Environmental Uncertainty and Organization Performance in Medium Sized Enterprises (MEs)

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Abstract

In the new global economy, marked by environmental uncertainty is an opportunity and a threat to businesses. Organization performance is a major concern for all organizations and involves multitudes of antecedents. Hence, reducing environmental uncertainty and dependency through the use ofstrategic actions in the resource dependency theory (RDT) framework led to higher levels of organization performance. The objective of the study was to determine the effect of environmental uncertainty on organizational performance of medium sized enterprises in Kenya. The study was guided by Structural Contingency Theory. To test the current study hypothesis, we apply linear regressions. The study targeted 10,974 medium sized enterprises in Nairobi County. Utilizing a sample size of 291 firms; selected using stratified and simple random sampling techniques. Data was collected using structured questioners and items anchored on a five-point likert scale. The results showed that technological turbulence (β =.428, $\rho < 0.05$).and market turbulence (β = .380, $\rho < 0.05$) had a positive and significant effect on organization performance respectively. The study concludes that environmental uncertaintyenhances product development to meet consumer changing preferences. Therefore, environmental uncertainty enhances competitive capabilities and long-term organizational performance.

Keywords: Technological Turbulence, Market Turbulence; Environmental Uncertainty; Organization Performance; Medium sized Enterprises

INTRODUCTION

Organization performance is a necessary factor in organizational analysis, and there is no theory on organizations that is void of the concept (Hassas, Jabba, & Bentahar, 2021; Goodman & Pennings, 1977). Organizational performance is the outcome of various organizational processes that occur as a result of firm daily operations (Hussein, Mohamad, Noordin, & Ishak, 2014). Essentially, organization performance encompasses various areas of firm outcomes (Quemada et al., 2020;

Richard et al., 2009; Thang et al., 2008; Morgan & Strong, 2003; Nwokah, 2008). Thus, organizational performance is a firm's ability to attain its goals by using resources in an efficient and effective manner (Chukuigwe, 2022; Daft, 2000). Therefore, organizational performance is the most important indicator of organizational success (Tegerean & Gavrea, 2010). Additionally, organizational performance is based upon the idea that an organization is a voluntary association of productive assets that includes human, physical, and capital resources aimed at achieving a shared purpose (Alchian & Demsetz, 1972; Barney, 2001; Jensen & Meckling, 1976; Simon, 1976; Amis, Barney, Mahoney, & Wang, 2020). According to contingency theory, firms perform more effectively if control systems are managed and designed to match contextual variables such as environmental uncertainty (Talukdar, 2020; Pfeffer, 1982). Environmental uncertainty is the degree to which an organization lacks factual or competent information concerning the internal and external operating environment of the organization (Jabnoun, Khalifah, & Yusuf, 2003). Hence, the organizational environment is a major source of the contingencies faced by managers (Bourgeois, 1980; Elbanna, 2012).

Generally, environmental uncertainty is high when an organization's environment is unpredictable (Zayadin, Zucchella, Anand, Jones, & Ameen, 2023; García-Pérez & Yanes-Estévez, 2022; Milliken, 1987). Environmental uncertainty influences business strategies, which in turn influence business performance (Fazal, Muhammad, & Zahoor, 2020). Generally, an organization's success depends on the organization's environment (Parnell et al., 2012). Previous studies have established a link between organization strategy and organization performance (Skinner, 1969; Wheelwright, 1984; Hayes & Wheelwright, 1984; George, Walker, & Monster, 2019). TheemSwamidass and Newell (2019) found that companies in various countries utilized known sequential strategies in uncertain environments to enhance the performance of manufacturing companies. Thus, environmental uncertainty increases risk-taking by creating an opportunity through a locus of control (Klenner, Gemser& Karpen, 2022; Sarasvathy, 2001).

