

## The Role of Environmental Turbulence on Firm Innovativeness: Evidence from Small and Medium Enterprises in Nigeria

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### Abstract

*It is generally agreed that innovation is critical to firm competitive advantage. This study Examine the relationship between environmental turbulence and SMEs innovativeness in Kano Nigeria. SMEs are regarded as an important ingredient in the economic growth of nations and especially so in developing nations such as Nigeria. Accordingly, a sample of 320 SMEs aged between 5 to 20 years from four different sectors participated in the study. Moreover, Structural Equation Modelling (using Smart PLS) approach was applied to assess the measurement model and the relationships between the constructs. Consequently, the findings shows that environmental turbulence (as measured by Technological and demand/Market Turbulence) have positive effect on SMEs ability to innovate. The research expand the innovation literature by confirming the influence of environmental turbulence on SMEs innovativeness in a developing nation (Nigeria). To be precise, the results from this research reveals that the degree of organisational innovativeness for SMEs tends to increase and therefore should be supported in environments with greater technological and market/ demand turbulence. Moreover, this finding will help managers of SMEs on how to improve their firms' ability to innovate in their respective organizations.*

**Key words:** Innovation; Innovativeness; Environmental Turbulence; SMEs

### Introduction

The present business environment is characterised as uncertain and unpredictable. Thus, for firm to survive must remained competitive. Innovation is regarded as a critical factor for achieving competitive advantage and overall firm performance. Therefore, investigating factors that leads to firm's ability to innovate would help organizations to achieve innovation performance, gain early-mover advantage, and overall competitive advantage. To date, the effect of innovativeness and innovation on firm performance has been explored in management literature. Specifically, several studies (e.g. Lumpkin & Dess 1996; Wheelwright & Clark, 1992) demonstrated a significant relationship between innovation and firm performance. However, little empirical studies were conducted on the link between environmental turbulence and firm innovativeness (Wong, 2014). Additionally, most of the studies conducted on firm innovativeness focused on large scale firms as well as developed economy (Keskin, 2006). Thus, more empirical studies are needed on firm innovativeness in the context of Small and Medium Enterprises (SMEs) in developing nations. Accordingly, SMEs are the back born for nation's economic development. Consequently, in both developed and developing nations, SMEs becomes essential source of employment generation (Rahnama, Mousavian & Eshghi 2011; Syed, Shah, Ahmadanj & Shaikh 2012; Mahmood & Hanafi 2013), and innovation (Uwalomwa & Ranti 2009) which in turn stimulates capacity building and diffusion of skills.

Equally important, many people depend on SMEs either directly or indirectly (Fida, 2008). For example, in European Union (EU) member states SMEs employed about 88.8 million labor force and generating value added of about €3,666 trillion which represent 28% of Gross Domestic Product (GDP) (Muller, Gagliardi, Bohn & Klitou, 2014). This indicates that SMEs contributes significantly to EU GDP and overall economy of the region. Relatedly, the Economic Research Institute for ASEAN and East Asia (2014) reported that, SMEs are vital for ASEAN economic integration, generating about 97 percent of employment and contributed 58% of GDP, and 30% of total export earnings. Likewise, in Nigeria over the years, SMEs offers employment opportunities to a greater percentage of above 70 percent, thus making the citizens very productive, which the result helps in capital formation (Dauda & Akingbade, 2010).

Accordingly, one of the significant ways by which SMEs are expected to accomplish these task is by involving in innovation (Radas, & Bozic, 2009). SMEs in developing nations such as Nigeria are performing below the average. Moreover, when compared with most of the developed as well as developing countries, SMEs in Nigeria were left behind regarding competitiveness, innovation and

technological readiness (World Economic Forum, 2017). Thus, investigating factors that lead to firm innovativeness would help SMEs achieve innovation performance and overall competitive advantage. To this end the present study attempt to fill these gap by examining the relationship between environmental turbulent dimensions (technology, competition and market) and firm innovativeness in Nigeria. The paper is divided in to four main sections; first section discusses introduction, second section discusses literature and hypothesis development, third section explain the methodology fourthsection presents the findings of the study and lastly, section five discusses the result.

