International Business Research; Vol. 5, No. 9; 2012
ISSN 1913-9004 E-ISSN 1913-9012
Published by Canadian Center of Science and Education

Entrepreneurial Intensity in the Corporate Sector in Oman: The Elusive Search Creativity and Innovation

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Received: May 27, 2012 Accepted: June 11, 2012 Online Published: August 8, 2012

doi:10.5539/ibr.v5n9p171 URL: http://dx.doi.org/10.5539/ibr.v5n9p171

Abstract

Entrepreneurial firms are attributed with the key characteristic of creativity and innovation which is one of the most intriguing competency that has generated substantial interest of academicians and practitioners and have received considerable attention in the literature. Creativity and innovation have been elevated to this pedestal by the virtue of its ability to enable firms to achieve the necessary competitive advantage in today's chaotic market place. Ironically creativity and innovation is an elusive commodity and many firms particularly of the larger species struggle to display this competency. This study investigated the dimensions that promote or impede the concentration of creativity and innovation, measured through entrepreneurial intensity in the corporate sector in Oman. Data was collected from four participating organizations from four different sectors through a questionnaire survey. The findings indicate that 52% of the relationships between organizational characteristics and creativity and innovation are explained by entrepreneurial architecture dimensions. At the same time 55% of the relationships between organizational climate and creativity and innovation are explained by entrepreneurial frequency dimensions. Finally 43% of the relationships between macro economic conditions and creativity and innovation are explained by entrepreneurial degree dimensions. Further a general linear model explains 56% of the relationship between entrepreneurial architecture and entrepreneurial intensity dimensions (EF and ED). The findings are quite conclusive indicating that there is a strong relationship between organizational characteristics, organizational climate, macro environmental conditions and creativity and innovation.

Keywords: creativity, innovation, entrepreneurship, corporate sector, entrepreneurial intensity

1. Introduction

Entrepreneurship has usually been associated with small businesses in general and entrepreneurial firms in particular and these businesses have been accredited with qualities which many times reflect the entrepreneurial characteristics of the entrepreneurs themselves (Poettschacher, 2005). These characteristics include opportunity seeking, risk-taking, creativity and innovation, persistence, and resource management, among others (Burns, 2011). Some firms are more creative and innovative than others, some firms believe in radical innovations, while others have faith in continuous incremental innovations. Thus each type of firms displays entrepreneurial intensity in their own way. Entrepreneurship however is not limited to small firms and there has been a plenty of evidences of corporate entrepreneurship both in theory and practice (Zahra, 1999). Corporate entrepreneurship requires the management to display entrepreneurial management style that promotes the above mentioned characteristics. Although entrepreneurial management is evident in theory and practice, the firms displaying these characteristics are few and far between especially in less active entrepreneurially economies. There has been an increasing call to adopt an entrepreneurial management style in large organizations due to the increasingly chaotic, non-linear and unstable environments in which today's firms operate (Hamel, 2003). Further the scarcity of entrepreneurial management style leads to lower degrees of entrepreneurial intensity in the corporate sector. Entrepreneurial intensity can be explained as a combination of strategies that lead to creativity and innovation in organizations. Some of the innovations can be of high impact that can change the industry or incremental, multiple and continuous innovation of low degrees but does not have high impact (figure2). Nonetheless each can provide significant level of competitive advantage to the firm.

2. Area Description

Oman is not a very active entrepreneurial economy (www.gem.org) and hence the entrepreneurial management is limited to few small and large organizations. One of the reasons for limited entrepreneurial activities is the fact

that a relatively young corporate sector owes it legacy to very bureaucratic public sector organizations. However with the advent of globalization (Oman became a member of WTO in 2007), and a greater exposure to westerns economies and competition, the need for entrepreneurial management has been felt in the corporate sector. This has been emphasized by a number of training and consultancy firms and educational institutions that deliver programmes for the corporate sector. However the challenges faced in developing an entrepreneurial management are quite high considering the bureaucratic nature of these organizations. Entrepreneurial management and the influences on it would differ from one economy to other. Gomez-Haro, Aragon-Correa and Cardon-Pozo (2011) do confirm the differences in entrepreneurial management style based on the context of different economies. Therefore this study explores creativity and innovation promoters and barriers in implementing entrepreneurial management in present research environment. This is an empirical research in Oman as no other research exists in Oman on this topic. The study also serves the basis for a broader agenda for identifying critical components of entrepreneurial intensity within the framework of entrepreneurial frequency and degree.

2.1 Rationale and Practical Implications

Although entrepreneurial intensity is a useful concept but it falls short of identifying which of the dimensions - degree or frequency - has a better potential to promote entrepreneurial management within the firm. Further the literature falls short of measuring organizational conditions, climate and macro environmental conditions and its effect on creativity in holistic way. Such a measurement would not only identify emphasis areas but also provide a checklist for measuring entrepreneurial intensity in corporate set ups.