In addition, uncertainty in the organizational environment is the starting point from which opportunities are identified and discussed (Servais &Aidemark, 2023; Shane &Venkataraman, 2000). According to Paulraj and Chen (2007), environmental uncertainty has significantly influenced firm performance. Previous studies on the relationship between environmental uncertainty and firm performance represent a perplexing issue in the literature (López-Gamero et al., 2009; Elbanna, 2010). Several studies have investigated and conceptualized the organizational environment and its impact on organizational performance (Sharfaei, Wei Ong, & Ojo, 2023; Zubac, Dasborough, Hughes, Jiang, Kirkpatrick, Martinsons, &Zwikael, 2021; Hart and Banbury, 1994). However, the findings related to the type and strength of the relationship between environmental uncertainty and performance are mixed.

Previous studies have supported the notion that environmental uncertainty can encourage activities that have a positive effect on organizational performance (Klenner, Gemser, & Karpen, 2022; Sarasvathy, 2001). According to Paulraj and Chen (2007), environmental uncertainty has significantly influenced firm performance. However, contradicting results by Ebrahimi, Shafiee, Gholampour, and Yousefi (2018), whose research findings indicated that high levels of

environmental turbulence resulted in lower performance for small and medium-sized enterprises, others did not identify a positive impact of the environment on firm performance (Link and Naveh, 2006; Wagner, 2005; Watson et al., 2004). Considering that contradictory results still exist between the relationship between environmental uncertainty and performance. Based on the discussion, the study sought to examine and analyse: [1] the effect of technological turbulence on organizational performance of medium sized enterprises. [2] The effect of market turbulence on organization performance of medium sized enterprises.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Environmental Uncertainty and Organizational Performance

Organizational performance is the ability of an organization to reach its goals and optimize results. Similarly, organizational performance is an important indicator of organizational success (Gavrea, Stegerean, &Divoiu, 2019; Stegerean&Gavrea, 2010). While environmental uncertainty is the degree to which future states of the world cannot be anticipated and accurately predicted, environmental uncertainty is problematic for an organization only when it impacts a critical aspect of its performance.

Thus, uncertainty is an important construct in organization theory, marketing, and strategic management (Sanders, 2005). Entrepreneurs often make decisions under uncertain conditions. Generally, for an organization to survive in a dynamic environment, they have to become more responsive as compared to when under low environmental uncertainty. Hence, uncertainty increases the need for organizations to become more proactive and aggressive in order to be innovative (Vaitoonkiat & Charoensukmongkol, 2020; Ozsomer *et al*., 1997). Previous studies pointed out that more than 50% of new products and innovations emerged as a result of environmental factors (Haque, Fatima, Abid, & Qamar, 2019; Miller & Friesen, 1982; Myers & Marquis, 1969). For a long time, environmental uncertainty has been considered an important variable to determine a firm's performance (Jauch & Kraft, 1986; Song, Augustine, & Yang, 2016). According to Henderson (1993), organizational performance is affected by an insufficient and late reaction to fluctuations in the environment (Pollard, Hobbs, Henderson, Caballero, & Lewandowski, 2021). However, in uncertain environments, opportunities are higher than in stable environments (Afshar Jahanshahi & Brem, 2020; Zahra, 1996). Thus, the opportunities enable organizations to increase innovation, resulting in high organizational performance.

Generally, environmental uncertainty has a significant influence on firm performance and determines which main components should be evaluated and focuses on which could assist firms in achieving the goal (Paulraj and Chen, 2007; Fisher, 1997). Additionally, environmental uncertainty has been associated with the creation of a new competitive edge as a result of expanding global competition and rapidly changing markets through technological adaptation (Kalyar, Shafique, & Ahmad, 2020; Sanders, 2005). In addition, organizations will enhance sustainability and better performance only if firms can recognize and align themselves with the environment (Sabherwal, Sabherwal, Havakhor & Steelman, 2019; Bergron *et al*., 2004; Sabherwal and Chan, 2001; Stock *et al.,* 2000). According to Hosseini & Sheikhi (2012), environmental uncertainty enhances

competitive capabilities and long-term organizational performance. Previous studies have established a positive relationship between environment dynamics and organization performance (Adhikara, MF, & Nur Diana, 2022; Molina Ramirez, 2021; Harrington, Lemark, Reed, and Kendall, 2004). Generally, strategic decisions are a reflection of how an organization manages its interaction with the environment embedded in both the organization's inner and outer contexts (Elbanna, 2006; Mitchell *et al.,* 2011). However, Cadeaux and Ng (2012) proved that increasing environmental uncertainty results in a decrease in sales volume, which affects firm performance negatively.

