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Strategic Competence and Firm Performance Moderated by Environmental Turbulence

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ABSTRACT

This study seeks to study the relationship between entrepreneurs' strategic competence and the performance of a firm moderated by environmental turbulence. A conclusive research design is used in the study. The research was conducted at one point in time and done in two phases. The first phase included an exploratory study for problem identification leading to the hypotheses after the literature view. The second phase of the study consisted of a survey resulting in the testing of the hypotheses. The study contributes to the 'Resource Based View' and 'Upper Echelon Theory' by studying the founder's competence. The data includes 204 manufacturing SMEs entrepreneurs in Delhi/NCR of India. The analysis involves simple linear correlation and hierarchal regression. The study suggests that firms' financial performance is positively moderated by environmental turbulence though there is no impact on non-financial performance. Future studies can add to the concept by considering other dimensions of entrepreneurial competencies apart from the one considered in the study and dwell more on the concept of entrepreneur competence specifically under the impact of other possible moderators derived from the particular context.

Keywords: *Entrepreneurs' strategic competence; Environmental turbulence; Performance.*

1.0 Introduction

India Inc. had a 43.7% start-up failure rate since June 2014 where the average age of failed founders was reported at 27 years. Most of the ventures were in much-hyped sectors. Entrepreneurs need to overcome fairly significant odds to make their

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business a hit. The failed ventures aged 11.5 months on average. Only 24% of these failed entrepreneurs started a second venture, but in sectors different from the first; the rest either joined corporate jobs or other start-ups. Here, the case can be attributed to many factors, the top leaders or entrepreneurs' capabilities happen to be the most important of all.

The capabilities of frontrunners have the potential of determining the present and future interactions and business strategies (Morris *et al.,* 2005) and therefore, substantially mark the profitability of the firm. The plausible explanation for this could be the relevant impact of the leader on the results of these firms. The leader's personal characteristics represent an interesting field of analysis because of the correlation they have with the performance of the organizations (Gerli *et al.,* 2011).

Although the significance of the entrepreneur on the firm outcome seems to be extensively accepted, the effect of entrepreneurs' competencies on the firm performance is still underexplored in the literature (Tasnnim *et al.,* 2014; Gerli *et al.*, 2011) and there lies a need for a multidimensional model explaining the full picture of firm performance. Competence is difficult to ensure because it is distributed at several levels of the company. Examples of these levels are strategic or operative, and technological or business competence (Suikki *et al.,* 2006). The intensity of competencies is directly proportional to the likelihood of getting success in entrepreneurship (Sánchez, 2010). However, the straightaway impact of entrepreneurs coming up with strategies and performance of firms is not evident and the probability of a strong impact of this over the latter is questionable.

Off late, scholars worldwide are focusing on and proposing that variables at an individual level, organizational level and environmental dimension collectively, present a more composite picture of venture development and success compared to any dimension in isolation (Chrisman *et al.,* 1998; Covin & Slevin 1997; Herron & Robinson 1993; Lumpkin & Dess 1996; Naffziger *et al.,* 1994; Sandberg 1986). Although there is no dearth of studies exploring the relationship between the environment and a firm's success in the context of SMEs, the result of a maximum of these have not reached consensus and are lacking, particularly in the Indian landscape.

2.0 Literature Review

Entrepreneurs in the 21st century need to be more strategic in their approach to business and competent to work in the challenging, ever-changing business scenario (Barazandeh *et al.,* 2015). A number of scholars have studied the entrepreneurial competencies in developed countries (e.g., Brinckmann *et al.,* 2011; Lerner & Almor

2002; Man & Lau 2000) although, there lies a huge gap to be filled in the case of developing economies. Capaldo *et al.,* (2004) suggested the need to study the same since it is the context that shapes these entrepreneurial competencies.