## **Literature Review and Hypothesis Development**

### **Firm Innovativeness**

Innovativeness has gradually become an essential tool for firms endeavouring to survive in today's complex and competitive environment. Moreover, innovativeness provides the flexibility and readiness to accept novel ways to make solution that is knowledge-based (Liu & Phillips, 2011). Thus, firm innovativeness is regarded as a competitive element for organizational survival. Furthermore, firms' innovativeness manifest its competence in creating, developing and implementing novel ideas, products or processes that would assist them in achieving and sustaining competitive advantage over their rivals. Firm innovativeness has been considered in several studies as either uni- or multidimensional construct. An enormous majority of researchers consider firm innovativeness as unidimensional construct. In this regard, several definitions were found in the literature with regards to different features of organizational setting which include technology-related, behaviour-related and product related (Salavou, 2004).Accordingly, technology-related aspect view innovativeness as a readiness to change from current technology to a new ones. For example, according to Kimberly (1981), "firm innovativeness represents a basic willingness to depart from existing technologies or practices and venture beyond the current state of the art".

Furthermore, firm innovativeness refers to a company's tendency of embracing of new technologies, hence represent its capability to adjust to different environmental opportunities (Kitchell, 1995). Secondly, Behavioural-related aspect view innovativeness as an indication of behavioural changes within the firm. For example, according to Rogers (1983), innovativeness indicates behavioural change that refer to the rate to which an individual or other unit of adoption is comparatively earlier in embracing new ideas than any other member within the system. Lastly, product-related aspect view innovativeness as the ability of the firm's intention to buy new product or services (Foxall, 1984).

Generally, firm innovativeness has been defined in numerous ways by different authors. For example, the term according to Thomson (1965) refers to as "the generation, acceptance and implementation of innovations". Furthermore, Lumpkin and Dess (1996 p. 139) defined innovativeness "as a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes". Salavou (2004) emphasized that innovation appears to incorporate the adoption and/or execution of new defined rather in subjective methods, whereas, innovativeness seems to represent some kind of measurement contingent on an organization's inclination towards innovation. Based on these, innovativeness refers to an organization's propensity to involve in "developing, implementing, and supporting" what is new (e.g. processes, ideas, products and services) to the organization (Luk et al. 2008; Salavou, 2004).

### **Environmental Turbulence**

Researchers and practitioners generally agreed that for organization to be successful and sustain competitive advantage must carefully assess its external environmental forces as well as making a proper response to such environment (Galbraith, 2002). However, the current environment is characterized as dynamic, uncertain and turbulence that affect organizational activities. A turbulent environment is an "environment with high degree of inter-period changes that causes dynamism and uncertainty" (Samson, & Mahmood, 2015).The famous study that has widely conceptualized environmental turbulence is the "Ansoffian's strategic success paradigm" (Ansoff, 1987). Accordingly, Ansoff is one of the earliest researchers to recognized and define the concept of environmental turbulence and also how it influence performance of business. The overall arguments in this research stream is that, firms"must weigh the turbulence of the environment in which they operate" and match their capabilities, aggressiveness, and responsiveness to the environmental turbulence (Uzkurt, Kumar &Kimzan, 2012). Specifically, environmental turbulence according to Ansoff (1987) comprises five levels; "repetitive, expanding,

changing, discontinuous, and surprising—which need to be synchronized with an organization’s internal responses in order to be most effective” (Uzkurt et al., 2012). From the business perspective, environmental turbulence, refers to the volatile and highly varied events which happen within environment in which a specific industry operates (Boyne & Meier, 2009; Ko & Tan, 2012). In contrast Vorhies (1998) view environmental turbulence from dynamism encompassing rapid, unforeseen change in the organization’s environmental sub dimensions such as: technology, new product launches, customers, competitors, and government regulations.