Similarly, Aprisma and Sudaryati (2020) ascertained that environmental uncertainty causes the marketing distribution channel to become obstructed, resulting in decreased sales volume. Additionally, environmental uncertainty as a result of changes in information technology, marketing distribution channels, and the existence of increasingly fierce competition results in lower sales volume, hence affecting organization performance. Moreover, reducing environmental uncertainty leads to higher levels of company performance (Bendickson, Gur, & Taylor, 2016). Therefore, environmental uncertainty has a negative effect on a firm's performance (Liu, 2017). This is also in line with (Bendickson *et al*. (2018), who proved that environmental uncertainty has a negative effect on firm performance. Research from (Pourali et al. (2019) gave results that contradicted the research of Bendickson et al. (2018) and Cadeaux and Ng (2012). According to Pourali*et al*. (2019), environmental uncertainty does not have a significant effect on fluctuations in profitability.

Previous research has shown that there is a negative influence between environmental uncertainty and firm performance. While other studies have shown it has a positive effect, others establish no effect of environmental uncertainty on organizational performance. The inconsistency in results is attributed to measurement faults in indicators, case studies, methodology, and country-specific characteristics (Sabherwal, Sabherwal, Havakhor, & Steelman, 2019; Bergron *et al*., 2004; Sabherwal and Chan, 2001; Stock *et al.,* 2000). Hence, there is a need to re-examine the effect of environmental uncertainty on organizational performance among medium-sized enterprises.

Market Turbulence and Organization Performance

Market uncertainty is the amount of vagueness and risk that exists in an economy due to various factors, which may include regulations, operational costs, trade restrictions, etc. It can be a result of different circumstances, such as competition, consumer behavior, policies, and technological change (Incekara, 2018). An uncertain business environment may result in major changes to the work processes of a firm, contrary to periods when stability and economic growth are prevalent (Diez, 2021; O'toole& Meier, 2014). Markets that are constantly changing require a more careful examination in order to minimize existing threats and exploit the opportunities that emerge from these circumstances (Goll & Rasheed, 1997; Pashaa&Poisterb, 2017; Zhang et al., 2022). While organizational performance refers to the outcomes of various organizational processes that occur in the course of its daily operations (Hussein, Mohamad, Noordin, & Ishak, 2014).

Market turbulence is the rate of change needed to compose the preferences of customers along with the external situations of the market to gain a competitive edge. Market turbulence reflects the degree of change in customer preferences for products in an industry (Jaworski and Kohli, 1993) and is a key source of environmental turbulence. Market turbulence affects a firm in relation to the strategic deployment of resources. Structural contingency theory suggests that the value of a resource depends on the context within which it is deployed. According to Hult et al. (2004), market turbulence reflects rapidly changing buyer preferences, wide-ranging needs and wants, ongoing buyer entry and exit from the market, and constant emphasis on offering new products. Generally, market turbulence results from changes in the client's composition and preferences (Slatter and Narver, 1994).

De Clercq et al. (2018) supported the idea that market turbulence enhances organizational performance. Similarly, Blind et al. (2016) establish a positive effect between market turbulent and organizational performance. However, their findings contradicted those of Ebrahimi, Shafiee, Gholampour, and Yousefi (2018), whose research findings indicated that high levels of market turbulence result in lower small and medium-sized enterprise performance. Considering that previous studies looked at the relationship between market turbulence and the organizational performance of small and medium-sized enterprises (Blind et al., 2016), there is a dissimilar effect on firm performance in large versus small companies (Mubeen et al., 2021). As a result, it is necessary to determine whether market turbulence has an impact on organizational performance among medium-sized enterprises. We hypothesize that market turbulence has no significant effect on organizational performance.