2.2 Research Questions

RQ1: Which factors impede or promote the development of entrepreneurial intensity in the corporate sector in Oman?

RQ2: Does entrepreneurial architecture promotes the development of entrepreneurial intensity and enhances creativity and innovation in the corporate sector in Oman?

RQ3: What can be done to enhance entrepreneurial intensity in the corporate sector in Oman?

2.3 Research Hypothesis

Global Hypothesis

There are positive correlations observed between the entrepreneurial architecture dimensions and entrepreneurial intensity.

HO1: There are positive correlations observed between the entrepreneurial architecture dimensions and creativity and innovation.

HO2: There are positive correlations observed between the entrepreneurial frequency dimensions and creativity and innovation.

HO3: There are positive correlations observed between the entrepreneurial degree dimensions and creativity and innovation.

3. Literature Review

The paradoxical relationship and the tensions associated with the management of creativity and innovation provides challenges both in terms of explanations and theorizing. In this age of ‘unreason’ (Henry, 2006) only those firms survive, grow and are successful that master the art of ‘change’, ‘learn’ (Senge, 2006) and unlearn so that they can challenge their own ‘mental models’ (Kim & Tversky, 1999), become thinking organizations and make creative utilization of knowledge (Basadur & Gelade, 2006). These interactive and dynamic approaches provide opportunities for firms in this mayhem and create innovative outputs that provide them competitive advantage in the market place especially through the un-substitutable human potential for creativity (Gibb & Waight, 2005).

Sustainable competitive advantage is a scarce commodity in times of this change. Leading this pack of organizations are learning organizations (Senge, 2006) that are able to adopt entrepreneurial management style easily and promote learning across the organizations and transforms itself into an entity that not only can deal with change effectively but use the change as catalyst to find new opportunities and capitalize on them. Figure 1 shows on entrepreneurial management can add value to its stakeholders and provide a basis for competitive advantage.

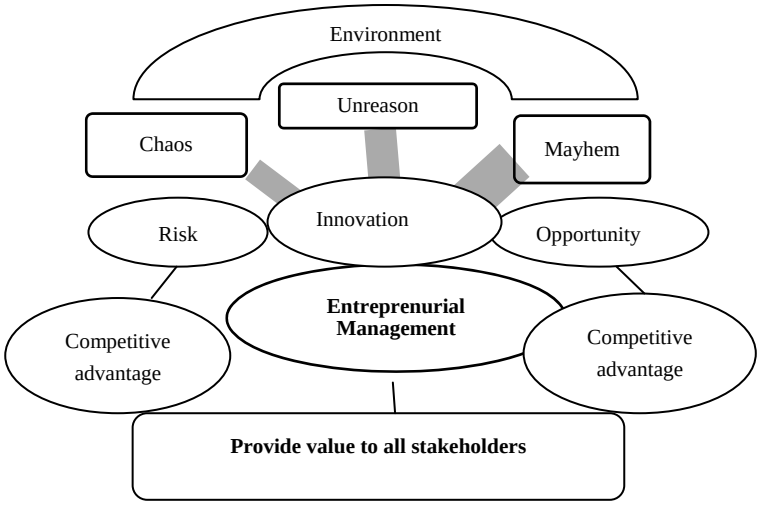

Figure 1. The value of entrepreneurial management

Note: adapted from Henry (2006) and Burns (2008).

3.1 Entrepreneurial Architecture

Using Kay's (1993) terminology Burns (2008) explains that the implantation of entrepreneurial DNA in large firms can be done through its 'entrepreneurial architecture'. Burns (2012) developed a scale of entrepreneurial architecture and the scale is based on four dimensions which are leadership, structure, culture and strategies. The scale is operationalized through hundred item statements measuring these dimensions. The entrepreneurial architecture comprises of both internal and external networks (resembling personal networks developed by entrepreneurs in smaller firms). Internal networks are built within the organization, while external networks are built with external stakeholders. Both these networks are built on relationships based on mutual trust, mutual interests and common goals (Stewards & Conway, 2009). Entrepreneurial management in large organizations promotes the development of these networks which are effective, and subtle, one that is difficult to replicate and capture through formal contracts. This provides unique strength to these organizations and creates competitive advantage and barriers to entry. Implanting the entrepreneurial DNA and developing the entrepreneurial architecture in large firms is a challenging task as most large firms may have the vision for it but are unable to implement it due to the lack of supportive culture and structure, entrepreneurial strategies and transactional leadership styles.