### **Environmental Turbulence and Firm Innovativeness**

To date, numerous studies have been conducted on the role of environmental turbulence and its dimensions on firm innovativeness and overall firm performance. Some of these include; Uzkurt et al., (2012) who conducted a study among 156 SMEs in Turkey. Environmental turbulence was used as independent variable predicting firm innovativeness. The result of their study disclosed that market and or demand turbulence and technological turbulence have a positive consequences on the innovativeness of SMEs. Moreover, AL- Nuiami, Idris, AL-Ferokh and Abu Joma (2014) studied the relationship between environmental turbulence as measured by environmental dynamism, Environmental Complexity and Environmental Predictability and firm Innovative performance. Using a sample of 135 hotel managers the authors found that environmental turbulence positively influenced firm innovative performance. In the same way, Wong (2015) examined the extent in which environmental turbulences contribute towards firm entrepreneurial orientation which in turn lead to new product success. Data were collected using sample of 244 China-based electronics manufacturers. Consequently the finding depicts that environmental turbulence positively influences all the dimensions of entrepreneurial orientation (Innovativeness, risk-takin and proactiveness). Thus environmental turbulence influences behaviors of the firms towards entrepreneurial orientation.

However, regarding the product innovativeness, it is believed to be high during turbulent situation. This was confirmed by Calantone, Garcia and Droge (2003) who studied four different industries. Their finding shows that during technological turbulence the route from innovativeness to “strategic planning and from risk-taking to new product development is very smooth. Hence, turbulence environment predict innovativeness as well as new product development. Similarly, this result was later confirmed by Denneels (2011) who used the sample of 145 U.S firms. The finding of the study reveal that the “relationship of inclination to cannibalize with explorative products is stronger during customer turbulence. In contrast, the relationship of “future-oriented market scanning with explorative products” appeared to be weak during market as well as competitive turbulence. Consequently, environmental turbulence helps organization regarding explorative product. Based on the foregoing discussion the present study proposed the following hypothesis:

**H1:** There may be a relationship between environmental turbulence and firm innovativeness

### **Method**

#### **Measures**

Firm innovativeness is operationalized as the firms’ openness mind and willingness to accept new idea that becomes part of firm’s culture to conduct business. Accordingly, firm innovativeness was measured using five items adopted from Lee and Tsai (2005) which were initially developed by Hurley and Hult, (1998). While environmental turbulence was adopted from Lichtenthaler (2009).

#### **Sample and Data Collection**

The data collection process took place within Small and Medium Enterprises (SMEs) located in Kano state Northwest Nigeria. Consequently, 320 owner/manager of SMEs partaken in the study. Respondents were given a self- administered questionnaires to evaluate the level of environmental turbulence and innovativeness in their respective organizations. Personal visits and telephone contacts help researchers retrieve 253 (79%) questionnaires which filled up by owner/ manager of SMEs. These SMEs comprises of 190 from manufacturing, 23 from agricultural sector, and 40 from service industries. Moreover, these sectors were represented by several areas.

#### **Measurement Model**

Descriptive statistics of the survey items are demonstrated in **Table 1**

We employed composite reliability to assess individual item reliability of the constructs (Hair et al., 2011). Following Hair et al (2014) rule of thumb of threshold of 0.4 and above, we observed that out of 6

environmental turbulence items we retained only 3 as their loadings are above 0.4 (**Table 2**). Similarly regarding firm innovativeness four items were retained from the original five items (**Table 2**). Moreover to assess discriminant validity, we used cross loading (Chin 1999) **Table 3** below, present the result of cross loading.

**Table 1: Descriptive Statistics**

Constructs	Statement	Mean	SD
<b>Firm Innovativeness</b>	Management actively seek innovative ideas	4.30	.671
	People are not penalized for new ideas that don't work" (reverse coded)	4.15	.687
	Innovation is readily accepted in program/project management	4.29	.728
	Technical innovation, based on research results, is readily accepted	4.31	.696
	Our Company frequently tries out new ideas"	4.46	.667
<b>Environmental Turbulence</b>	Technology in our market is changing rapidly	4.3	.660
	Technological developments in our market are rather minor" (reverse coded)	4.23	.629
	Technological changes provide big opportunities in our market"	4.28	.743
	It is very difficult to forecast where the technologies in our market will be in the next five years"	4.34	.702
	Customers in our market are very receptive to new product ideas"	4.46	.700
	In our market customers preferences changes relatively fast"	4.37	.710
	New customers tend to have product-related needs that are different from those of existing customers	4.38	.691
	In our industry the product and brand features vary a lot"	4.53	.647
	Anything that one competitor can offer, others can match readily"	4.32	.557

Arithmetic means of the items in innovativeness scale were between 4.15 and 4.46 except of two items (Table 1). That means that the degree of innovativeness of firms in the sample can be accepted as high. Similarly the mean of the items in the environmental turbulence scale were between 4.28 and 4.46 indication that the firms in the sample were functioning in environmental conditions with high turbulence, uncertainties, and changing rapidly over time.