Effect of Technological Turbulence on Organization Performance

Technological turbulence is the inability of an organization to completely understand or accurately predict some aspect of the technological environment (Gifford, Bobbitt, & Slocum, 1979; Jurkovich, 1974; Milliken, 1987). Hence, technological turbulence is the rate at which technological advancement occurs within an industry. Technological turbulence is a key element of environmental change that could present opportunities for organizations to adapt to or adopt new technologies that can further engender their performance objectives (Zhou et al., 2018). Consequently, the adoption of newer and better-performing technologies could enhance organizational performance (Renwick et al., 2016). In a turbulent technological environment, there is generally a short cycle from the acceptance and adoption of a technology to its obsolescence and replacement (Song et al., 2005).

In a technologically turbulent environment, organizations have to adapt to the technological changes within an industry, which bring along risk-taking decisions, market haziness, and risky investments (Calantone et al., 2003). Risk-taking is an individual’s orientation toward taking chances in uncertain decision-making contexts (Koh, 1996). Risk-taking is positively related to firm performance and conditional on technological turbulence (Pratono, 2018). Thus, it can be argued that the level of technological turbulence influences the perception of an entrepreneur’s risk-taking. In low-technological turbulence environments, technological changes are predictable, and in such environments, entrepreneurs face relatively little uncertainty (Wu et al., 2005; Pratono et al., 2018). Technological uncertainty can

further heighten the information asymmetry between shareholders and managers; hence, firms will opt for specific technology paths and business solutions.

Technological turbulence indicates technological changes in specific sector over time, which has a great impact on creating great marketing opportunities, and reflects the mangers perceptions about the technological changes and developments (Varela & Delrio, 2003). Even when a firm makes outstanding advances in its product/process technologies, unexpected shifts in technology platforms in the industry can lead to the loss of competitive advantage (Kor & Mahoney 2005). The effect of the technological turbulences comes through the development in the works and affects the special demand for the introduced products or services from the organization positively or negatively (Hall & Rosson, 2006). There is an argument that the higher the technological turbulence, the less effective external search breadth and the more effective external search depth in influencing firm's overall performance (Cruz-González, López-Sáez, Navas-López, & Delgado-Verde, 2015).

This argumentation seems to point that "paradoxically, the systems that help ensure organizational survival in stable environments contribute to inertia and organizational decline when the company is confronted with rapid change" (Hill & Rothaermel, 2003). Therefore, we expect that in highly technologically dynamic environments the gains of depth, in terms of adaptation, will overcome its greater costs, leading to higher firm performance (Cruz-González et al., 2015). Thus, increase in technological uncertainty results in the creation of differentiated competitive advantage, which results in a positive change in organization performance. Similar findings were established by Siggelkow and Rivkin (2005). As a result, it is necessary to determine whether technological turbulence has an impact on organizational performance of medium-sized enterprises. We hypothesize that technological turbulence has no significant effect on organizational performance.

Conceptual Frameworks

Figure 1: below represent the effect of financial performance and firm value of firms listed in Nairobi Security Exchange.

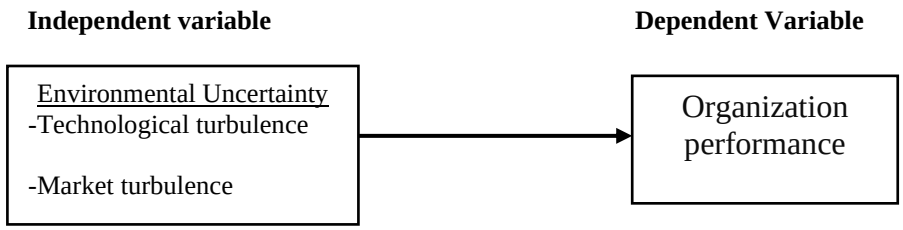

Figure 1: Conceptual Framework
Source: Researcher Data (2023)

The independent variable of the study is financial performance, digital disclosure is the moderating variable and the dependent variable is firm value as illustrated in figure 1.