2.1 Strategic competence and performance of firms

Thirukumaran Nagarajan is the co-founder of a Bangalore-based startup NinjaCart which connects farmers and brands to retailers. NinjaCart is his fourth venture. Nagarajan started with a CFA coaching institute FinIsFun, where he couldn't get along with the grilling working hours. Then he came up with Appatakar biriyani but couldn't handle the police pressure this time. Lastly, working with TaxiForSure helped him to start right again where he could learn about the startup ecosystem and got to know about the lifeblood of business- funding. Nagarajan's story tells us about the demanding ecosystem that an entrepreneur faces and how a maximum number of times, they are devoid of the skills and expertise needed to survive in the challenging world. As rightly put by Venugopal, co-founder of Axilor Ventures which focuses on the problems of early-stage startup failures, "Typically, when one asks a founder about the idea, it is something no one wants or an idea the founder wants to perfect for him."

With the aforementioned discussion, we can emphasize the significance of competence that an entrepreneur needs for a successful venture and makes 'strategic Renewal' the need of the hour (Schmitt *et al.,* 2016). This is also seen as the adaptive capability of the firm or entrepreneur (Eshima & Anderson, 2017). Considering the important transition towards the future, skilled people are considered quintessential for any nation's economic growth and should be given the utmost priority by firms and organizations. The organizations should keep skills on the topmost priority list wherein the financial stability and innovation ecosystem can afford to take a back seat. Price water house coopers, (2014), and Barazandeh *et al.,* (2015) verified the facilitating role of entrepreneurial competence on firm performance; emphasizing the importance of strategic competence compared with not much direct influence of competence over firm performance.

Having reviewed the literature and organizational practices, the area of strategic competence impacting an organization's performance has not been focused upon much; Strategic competence as a core competence is observed to be having no significant relation to firm performance (McDermott, 2003). A very few of the studies visible have paid attention to the pivotal role of competencies of employees and the development of skills in the maintenance of ecological and organizational challenges (Kampath & Mietzner, 2013).

Based on the above discussion we can hypothesize:

H_{1a} (i): Strategic Competence of an entrepreneur influences the firm financial performance in a positive manner.

H_{1a} (ii): Strategic Competence of an entrepreneur influences the firm non-financial performance in a positive manner.

2.2 Strategic competence and performance of firms moderated by environmental turbulence

The contingency theory says that the level of association between two variables is contingent on the tertiary variable; thereby introducing the moderating variables into bi-variate relationships which helps in decreasing the misleading conclusions and enables more specific and defined relationships (Rosenberg 1968). The moderating variable used here is environmental turbulence. Indian manufacturing SMEs face many unplanned changes due to the technology up-gradations. Keeping this in mind, the environmental turbulence scale was adapted from Miller (1987); Miller & Freisen (1982).

The Indian Cable Industry (ICI) at Greater Noida, UP (India) manufactures industrial cable and exports it to South Africa apart from the Indian subcontinent. Being a 5-year-old SME (considered as young as per Chandler & Hanks, 1994), it cannot afford much investment in technology. For instance, the wire after cooling was earlier pushed manually for rolling onto the drums but the increased environmental pressure for automation and technology up gradation forced ICI to automate this part and they had to install new machinery. The increased environmental pressure of technology up gradation pressurises the manufacturing firms to continually invest in new technology, states BR Bhati, founder of ICI.

The afore-mentioned instance highlights that the development of entrepreneurial competence is essential in rapidly changing industries for entrepreneurs to adapt to the volatile environment (Amadi-Echendu, 2007; Ployhart 2006) and Human Capital Resource conceives that human resources are tactical resources to retort to industry-specific circumstances of the firm's environment (Lado & Wilsen, 1994).