Implanting the entrepreneurial DNA (Burns, 2008) in larger firms provides a fertile ground for adopting specific strategies (Porter, 1985; Harrison & Taylor, 1996), developing organizational culture (Bowman & Faulkner, 1997), and designing appropriate structures (Fenton & Pettigrew, 2000) that support entrepreneurial endeavors. The fountain head of these is the 'entrepreneurial leadership' (Kirby, 2003) that has a vision to foresee the need for entrepreneurial management in their organizations. This enhances the competitive positioning of these firms which is derived from their ability to cope, deal and exploit change. Entrepreneurial management further allows these firms to become flexible, enhances their adaptability and creativity and innovation in these firms. It is important to note that these characteristics are rarely evident in large organizations. However, larger firms find it difficult to adopt entrepreneurial management style because of their size and age as they tend to become more bureaucratic and inflexible. They struggle to keep pace with the changing environment without realizing that they need to change themselves in order to survive this chaos and disorder.

3.2 Entrepreneurial Intensity

Although the literature on corporate entrepreneurship establishes the need for entrepreneurial management in large organizations and states that it can be established through appropriate strategies, culture structure and leadership, it does not enumerate in detail how effective these entrepreneurially oriented organizations are? Morris and Kuratko (2002), attempt to differentiate entrepreneurial management in terms of its effectiveness by developing the concept of 'entrepreneurial intensity'. Entrepreneurial intensity can be measured through the size of breakthrough termed as 'entrepreneurial degree' and number of continuous and incremental innovations termed as 'entrepreneurial frequency'. Entrepreneurial management can be placed on this grid based on whether an entrepreneurial firm has a series of smaller innovations (but not breakthroughs) or few breakthroughs but

significant in nature. In other words entrepreneurial management can be either strong in degree or frequency (figure 2).

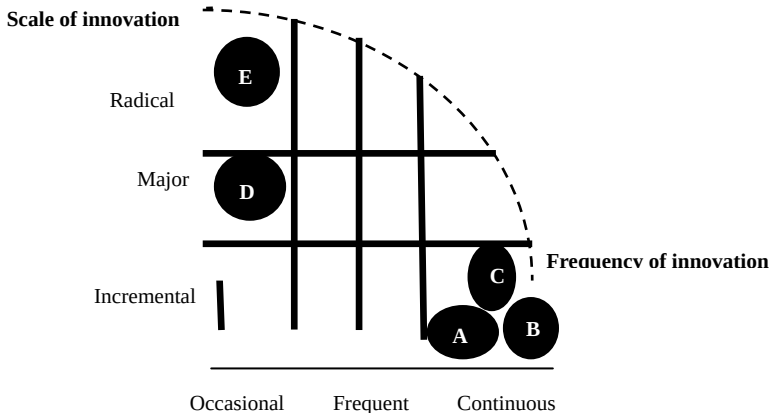

Figure 2. Entrepreneurial Intensity

Source: Burns 2012.

Effectiveness of entrepreneurial management lies in its ability to balance entrepreneurial degree and frequency in such a way that the firm is able to maximize its competitive advantage in the ever changing environment. Researchers such Morris and Sexton (1996) and Morris and Kuratko (2002) have linked the effectiveness of entrepreneurial management and entrepreneurial intensity with a number of financial performance indicators such as enhanced profitability, income/sales ratio, and revenue and assets growth. Further Zahra (2002) provide empirical evidence of the impact of managerial entrepreneurship on the improved financial performance of the firm. However it is questionable whether financial performance indicators are the only indictors of effectiveness and non-financial performance indicators such as enhancement of 'brand equity' (financial performance would be reflected in the long term) can be also linked a strategic measurement of entrepreneurial intensity.

'Entrepreneurial frequency' is usually characterized through incremental and continuous innovation. Clark (2004) finds similarity between this type of innovation with 'learning by doing' and 'experience curve'. He also point out that incremental innovations are mostly reflected through the improvements done on the radical innovation. 'Entrepreneurial frequency' is a highly sustained effort and required an organizational climate that promotes and supports creativity and innovation as part of its strategic human resource policies. Amabille (1997) developed a comprehensive scale to measure or organizational climate for creativity. It comprises of eight major dimensions involving organizational functions and characteristics such as challenging work, freedom, workload pressure, work group support, supervisory encouragement, organizational support, resources and organizational impediments. Tahseen (2012) measured organizational climate for creativity in Omani corporate sector using KEYS scale (Amabile, Burnside et al., 1999) which assessed stimulants and obstacles based on these dimensions. The findings indicated strong relationship between most of the KEYS dimensions and creativity and innovation. Isaksen (2007) pointed out that idea time and fun and humor are essential ingredients that promote creativity in organizations. When these dimensions are managed properly creativity flourishes and enhanced frequency in innovations are evident. However Pap and Katz (2004) argue that those organizations that engage in developing incremental innovation capabilities loose the innovation edged against the highly proactive entrepreneurial firms that introduce disruptive innovations in the market.