**Table 2 : Loading Composite Reliability and Average variance Extracted**

Latent Constructs and Indicators	Standardized Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
<b>Firm Innovativeness:</b>		<b>.863</b>	<b>.611</b>
FIN5	.771		
FIN6	.735		
FIN7	.832		
FIN8	.786		
<b>Environmental Turbulence:</b>		<b>.823</b>	<b>.608</b>
EVT2	.793		
EVT4	.756		
EVT5	.790		

As shown in Table 2 above all the individual item reliability are above the threshold of 0.4 (Hair et al., 2014). This indicates that the items are reliable to measure the constructs of this study.

**Table 3  
Cross loading**

	EVT	FIN	
EVT	<b>.793</b>	.448	
EVT	<b>.757</b>	.551	
EVT	<b>.789</b>	.440	
FIN	.442	<b>.771</b>	
FIN	.499	.	<b>.740</b>
FIN	.505	<b>.830</b>	
FIN	.505	<b>.784</b>	

Table 3, shows that all the indicator loadings are greater than the cross loading, suggesting discriminant validity was established (Chin, 1999).

**Structural Model**

In previous section the measurement model has been discussed, therefore, this section evaluates the structural model of the study. The main assessing criteria for structural model are R-square ( $R^2$ ) measure, predictive relevance ( $Q^2$ ) effect size ( $f^2$ ), and the level of significance of the path coefficient (Hair et al., 2011). Therefore, this study employed a standard bootstrapping process whereby creating a huge samples (i.e. 5,000) (Hair et al., 2011; Hair et al., 2014), and 253 cases to evaluate significance of the path coefficients. In Table 4, below the  $R^2$  value of endogenous latent variable is presented.

**Table 4: Variance Explained in the Endogenous Latent Variables**

Latent Variable	Variance Explained ( $R^2$ )
Firm Innovativeness	30%

The result depicts that the present research model explain about 30% of the total variance in firm innovativeness. This advocates that environmental turbulence explained 30% of the variance in firm innovativeness. Thus, this result demonstrates an acceptable  $R^2$  value which considered as moderate (Hair et al., 2011). Moreover, f-square ( $f^2$ ) can be assess to see whether the influence of a particular independent latent variable on dependent latent variable is essential. Therefore, Table 3 presents the assessment of effect size ( $f^2$ ) of this model.

**Table 5: Effect Sizes (f-Square) of the Latent Variables Based on Cohen's (1988) Recommendation**

	f-square ( $f^2$ )	Effect size
Environmental Turbulence-> Firm Innovativeness	.32	Moderate

As presented in Table V above, the effect size of environmental turbulence on firm innovativeness is .32. Thus, consisted with the rule of thumb Cohen's (1988), the effect size of this exogenous latent variable on firm innovativeness can be regarded as moderate.

**Table 6: Cross validated Redundancy**

Total	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
Firm Innovativeness	968.00	713.55	.26

Similarly, the assessment of predictive relevance is presented in Table 6 and the result shows that endogenous latent construct's Q<sup>2</sup> is greater than zero, thus indicating predictive relevance of the model has been achieved (Chin, 1998; Henseler *et al.*, 2009).

**Table 7: Structural Model Assessment**

Path	Original Sample	Std. Deviation	T-Statistics	Sig.
Environmental turbulence->firm innovativeness	0.34	0.06	5.11	0.00*

Note:\* significant at .00% level

Table 7 above demonstrate the regression result of this study. The findings show that the relationship between environmental turbulence and firm innovativeness is positive and significant.