The importance of strategy making by the entrepreneur and its impact on the performance of the firm is highly contingent on the external environment. This is further impacted by the capability an entrepreneur has to look out for and explore the opportunities available in the environment (Lado & Wilsen, 1994). Recent authors have emphasized that individual level, organizational level and environmental dimension collectively present a more composite picture of business development and success compared to any dimension in isolation (Chrisman *et al.*, 1998; Covin & Slevin 1997;

Herron & Robinson 1993; Lumpkin & Dess 1996; Naffziger, Hornsby, & Kuratko 1994; Sandberg 1986). This has led to forcing the researchers in considering the environment dimension into their studies, such as Man & Lau (2005) asserted that 'context' plays a vital role in the impact of competencies of entrepreneurs. Although environment was also considered in earlier studies (e.g., Covin & Slevin 1989), it is during the last average of 15 years that a turbulent environment has been affecting businesses to a huge degree as in the recession of 2006-08.

Covin & Slevin (1989) did not establish a strong link between strategy making by the entrepreneur and a small firm's performance. The extant literature (Olaniran *et al.*, 2016; Juma & McGee 2006; Capaldo *et al.*, (2004); Chonko *et al.*, 2003; Yeo 2003; Solymossy 1998; Chandler & Hanks, 1994) states that strategy-making by the entrepreneur does not directly impact the performance albeit, in the presence of contextual factors. It is recommended that a crucial way to appreciate the efficacy of strategy making of an entrepreneur is "to analyse the context in which it occurs" (Dess *et al.*, 1997: 691).

Based on the above discussion we can hypothesize:

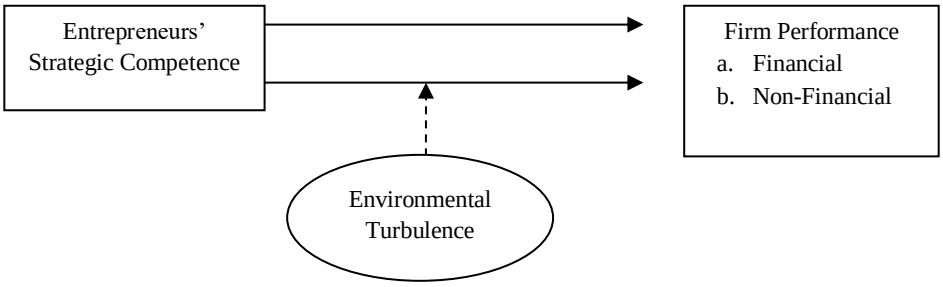
H_{1b} (i): Environment instability moderates the association between entrepreneurial strategic competence and firm financial performance.

H_{1b} (ii): Environment instability moderates the association between entrepreneurial strategic competence and firm non-financial performance.

3.0 Research Methodology

A mixed research design is being used in the study; the first phase includes an exploratory study resulting in the problem definition and formulation of the hypotheses. The second phase of the study consisted of a survey to test the hypotheses. Figure 1 represents the research model of the paper.

Figure 1: Research Model



The relation of entrepreneurial strategic competence over a firm's performance is studied, once in isolation and then moderated by environmental turbulence.

The measures were a five-point Likert scale starting from 1 to 5 wherein 1 codes for strongly agree to 5 as strongly disagree. Entrepreneurial competencies were measured with dimensions of opportunity, organizing, strategic, relationship, commitment and conceptual competencies as classified by Man *et al.,* (2002). Prior studies have inquired respondents to self-assess their competencies (Lerner & Almor 2002; Chandler & Hanks 1994; Chandler & Jansen 1992). Therefore, this approach was adopted in the present study. Competencies were assessed with a scale given by Chandler & Hanks (1994) utilizing a Likert scale with 5 points ranging from 1 = strongly agree and 5 = strongly disagree. The scale for environmental turbulence used in the study is built on Miller & Freisen (1982) and Miller's (1987) dimensions of the unpredictability of customers and competitors, rates of change in market trends, industry innovation and R&D (alpha = 0.7) and confirmed the validity under convergent and discriminant. The present study adapts it for Indian manufacturing SMEs with an alpha of 0.6 and validated by expert opinion and a pilot survey. The balanced scorecard used for measuring the performance of the firm is widely used by researchers worldwide. Explicitly, it is affirmed that the Balanced Scorecard translates an organization's philosophy into a broader scale of measures that offers a holistic structure for a tactical size and robust management system (Kaplan & Norton, 1996). It has been validated for the Indian manufacturing companies (Joshi 2001; Anderson & Lanen 1999) as well as limited empirical evidence for use in small companies (Giannopoulos *et al.,* 2013; Russo 2005; Zinger, 2002; McAdam, 2000). The scale reliability is confirmed with an alpha of 0.64 and 0.63 for financial and non-financial performance respectively. It had been validated with the help of a pilot survey and expert opinion including management scholars and practitioners.