'Entrepreneurial degree' on the other hand is usually characterized through radical innovation. Stewards and Conway (2009) define radical innovation as a 'major advance in the technological state-of-the-art.' Entrepreneurial degree is more dependent on the external conditions rather internal although both are not mutually exclusive. Burns (2009) argues that given the industry conditions the firms respond more to stability dimension than to change dimensions. In such conditions innovations may not be seen. Klepper (1996) found links between the firm size and industry structure and growth and innovation. Firms in high growth industries show more innovative capabilities. Contrastingly Herron et al. (1994) argue that firm in low growth industries are force to think on innovative measures as survival in these industries become difficult. Audretsch and Feldman (1996) link innovation to industry life cycle. During the early life stages of the life cycle more innovation capabilities are evident and as the industry grows and matures the innovation case seems to be dispersed. Propis (2010) highlights the role of inter firm collaboration in achieving radical innovations. High

degree of innovation will be seen when the firms aim to change the competitive dynamics within the industry and its internal environment support creative endeavors and innovative outputs. Marnix (2006) is of the view that radical innovations are disruptive and can result in technological discontinuity or commercial discontinuity (Lettice & Thomond, 2002). Marnix further argues that radical innovations depends on the firms capabilities and competencies and many times they have to acquire new capabilities and configure their competencies to the demands of the external environment. Johannessen et al. (2001) caution that the core competencies that provided the organization competitive advantage in the past can be so rigid that it may prevent acquisition of new capabilities and may hinder future radical innovation efforts. The bigger the innovation in terms of degree, higher will be the risk. Rice et al. (2000) points out that not only disruptive innovations are risky they have to be accepted by the markets and society. Lynn and Reilly (2002) point out that the high costs and risks deter the management to commit to radical innovation strategies. Foster and Kaplan (2001) contend that the fear of risk is the primary reason preventing companies from engaging in radical innovation.

4. Methods

4.1 Epistemological Standpoint and Research Design

Epistemologically the knowledge created through this research may not be absolute but the nature of research demands a positivist orientation and hence the realist approach was adopted. The research had to ignore the criticisms on positivist dominance on mainstreams research paradigms as it could not accommodate interpretivist aspirations. Epistemologically this research adopted a ‘realist’ research approach, which retains many aspects of positivism but acknowledges the role of subjectivity in it. Therefore it not only allowed the researcher to study reality, as it is, but at the same time subjective nature of reality and the inevitable role of values in it was also be acknowledged (Fisher, 2004). Based on its epistemological positioning, this research primarily adopted quantitative approach. Since the research is posited in realist philosophy, it made attempt to quantify the variables and finally develop a measurable construct for each dimension. Through this approach ‘creativity and innovation’ was treated as a dependent variable, while the three dimensions such as entrepreneurial architecture and entrepreneurial frequency and degree were treated as independent variables. All the three dimensions were operationalized through the variables identified through the literature adopting mainly a deductive approach. The conceptual framework (figure 3) was largely influenced by two models: entrepreneurial architecture model (Kay, 1993 and elaborated by Burns, 2012) and entrepreneurial intensity model (Morris & Kuratko, 2002). Like all realist researches, the structure of this study was built by establishing relationship between the variables.

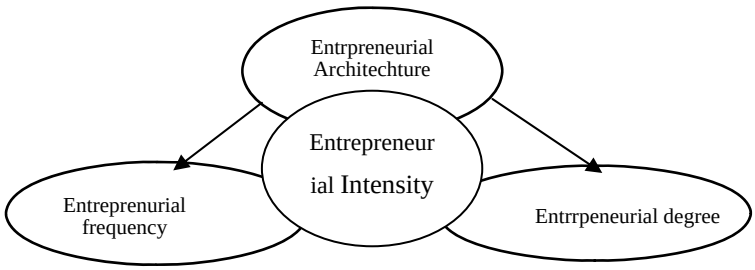

Figure 3. Conceptual framework

Source: Kay (1993) and elaborated by Burns (2012).

The contribution of this conceptual model in understanding the factors that influence entrepreneurial architecture in general and entrepreneurial intensity in particular is two-fold. First entrepreneurial architecture helped to identify and investigate the factors that impede or promote transplantation of entrepreneurial DNA in large firms and secondly the entrepreneurial intensity established a means to measure entrepreneurial effectiveness in these firms. This conceptual model’s uniqueness lies in the fact that it combines two models in an effort to study entrepreneurial effectiveness and at the same time provides a basis for understanding of entrepreneurial intensity in large firms. The conceptual model provided the basis to analyze the data using three different sub-models. These sub-models as shown in figure 3 are entrepreneurial architecture, entrepreneurial degree and entrepreneurial frequency.