### Discussion

Innovativeness has become one of the most important drivers to stay ahead of competition in today's marketplace. Therefore, researchers are increasingly studying innovation in an attempt to better understand its antecedents, moderators and impacts. This study viewed innovation as a critical means which businesses use for adapting themselves to changing, uncertain and complex external environmental conditions. The pace of change in today's business environment is very fast and businesses recognise that survival requires innovation as a means to survive and grow. Thus, it is important to examine the relationship between environmental changes and innovation. This study investigated the role of environmental turbulence (uncertainties) on firm innovativeness specifically SMEs in Nigeria.

Results show that technological and market/demand turbulence have a significant impact on the innovativeness of the SME firms in Nigeria. When firms face high technological and market/demand turbulence or uncertainties, they experience higher levels of firm innovativeness. High levels of technological turbulence in the environment tend to force firms to frequently evaluate and embrace new solutions for their businesses. Consequently leads to opportunities for innovative developments in product or processes. Similarly high levels of market/demand turbulence tends to push the firm towards heightened customer responsiveness and most likely benefits the firm in the innovating means for improving the quality, features or price of their product offerings. In other words, SMEs which want to stay innovative and competitive must focus on being responsive to the environmental uncertainties. Accordingly, environmental turbulence helps organization regarding explorative product. This finding is consistent with previous findings. For instance, Uzkuurt *et al.*, (2012) found that market and or demand turbulence and technological turbulence have a positive consequence on the innovativeness of SMEs in Turkey. Furthermore, in a conceptual paper regarding environmental uncertainty and its relation to firm innovativeness, Jahanshahi, Zhang and Brem (2014) emphasized on the contrasting role of uncertainty in facilitating and preventing the establishment of innovativeness within the firm. Furthermore, the more the rate of environmental changes and difficulties the better for the firms to be responsive regarding these changes (Gaur, Vasudevan & Gaur, 2011).

### Conclusion and Implication

It is generally agreed that innovation is a critical factor in firms' performance and survival as a result of the growth of the competitive and uncertain environment (Wheelwright and Clark, 1992). Therefore it is essential to understand firm's conditions that influence innovative capabilities. Consequently, researchers consider the role of environmental turbulence as one of the essential elements that lead to firm innovativeness. However, empirical studies regarding this link specifically on SMEs is limited. In addition, studies regarding this relationship under different environmental situations are also limited. So, the relationship between the constructs was analysed. Accordingly, the finding revealed a positive influence of environmental turbulence on SMEs innovativeness. Thus this study contributes to the innovation literature by confirming environmental turbulence influence SMEs innovativeness. The

findings of this research provide valuable information that could be used to make enhancements in organizational practices. Thus, when seeking to increase firm innovative capabilities, practitioners should take into account the improvement of market orientation in their respective organizations.

Similarly, important managerial insights arise from these findings. When an SME organisation is facing uncertain and complex external environments, it is likely that the internal mechanisms are poised for greater innovativeness. This would then be an ideal time for managers to further encourage innovation and reinforce messages which emphasise the importance and openness to innovation. In times of external environmental uncertainty, managers will benefit from the realisation that more aggressive championing and support for innovativeness is necessary. If not specifically promoted, then innovative responses may not naturally emanate from their organisations. Internal systems, policies and procedures which share innovative work, make innovation easy and coveted, and make innovation a priority would be essential during these times. Other research has also found that SME's which invest in high levels of internal R&D resources have high levels of innovation performance (Kang & Lee, 2008).