The population considered for current research is firms under Small and Medium Enterprises (SMEs) in Delhi/ National Capital Region (NCR) i.e., Delhi, Gurgaon, Faridabad, Ghaziabad, Noida and Greater Noida in India. The researcher took the sample from manufacturing (Government of India, National Industrial Classification, 2008). SMEs as listed by the Confederation of Indian Industry (CII) India. The units chosen for sampling were not to be younger than 1 year. Units as samples were taken from the list provided by Micro, Small and Medium Enterprises (MSME) New Delhi and MSME DIs of the cities considered. Purposive cum snowball sampling technique was chosen to select the sampling unit i.e., entrepreneur researchers suggest a minimum of 5 data points per item; further, a sample size of 100-150 is considered most appropriate and a maximum of 500 is sensitive (Hair *et al.,* 1998).

Therefore 204 may work reasonably well. A total of 225 responses were collected from entrepreneurs including pilot testing responses. After the cleaning process of eliminating incomplete or multiple responses, a total of 204 usable responses were obtained. The sample description is in Table 1 and 2.

Table 1: Sample Description (Respondents)

	Category	No.	%
Education	College graduates	129	63
	School level	49	24
	Post Graduate	7	3
	Professional degrees	19	9
Position among siblings	Eldest	63	31
	Middle	112	55
	Youngest	29	14
Number of members in family	upto 4	21	10
	5 to 8	176	86
	9 to 12	6	3
	13 to 16	1	0
Father's Occupation	Business	95	47
	Pvt Sector	15	7
	Public Sector	26	13
	Unemployed	5	2
	others	26	13
Mother's Occupation	Public Sector	7	3
	Unemployed	182	89
	others	1	0
Ethnicity	Small City	49	24
	Large City	155	76

Table 2: Sample Description (Firm's Profile)

	Category	No.	%
Cluster (Self rated)	Cluster	174	85
	Non Cluster	30	15
Environment turbulence	Fast Cycle	189	93
	Standard cycle	2	1
	Slow Cycle	13	6
Institutional Void	Fast Cycle	203	100
	Standard cycle	1	0
	Slow Cycle	0	0
Number of employees	Less than 20	116	57
	21 to 50	68	33
	51 to 80	13	6
	81 to 100	5	2
	More than 100	2	1
Firm's age (years)	Less than 2	12	6
	2 to 4	8	4
	4 to 7	25	12
	7 to 9	36	18
	more than 9	123	60

The cities in Delhi/National Capital Region (NCR) are taken for the study. The region has certain associations like Delhi has the Delhi State Industrial and Development Corporation (DSIIDC), Alkali Manufacturers association; Gurgaon has the Gurgaon Industrial Association (GIA) Udyog Vihar Industries Association; Faridabad Manufacturers' Association, Laghu Udyog Bharti in Faridabad; Ghaziabad has the Indian industries Association, Industrial Area Manufacturers' Association; NOIDA & Greater NOIDA have the Indian Industries Association (IIA) Association of Greater NOIDA Industries (AGNI). These associations hold regular monthly or quarterly meetings of members. The aforesaid meetings' entrepreneurs were contacted for data collection giving a very good response rate. The data was also collected with the self-administered structured survey. The data was collected over a span of almost one year.