4.2 Ontological Positioning

Ontologically this research assumes that the knowledge creating entities in this research have a control over their environment (Bryman & Bell, 2003) and hence adopts a constructionist approach. Although, paradoxically the

epistemological and ontological positioning assume its own philosophical orientation it does not limit this research to combine such an approach because of the demands of the research (Easterby-Smith et al., 1991). This research has a clear standpoint that the participants have significant influence over the functioning and design of their organizations. They have control over strategies, culture, and structure and leadership style in their organizations and hence they can decide whether they require and have the willingness to implant entrepreneurial orientation or not. Based on this standpoint the constructionist approach was used to design qualitative interviewing which was fed into questionnaire design (Sekaran, 2003).

5. Techniques

5.1 Questionnaire Design

The dimensions were measured through a questionnaire. To this effect literature was used to find validated scales for the dimensions. Using this information, measurement for all the constructs was developed and operationalized through 30 items statements. The survey instrument utilized '5 point' likert scale that was developed to measure the constructs. The survey instrument was administered in four organizations that had consented to participate. As per the desire of the respondents their identity was not revealed, although the findings were first sent to them for respondent validation. Data was analyzed using multiple regressions and general linear model. Using a quantitative strategy allowed the researcher to have more control over research subjects and data and ensure objectivity which many times is compromised in a qualitative research.

5.2 Reliability and Validity

Reliability and validity was achieved through item-to-total correlation (>0.50) and inter item correlation (>0.30) Hair et al. (2006). A total of 30 items (all scale data) were subjected to alpha test to ensure reliability. The reliability test of the interval scaled data showed a high internal consistency as the Cronbach Alpha value was 0.812 which is by all means highly desirable as suggested by Saunders et al. (2006). Homoscedasticity was checked using Tabachnik and Fidell's (2007) and Pallant's (2005) recommendations through Leven's test (.085) and multi-collinearity through tolerance levels and variation inflationary factor (VIF) and desirable scores (tolerance >10 and VIF < 2.5) was achieved. The relationship hypothesized in the conceptual model was tested using multiple regressions tests and general linear model although this study acknowledges the limitations of both to establish causality. There was no auto-correlation detected in the data as was indicated through the Durbin Watson Test. These tests indicated that there were no violations of the assumptions of regression equations (Table 1, 2 and 3).

5.3 Sample

A total of four participating organization in the private sector in Oman market representing media, event management, trading and telecommunications participated in the survey. A combination of systematic and judgment sampling was used to select the sample. The sample was chosen based on their similarity of characteristics as these firms were quite innovative in their sectors. The respondents in these firms were selected based on their position and hierarchy in the organization. The sample population included the senior management, middle management and human resource staff. Considering the limited degree of variability (Israel, 1992) in the population the representation was considered adequate. The sample size was considered adequate using Yamane's formula (Yamane, 1967). A total of 250 questionnaires were sent out and 210 were returned and 200 were found fit for analysis.

6. Results

Three different models were measured using multiple regression tests. The first model was measured through entrepreneurial architecture dimensions; the second through entrepreneurial frequency dimensions while the third was measured through entrepreneurial degree dimensions. The regression model (Table 1) explains 52% (adjusted R square) relationship between entrepreneurial architecture and creative and innovative endeavors. The results of the multiple regression tests showed that predictor variables such as shared vision, leadership style, change orientation, core competencies, decentralization, and norms and behavior influences creativity and innovation (dependent variable) considerably. However lack of core competencies influences creativity and innovation negatively. This is because for innovations of significant impact the present core competencies may not be enough and organizations may have to acquire new competencies Based on the finding the null hypothesis (HO1: There are positive correlations observed between the entrepreneurial architecture dimensions and creativity and innovation) is accepted and alternate hypothesis that there is no relationship between entrepreneurial architecture dimensions and creativity and innovation is rejected.

Table 1. Regression on Entrepreneurial Architecture (DV Creativity and Innovation) P>.05

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	**Durbin-Watson**
1	.729(a)	.604	.528	.66223	**1.692**

Levene Statistic	df1	df2	Sig.
.614	5	197	.639

Independent Variables	B	Std. error	Standardized coefficients Beta	t	Sig	Collinearity Statistics	
						Tolerance	**VIF**
Constant	.716	.525	.397	4.108	.199		
Shared vision	.392	.091	.079	3.615	.004	.696	2.160
Leadership style	.496	.079	.118	3.947	.001	.725	1.523
Change orientation	.289	.084	.094	3.175	.002	.689	1.756
Power distance	.112	.073	.318	1.74	.142	.625	1.992
Norms and behavior	.382	.076	-.153	4.453	.001	.676	1.745
Core competencies	-.185	.101	.228	-2.107	.035	.598	1.827
Decentralization	.398	.076	.069	3.120	.002	.698	2.019
Hierarchy	-.078	.091	.078	-1.128	.395	.687	1.965
Decentralization	.099	.094	.076	1.079	.280	.558	1.949

Description: Model summary, Test of Homogeneity of Variances, coefficients and collinearity.