## References

- Alguezaui, S., & Filieri, R. (2010). Investigating the role of social capital in innovation: sparse versus dense network. *Journal of knowledge management*, 14(6), 891-909.
- Al-Nuiami, M., Idris, W. M. S., & Moh'd AL-Ferokh, F. A. (2014). An empirical study of the moderator effect of entrepreneurial orientation on the relationship between environmental turbulence and innovation performance in five-star hotels in Jordan. *International Journal of Business Administration*, 5(2), 111.
- Ansoff, H. I. (1987). The emerging paradigm of strategic behavior. *Strategic management journal*, 8(6), 501-515.
- Boyne, G. A., & Meier, K. J. (2009). Environmental change, human resources and organizational turnaround. *Journal of Management Studies*, 46(5), 835-863
- Calantone, R., Garcia, R., & Dröge, C. (2003). The effects of environmental turbulence on new product development strategy planning. *Journal of Product Innovation Management*, 20(2), 90-103.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. New Jersey: Lawrence Erlbaum Associates, Inc. Publishers.
- Danneels, E., & Sethi, R. (2011). New product exploration under environmental turbulence. *Organization Science*, 22(4), 1026-1039.
- Dauda, Y. A., & Akingbade, W. A. (2010). Employee's market orientation and business performance in Nigeria: Analysis of small business enterprises in Lagos state. *International Journal of marketing studies*, 2(2), p134.
- Dibrell, C., Craig, J., & Hansen, E. (2011). Natural environment, market orientation, and firm innovativeness: an organizational life cycle perspective. *Journal of Small Business Management*, 49(3), 467-489.
- Didonet, S., Simmons, G., Díaz-Villavicencio, G., & Palmer, M. (2012). The relationship between small business market orientation and environmental uncertainty. *Marketing Intelligence & Planning*, 30(7), 757-779.
- Fida, B. (2008). The Role of Small and Medium Enterprises (SMEs) in Economic Development. *Enterprise Development, Free Online Library, December*.
- Foxall, G. R. (1984). *Corporate innovation: Marketing and strategy*. Taylor & Francis.
- Galbraith, J. R. (2002). *Designing organizations. An executive guide to strategy, structure, and processes*: San Francisco: Jossey-Bass Publishers
- Gaur, S. S., Vasudevan, H., & Gaur, A. S. (2011). Market orientation and manufacturing performance of Indian SMEs: Moderating role of firm resources and environmental factors. *European Journal of Marketing*, 45(7/8), 1172-1193.
- Gelhard, C., Kortmann, S., & Leker, J. (2014, January). A Contemporary View on Market Orientation and Innovativeness: The Mediating Role of Customer Co-Creation. In *ISPIM Conference Proceedings* (p. 1). The International Society for Professional Innovation Management (ISPIM).
- Grinstein, A. (2008). The effect of market orientation and its components on innovation consequences: a meta-analysis. *Journal of the Academy of Marketing Science*, 36(2), 166-173.

- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks: Sage Publications.
- Han, J. K., Kim, N., & Srivastava, R. K. (1998). Market orientation and organizational performance: is innovation a missing link?. *The Journal of marketing*, 30-45.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *The Journal of Marketing*, 42-54.
- Ihinmoyan, T., & Akinyele, S. T. (2011). Relationship between market orientation, firm innovativeness and innovative performance. *Journal of Contemporary Management Research*, 5(2), 42.
- Jahanshahi, A. A., Zhang, S. X., & Brem, A. (2014, January). Perceived Environmental Uncertainty and Firm Innovativeness. In *ISPIM Conference Proceedings* (p. 1). The International Society for Professional Innovation Management (ISPIM).
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: antecedents and consequences. *The Journal of marketing*, 53-70.
- Kam-Sing Wong, S. (2014). Impacts of environmental turbulence on entrepreneurial orientation and new product success. *European Journal of Innovation Management*, 17(2), 229-249.
- Kang, KN and YS Lee (2008). What affects the innovation performance of small and medium sized enterprises (SMEs) in the biotechnology industry? An empirical study on Korean biotech SMEs. *Biotechnology Letters*, 30, 1699-1704.
- Keskin, H. (2006). Market orientation, learning orientation, and innovation capabilities in SMEs: An extended model. *European Journal of Innovation Management*, 9(4), 396-417
- Kibbeling, M., der Bij, H., & Weele, A. (2013). Market orientation and innovativeness in supply chains: Supplier's impact on customer satisfaction. *Journal of Product Innovation Management*, 30(3), 500-515.
- Laforet, S. (2008). Size, strategic, and market orientation effects on innovation. *Journal of business Research*, 61(7), 753-764.
- Kimberly, J. R., & Evanisko, M. J. (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal*, 24(4), 689-713.
- Kitchell, S. (1995). Corporate culture, environmental adaptation, and innovation adoption: a qualitative/quantitative approach. *Journal of the Academy of Marketing Science*, 23(3), 195-205.
- Ko, S., & Tan, B.-S. (2012). Knowledge transfer, perceived environmental turbulence and innovation in China. *Journal of Chinese Entrepreneurship*, 4(2), 104-116.
- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: the construct, research propositions, and managerial implications. *The Journal of Marketing*, 1-18.
- Lee, T. S., & Tsai, H. J. (2005). The effects of business operation mode on market orientation, learning orientation and innovativeness. *Industrial Management & Data Systems*, 105(3), 325-348.
- Lichtenthaler, U. (2009). Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. *Academy of management journal*, 52(4), 822-846.
- Liu, Y., & Phillips, J. S. (2011). Examining the antecedents of knowledge sharing in facilitating team innovativeness from a multilevel perspective. *International Journal of Information Management*, 31(1), 44-52.
- Luk, C. L., Yau, O. H., Sin, L. Y., Alan, C. B., Chow, R. P., & Lee, J. S. (2008). The effects of social capital and organizational innovativeness in different institutional contexts. *Journal of International Business Studies*, 39(4), 589-612.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of management Review*, 21(1), 135-172.
- Mahmood, R., & Hanafi, N. (2013). Entrepreneurial orientation and business performance of women-owned small and medium enterprises in Malaysia: competitive advantage as a mediator. *International Journal of Business and Social Science*, 4(1).
- Menguc, B., & Auh, S. (2006). Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the academy of marketing science*, 34(1), 63-73.