The author checked the gathered 225 responses for any missing values and multiple responses. A total of 204 usable responses were entered in SPSS 20.0 version. Before proceeding with data analysis, the researcher tested the basic foundations needed for regression.

- Collinearity: Variation Inflation factors (VIF) and tolerance; all are within the appropriate limit (VIF = 1-10, tolerance = 0.1-1.0). This implies that there is not much of a collinearity problem in the regression model used in the study. Figure 2 in the appendix represents this point.
- Outliers: The maximum value in residual stats is less than 4/n, so there exists no important outlier. Figure 3 in the appendix represents this point.
- Normality: is depicted by the normal distribution plots. Figure 4 in the appendix represents this point.
- Heteroscedasticity: When a graph is drawn plotting the independent variable on the x-axis and the dependent variable on the y-axis, we get a normal bell-shaped curve (charts given in the appendix). Figure 5 in the appendix represents this point.

4.0 Results and Discussion

Simple linear regression and correlation between Strategic competence and performance of firm's results are depicted in Table 4.

Strategic competence does not have any effect on a firm's performance in financial terms. Similarly, Chandler & Hanks (1994) in their study of manufacturing firms in north-western Pennsylvania established no direct relationship between entrepreneurial competence and business volume; but in the case of non-financial

performance, it has the effect ($p<01$) in a positive direction. The need for being calculative in small businesses may be the reason for this. So:

H_{1a} (i) - Rejected

H_{1a} (ii) - Accepted

Table 4: Correlation and Regression for Strategic Competence and Performance of Firm

Coefficients[a]					
Constant	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Financial Performance	-0.366	0.259	-0.113	-1.41	0.159
Non-financial Performance	0.646	0.492	0.106	1.314	0.19

The results of the hierarchical regression of strategic competence and firm performance moderated by Environmental Turbulence are depicted in Table 5.

Table 5: Hierarchical Regression for Strategic Competence and Performance of Firms Moderated by Environmental Turbulence

Hierarchical regression with Environmental Turbulence (ET) Firm Performance					
	Model	Variable entered	R square	B value	Sig. value
Financial	1	EC	0.017	-0.422	0.063
	2	ET	0.017	-0.005	0.973
	3	ECxET	0.018	-0.054	0.488
Non-Financial	1	EC	0.018	0.811	0.058
	2	ET	0.135	0.686	0
	3	EcxET	0.14	0.263	0.266

So, H_{1b} (i) – Rejected

H_{1a} (ii) – Rejected

The possible explanation to this could be that extreme aggressiveness may often invite trouble for small firms in high-tech settings and financially high performing small firms are probably not quite as aggressive in technologically sophisticated environments as their lower-performing counterparts (Covin & Covin 1990 in their study of elevated technology firms at Western Pennsylvania). Also, in the controlled environment, there is not much in the hands of firms to rule out turbulence and change the growth pattern of the firm by its strategic orientation (Aldrich & Auster 1986). This

is probably why in recessive market conditions, big businesses stay established and small firms perish.

Contrary to this, Wiklund *et al.* (2009) proposed that as the environment becomes more turbulent, strategically oriented small firms should grow to the highest since a rapidly changing environment poses opportunities and these firms have a good fit of strategy and opportunities. Innovative activities can be better practiced in a dynamic environment. It can be put to some extent that a turbulent environment decreases the impact of strategic competence on a firm's financial performance.

Environmental turbulence alone significantly predicts a firm's non-financial performance. Although it could be said to some extent, the environment moderates this relationship in a positive direction (positive value of beta). This observation may be there due to the sudden changes in technology and very much volatile tastes and preferences of customers. Gaskill *et al.* (1993) determined that it is the internal factors (i.e., managerial and planning skills) that more often inhibit, or enable business success. Man *et al.* (2008) did a study of entrepreneurial competencies in external construct at Chinese manufacturing firms and found strong support for strategic relationship, conceptual, organizing and opportunity competencies. The reason could be attributed to the point of Chinese culture characterized by Confucian values of a strong commitment to family and relationships, and a strong tendency to promote collectivism and hard work through success (Zapalska & Edwards 2001).