Regression model (table 2) explains 55% (adjusted R square) relationship between entrepreneurial frequency and creative and innovative efforts. The results of the multiple regression tests showed that predictor variables such as organizational support and impediments, challenging work, freedom, idea time, work group support, idea time, and resources influences creativity and innovation (dependent variable) considerably. Variables such as workload pressure and lack of resources influence creativity and innovation negatively. Based on the finding the null hypothesis (HO2: There are positive correlations observed between the entrepreneurial frequency dimensions and creativity and innovation) is accepted and alternate hypothesis that there is no relationship between entrepreneurial frequency dimensions and creativity and innovation is rejected.

Table 2. Regression on Entrepreneurial Frequency (DV Creativity and Innovation) P>.05

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	**Durbin-Watson**
1	.812(a)	.688	.557	.61223	**1.920**

Levene Statistic	df1	df2	Sig.
.704	4	195	.697

Independent Variables	**B**	**Std. error**	**Beta**	**t**	**Sig**	**Collinearity Statistics**	
						Tolerance	**VIF**
Constant	.786	.595	.387	4.981	.199		
Organizational support	.332	.084	.194	3.615	.001	.574	1.812
Supervisory encouragement	.086	.084	.233	1.048	.296	.591	1.693
Work Group Support	.297	.083	.155	3.145	.002	.719	1.756
Freedom	.110	.074	.315	1.54	.132	.705	1.382
Challenging Work	.372	.081	-.153	4.463	.001	.776	1.235
Resources	-.196	.102	.248	-2.108	.034	.647	1.828
Organizational impediments	.319	.076	-.077	3.119	.002	.698	2.019
Workload pressure	-.079	.092	.077	-1.028	.305	.687	1.455
Productivity	-.098	.095	.079	-1.079	.282	.568	1.759
Risk Taking	.399	1.93	2.01	3.088	.001	.598	1.021
Idea time	.312	.077	.198	3.561	.009	.617	2.180
Fun/Humor	.097	.079	.308	1.44	.395	.612	1.832

Description: Model summary, Test of Homogeneity of Variances, coefficients and collinearity.

The regression model (Table 3) explains 43% (adjusted R square) relationship between entrepreneurial degree dimensions and creative and innovative endeavors. The results of the multiple regression tests showed that predictor variables such as market growth, inter-firm collaboration, capabilities, risk taking, resources and influences creativity and innovation (dependent variable) considerably. At the same time organizations focusing on stability do not show creativity and innovation and influences it negatively. Based on the finding the null

hypothesis (HO3: There are positive correlations observed between the entrepreneurial degree dimensions and creativity and innovation) is accepted and alternate hypothesis that there is no relationship between entrepreneurial degree dimensions and creativity and innovation is rejected.

Table 3. Regression on Entrepreneurial Frequency (DV Creativity and Innovation) P>.05

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	**Durbin-Watson**
1	.689(a)	.488	.437	.71223	**1.751**

Levene Statistic	df1	df2	Sig.
.601	4	195	.589

Independent Variables	**B**	**Std. error**	**Beta**	**t**	**Sig**	**Collinearity Statistics**	
						Tolerance	**VIF**
Constant	.606	.515	.307	3.188	.189		
Market growth	.312	.085	.174	3.515	.004	.576	1.860
Industry cycle	.076	.074	.243	1.148	.286	.511	1.993
Inter-firm collaboration	.442	.067	.389	4.185	.001	.739	1.456
capabilities	.410	.069	.325	2.549	.006	.715	1.582
Risk Taking	.392	.089	-.163	4.463	.002	.776	1.835
Resources	-.186	.102	.238	-2.109	.036	.547	1.828
Energy	.118	.077	-.267	1.728	.140	.488	2.029
Stability	-.432	.072	.312	-4.117	.001	.787	1.355
Productivity	.102	.085	.277	1.67	.202	.468	2.159

Description: Model summary, Test of Homogeneity of Variances, coefficients and collinearity.

Through the multivariate general liner model the numbers of independent variables (IVs) were increased from each dimension to predict (DV). The DV was predicted through the weighted sum of IVs as both were continuous data. The IVs from three set of dimensions were used to predict the DV. It was found that most of the groups of variables had liner relationship with each other. Each set of variables added to the predictive power of the equation.

