2	100.0
Type of business			
- Manufacturing	12	8.7	8.7
- Business services	26	18.8	27.5
- Consumer services	57	41.3	68.8
- Distribution	40	29.0	97.8
- Others	3	2.2	100.0
Duration of business			
- Less than 1 yr	12	8.7	8.7
- 1 to 5 yrs	56	40.6	49.3
- More than 5 to 10 yrs	32	23.2	72.5
- More than 10 yrs	38	27.5	100.0
Location of business			
- City	55	39.9	39.9
- Large town	19	13.8	53.6
- Small town	44	31.9	85.5
- Village	15	10.9	96.4
- Others	5	3.6	100.0
Annual income			
- Less than RM200, 000	89	64.5	64.5
- RM200, 000 – 500,000	28	20.3	84.8
- RM501, 000 – 1,000,000	7	5.1	89.9
- RM1, 000,001 – 5,000,000	8	5.8	95.7
- More than RM5, 000,000	6	4.3	100.0
Number of employees			
- None	35	25.4	25.4
- 1-4	76	55.1	80.4
- 5-19	22	15.9	96.4
- 20-50	5	3.6	100.0

Table 2. Entrepreneurial Innovativeness

Item	Mean Score
1. Introduce new products or services within the same industry.	3.3188
2. Engage new suppliers..	3.1449
3. Promote existing products or services to new target markets.	3.5580
4. Develop new uses for existing products or services.	3.2536
5. Move to a new location.	2.4203
6. Improve the quality of existing products or services.	3.8623
7. Use new technology or machinery in your work processes.	3.2899
8. Open new branches.	2.5290
9. Using new raw materials or supplies.	3.000
10. Change the way you lead or communicate with your employees.	3.0652
11. Change the appearance or packaging of existing products or services.	3.1594
12. Change your business operating hours.	3.0145
13. Restructure the functions/departments in your organisation.	2.3478
14. Change the price of existing products or services.	3.1667
15. Develop new promotional techniques.	3.3986