5.0 Conclusions

This research adds to the scarce entrepreneurship literature on firm-level in emerging economies. The research builds on further exploring the strategic dimension of competence given by Chandler & Hanks (1994). Taking into thought that a resource-based view theory should look into the strategic perspective; the study makes use of the ecological approach. wherein the contextual factors (environment turbulence) are taken into consideration while studying the performance of a firm.

In the past research, the environment has been linked to competence and business success (Ahmad *et al.* 2011) efficiency of an organization in terms of resource procurement (Aldrich 1979) and it interacts with founder competence in significantly explaining the firm performance beyond the direct relationships explained by original variables (Chandler & Hanks 1994). The current research also contributes to the existing ecological approach by explaining the role of the environment in financial as well as non-financial performance.

Also strengthening the outcomes of Baum *et al.* (2001), it is noted that environmental turbulence does not affect the performance of a firm in a direct manner but indirectly through its influence on the strategies used by the organization. However, the same is not true in the case of non–financial performance wherein the environmental turbulence directly affects the performance of the firm significantly. The study takes further the work of Man & Lau (2005) who found a significant impact of the industrial environment on entrepreneurial competencies; extending it to the firm level.

The study findings imply that the competence approach in the discipline of entrepreneurship gives a solid foundation to researchers. The study includes firms which are more than 8 years old; can be considered old firms (Chandler & Hanks 1994) and found that competencies substantially affect the long-term performance too, extending the conclusion given by Murray (2003) where short-term projects were the only consideration.

Future studies can add to the concept by considering other dimensions of entrepreneurial competencies and dwell more on the concept of entrepreneur competence specifically under the impact of other possible moderators derived from the particular context.