Table 4. Multivariate General Linear Model (Entrepreneurial architecture and entrepreneurial frequency (EF) and entrepreneurial degree (ED)

Source	**DV**	**d.f.**	**F**	**Sig**	**Partial Eta Squared**	**Observed Power**
Corrected model	C I	15	15.364	.001	.603	1.000
Intercept	C I	1	14.691	.001	.487	1.000
Leadership	C I	1	21.352	.001	.127	.999
Vision	C I	1	7.809	.005	.071	.798
Decentralization	C I	1	6.577	.009	.049	.657
Change	C I	1	8.520	.007	.082	.621
Norms and Behavior	C I	1	9.771	.004	.073	.801
EF	C I	1	5.321	.008	.051	.711
ED	C I	1	4.12	.044	.197	.541

Description: Creativity and Innovation $R^2 = .603$ (adjusted $R^2 = .569$).

The findings (table 4) show that the GLM explains 60% of relationship between group of independent variables from entrepreneurial architecture, entrepreneurial frequency and entrepreneurial degree and creativity and innovation. It also leads to the acceptance of the global hypothesis and establish that there are positive correlations observed between the entrepreneurial architecture dimensions and entrepreneurial intensity.

7. Discussion

The findings established that both entrepreneurial architecture and entrepreneurial intensity influences organizational creativity and innovation. Entrepreneurial architecture provides a framework within which creative and innovative endeavors can flourish. Leadership and the vision of the organization are critical in providing an organizational conditions and characteristics for creativity and innovation. Distributive leadership (Spillane 2005) and transformational leadership styles have been associated with facilitating creativity and innovation in organizations primarily due their change orientation and employee empowerment.

Transformational leaders, as Tucker and Russell (2004), points out have the capability to enlist others on shared vision and then collaborate and motivate the employees to achieve that vision. Leadership can induce a culture of experimentation, new ideas and innovative efforts and outputs (Isaksen, Laeur, Ekvall, & Britz, 2001). Stinger (2000) argues that organizational structures and should be decentralized so that innovation can be encouraged and points out that bureaucratic structures stifles creativity. Organizations strategies will determine whether organization considers it as a strategic resource and then competencies and value streams have to be harnessed around it (Bessant & Hobday, 2003). Purcell and Kinnie et al. 2003 argue that the culture of innovation should be embedded through human resource polices and in the organization. However evidences from research (Searle & Ball, 2003) indicate that human resource departments and line managers do not give enough importance to creativity and innovation initiatives.

Entrepreneurial frequency requires firms to be programmed for creative mindset that spur innovations on a continuous basis. In such organizations creativity and innovation is in their DNA and policies and practices that drive innovation are embedded in their organizations through human resource and leadership strategies. Amabile (1997) suggests that the work culture in these organizations promote challenging tasks and the employees are continuously challenged to 'think outside the box' rather than remain in their comfort zones and shy away from experimentation. Organizations that are obsessed to 'match employee competencies to tasks characteristics' do have provide adequate level of challenge to the employees otherwise they do not feel the need to think creatively. Weisberg (2007) believes that when people are ready to take up challenging tasks, they become creative problem solvers.

Amabile (1997) further argues that the organizations that promote organizational climate for creativity that breeds innovative outputs provide adequate level of freedom to their employees. She however cautions that the freedom should be given in terms of choosing their own paths to achieve the goals of the organization rather than determining the goals. This strategy where the organizational goals are decided by the organization leads to incremental innovation rather than radical innovation. At the same time organizations should be committed to provide adequate resources to facilitate creativity and innovation. These resources include time, physical and social space to the employees. Interestingly (Ahmed & Shepherd, 2010) quoting Hesselbein and Johnston (2002) points out that innovation are paradoxical to time. Creative inputs require sufficient time to mature as it goes through incubation and then illumination stages and organizations that either impose tight or fake deadlines crate both mistrust and burnout and kill creative initiatives. Isaksen (2006) enumerates the benefits of giving idea time to the employees. This time should be dedicated to brainstorming new ideas and innovative opportunities.