- Muller, P., Gagliardi, D., Caliandro, C., Bahn, N. U., & Klitou, D. (2014). Annual Report on European SMEs 2013/2014 – A partial and fragile recovery In H. Zakai, D. Vidal L. Probst, A. Schierch & A. Matters (Eds.), Annual Report on European SMEs 2013/2014 – A partial and fragile recovery (pp. 4-120). Brussels, BE: European Union.
- Polat, I., & Mutlu, H. M. (2012). The impacts of market orientation, entrepreneurial orientation, environmental uncertainty and internationalization speed on firm performance. *European Researcher*, (27), 1248-1254.
- Radas, S., & Božić, L. (2009). The antecedents of SME innovativeness in an emerging transition economy. *Technovation*, 29(6), 438-450
- Rahnama, A., Mousavian, S. J., Eshghi, D., & Alaei, A. (2011). The Role of Industrial Incentives in Development of Small and Medium Industries. *International Journal of Business Administration*, 2(4), 25.
- Rogers, E.M. (1983), Diffusion of Innovations. The Free Press, New York, NY.
- Salavou, H. (2004). The concept of innovativeness: should we need to focus? *European Journal of Innovation Management*, 7(1), 33-44.
- Samson, A. T., & Mahmood, R. (2015). The Impact of Entrepreneurial Orientation, Reconfiguring Capability and Moderation of Environmental Turbulence on Export Performance of SMEs in Nigeria. *International Foundation for Research and Development (IFRD)*, 7(3), 76
- Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. *The Journal of Marketewing*, 63-74.
- Song, M., & Parry, M. E. (2009). The desired level of market orientation and business unit performance. *Journal of the Academy of Marketing Science*, 37(2), 144-160.
- Subramanian, R., & Gopalakrishna, P. (2001). The market orientation–performance relationship in the context of a developing economy: An empirical analysis. *Journal of Business Research*, 53(1), 1- 13.
- Syed, A. A. S. G., Shah, N., Shaikh, K. H., Ahmadani, M. M., & Shaikh, F. M. (2012). Impact of SMEs on Employment in Textile Industry of Pakistan. *Asian Social Science*, 8(4), p131.
- Thompson, V. A. (1965). Bureaucracy and innovation. *Administrative science quarterly*, 1-20.
- Uwalomwa, U., & Ranti, O. O. (2009). Adoption of Information and Communication Technology among small and medium scale enterprises in Nigeria. *African Journal of Business and Economic Research*, 4(2\_3), 73-84. Uz Kurt, C., Kumar, R., Kimzan, H. S., & Sert, H. (2012).
- Uz Kurt, C., Kumar, R., Kimzan, H. S., & Sert, H. (2012). The impact of environmental uncertainty dimensions on organisational innovativeness: An empirical study on SMEs. *International Journal of Innovation Management*, 16(02), 1250015.
- World Economic Forum (2017). Global Innovation Index. <https://www.weforum.org/events/world-economic-forum-annual-meeting-2017>