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Appendix

Figure 2: Financial Performance and Strategic Competence

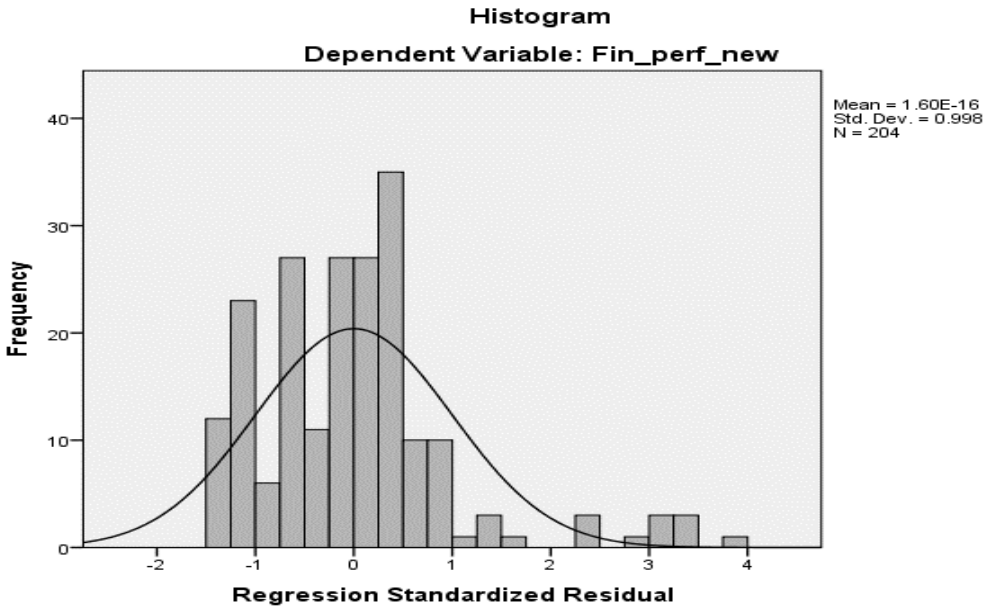

Figure 3: Financial Performance and Environmental Turbulence

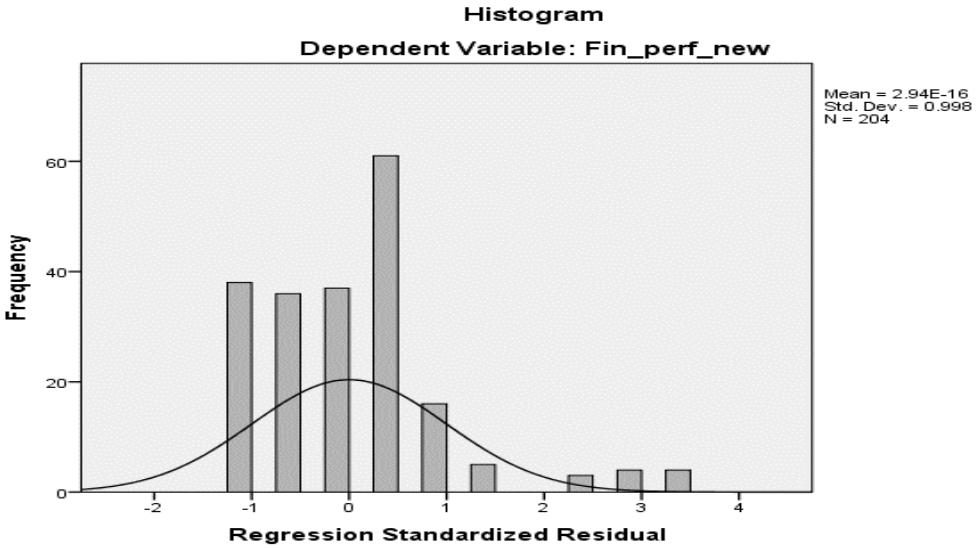

Figure 4: Non-Financial Performance and Strategic Competence

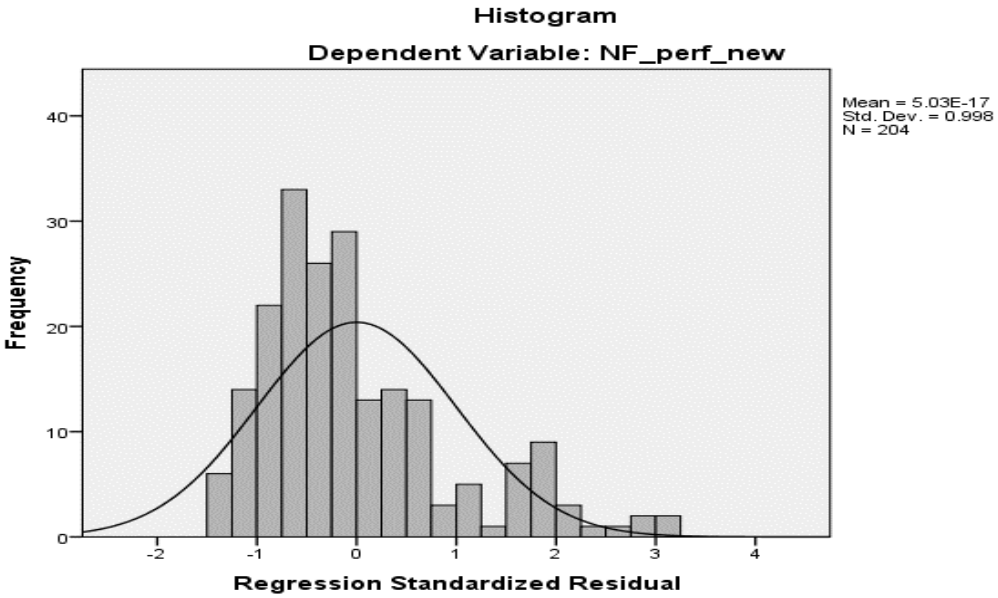

Figure 5: Non-financial Performance and Environmental Turbulence