Amabille (1997) recommends that there should be adequate level of work group support to promote creativity and innovation. Wilson and Stokes (2005) support this thesis, as he points out that creativity may be an individual effort but successful innovation requires the support from the group. Further there should be enough diversity of ideas in the group that adds value to the group and organizations. People with similar mindsets should not be grouped together. Ahmed and Shepherd (2010) quoting Hesselbein and Johnston (2002), Osborne (1963) and Parnes (1961) recommend convergent and divergent thinking to facilitate generation of new ideas. Finally organizational support is essential ingredient to develop an organizational climate for creativity and innovation in organizations. It is difficult to sustain creative passions on a continuous basis without the cheer leaders. The supervisors and line managers and the top management of the organizations should value the creative endeavors and be tolerant towards failure. In such organizations 'critique' should become an alien entity and 'deferral of ideas' for future consideration should be labeled as taboo. Failure should not be something that should deter employees and the organization from experimenting. Creative efforts and innovative outputs should be rewarded handsomely and creative competency should be an essential criterion in selection, training and performance management. Human resource strategies and leadership style (Yukl, 2010) should ensure that creativity and innovation becomes part of work culture and work ethics. When this kind or organizational climate would be created underpinned by appropriate human resource strategies innovation will most likely become frequent and continuous and will provide the organizations with the required competitive advantage (Lowenberger, 2009).

Entrepreneurial degree on the other hand requires different dynamics although organizational climate is also essential for radical creativity. In other words although organizations climate for creativity will most likely support incremental innovation it may not lead to radical innovation. For radical innovation to take place organizations will have to walk the extra mile. For radical innovation to take place the organizations have to unlearn (Marnix, 2006) and acquire new capabilities. They have to abandon the existing designs, technologies and strategies and learn to live with higher levels of uncertainty and risks Christensen (2003). Radical innovations require firms to get rid of their conservatism approach, eliminate excessive bureaucracy and identify

and plug their learning deficiencies. Stinger (2000) argues that large firms have invested so much in maintaining the status quo that they find it extremely difficult to disturb this equilibrium. Pascale (1999) cautions against false sense of equilibrium and points out that the firms which are focused on maintaining equilibrium are actually at risk of failure. Radical innovation opportunities are derived from the external environment and the size of the firms and the industry life cycle determines whether the industry will accept the new radical innovation or not. Inter-firm collaboration can be helpful here because it can provide the firm greater chances of acceptability as well sharing of knowledge and resources. Csikszentmihalyi (1999) argues that the domain, field and overall the society should accept radical innovations otherwise innovations may not be recognized at all. All the three entrepreneurial dimensions have the potential to influence creativity and innovation in the corporate sector in Oman as was evidenced through the findings. Each of these dimensions has been studies separately to evaluate its impact on creativity and innovation independently because analyzing each dimension within its context has enhanced the diagnostic value of the findings. It is logically argued that once organizations are able to deliver creative and innovative outputs they can derive competitive advantage in the market place which in turn enables it to grow and become profitable. Linking creativity and innovation to financial indicators and growth dynamics is an area for further empirical research and would further support and validate the thesis of this research.

8. Conclusion

The findings lead to the conclusion that organizations should understand the holistic nature of creativity and innovation and must provide the right organizational climate and conditions for creativity and to take place. Only when appropriate climate for creativity is provided, innovations can happen. Organizations should view creativity and innovation not only holistically but also understand that creativity and innovation resides as much in the organization and environmental conditions as in cognitive capacities of their employees. At the same time innovation must be seen in the context of the macro environmental conditions. The findings have substantial implications for the practitioners as they can appreciate that each of the entrepreneurial dimensions has the ability to influence creativity and innovation. The first condition is that the organizations must provide the right culture, structure, strategies and leadership for any kind of creativity and innovation to thrive. This is like an overarching condition for creativity and innovation to flourish. Once this climate is provided then the organizations can decide what kind of creativity and innovation is beneficial for the organization and for this decision to be taken they have to monitor the environmental conditions. If the market conditions are right for new breakthroughs, the resources of the organization should be devoted towards radical innovation. On the other hand if the market condition are not right for breakthrough innovations, organizations should focus on promoting organizational climate for creativity where continuous and incremental innovations becomes embedded into organizational culture and leadership and human resource policies. It can be conversely argued that all three conditions must be met for organizations to successfully carry out creative and innovative endeavors. The thesis of this argument would not be incorrect except that the organizational focus on each of these entrepreneurial dimensions will yield different varieties and degrees of creative efforts and innovative outputs. This has been proven to be true especially in the context of the Omani corporate sector. However creativity and innovations will present innate paradoxes, contradictions and tensions and firms will have to learn to live with it. How effectively they can deal with it will depend how well they understand the drivers and how well they support it. Only when creativity and innovation is understood in a non-linear context it can be practiced effectively or else it will remain a rhetoric and elusive as it has been in the past.

Acknowledgements

I would like to thank Professor Paul Burns and Dr. Pauline Lowenberger, University of Bedfordshire, UK, whose empirical work in the field of entrepreneurship and creativity and innovation have made a significant impact on this study. I would like to thank my institution Majan College, University College that has given me the opportunity to conduct this empirical study. Finally I would like to thank the four participating organizations and their staff for taking time out to be part of this study and contribute in their own way in the knowledge creating process.

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