Theoretical foundation

Structural Contingency Theory (SCT)

The contingency theory of organizational structure is also referred to as the structural contingency theory (LY & Le-Hoang, 2020; Pfeffer, 1982). The Structural Contingency Theory (SCT) postulates that there is no universal effective ways of managing organization. However organizational effectiveness depends on the "fit" or "match" between the organization and its environment (Ali &Varoğlu, 2022; Lawrence and Lorsch, 1967; Galbraith, 1977; Venkatraman, 1989; Scott, 1992). Beyond purely organizational contexts the Structural Contingency Theory (SCT) also considers how the effectiveness of inter-organizational coordination and Inter organizational structures will depend on environmental conditions. The Contingency Theory (SCT) treats environmental uncertainty as a contingency dimension that cuts across such environmental elements such as, product technology, supply prices, sales levels and public policy. The contingency theory contends that organizations in uncertain environments are more effective when they adopt more organic structures (Donaldson, 1995). The comprehensive and optimistic review of environmental uncertainty work in marketing has taken an explicit contingency theory perspective (Zeithaml et al., 1988). Contingency theory has criticized the classical management theory from being neglected to various aspects of the contingency factors. Both Max Weber with bureaucracy theory and Frederic Taylor with scientific management theory challenge the view bias on internal organization. The bureaucracy theory considered as "iron cage" due to imposing on efficiency which bring about ambivalent analysis, such as specialization, formal rule and procedure, and scientific performance appraisal (Pheng & Shang, 2011; Adler, 2012). The contingency model acknowledges intelligence of firm'sto respond environmental turbulence. Johannesson and Palona (2010) point out the role of intelligence strategy to deal with various level of environmental turbulence to achieve firm performance. Moreover, Valentinov (2012) highlight the linkage between excessive internal systemic complexity and carrying capacity of the environment. Contingency strategy points out the adaptive resource-based strategy of firms to respond environmental turbulence.

In the emerging economy context, the growing firms are associated with ability to deal with transition system with a corrupt environment (Xheneti& Bartlett, 2012). Hence, high perceived environmental uncertainty plays pivotal role on organization control, but mixed result in small firms (Jokipii, 2010). Respond of managers to external environment is associated with opportunistic surveillance (Johannesson & Palona, 2010). According to Sundqvist et al. (2012) consider the need of firms to allocate resources carefully and set entrepreneurial strategies to achieve high level of firm performance. The pay-offs associated with environmental turbulence need to be taken into account in calibrating resource allocation (Wang & Fang, 2012). In the small business context, firms with high growth tend to carry out consumer and competitor intelligence, which become part of knowledge management system (Lowe, Lowe, & Lynch, 2010). Chi and Sun (2013) argue that standardization and routinization of management activities and centralized decision-making processes can increase efficiency during the stable environment, while more turbulence in business environment will bring about less efficiency in organization structure. In contingency model, firms gain knowledge through assessing their business environment and set strategy, which are appropriate for each level of environmental

turbulence (Johannesson & Palona, 2010). Hence, during perceived environmental uncertainties medium sized enterprises are able to gain knowledge through assessing the business environment and setting up strategies to enhance their competitiveness. Thus, environmental turbulence enhances sustainable firm behavior, through the development of strong network relationships (De Clercq et al., 2018).

METHODOLOGY

Data collection and sample

We conducted a questionnaire survey in Nairobi County, Kenya to test the hypotheses of this study. We adopted a three-step procedure to develop the questionnaire. First, we designed preliminary questionnaire based on previous studies. Then, we executed a pilot test with 30 experienced founders from different industries to check the accuracy of the translation and validity of the survey items. Finally, we revised the way the items were expressed and modified the questionnaire based on the pilot study test. This procedure improved the validity of the final questionnaire. The data was collected from Nairobi County and its environs, in the capital city of Kenya. Being the Kenyan capital, the national baseline survey (National Baseline Survey, 2022) indicated that about 28% of the total MEs are located in Nairobi. Due to the high concentration of medium sized enterprises and the high economic activities. The study collected data in Nairobi County as it provides a representative sample. The survey questionnaires were distributed by the researcher and research assistant from December 2022 to March 2023. The study distributed 386 questionnaires to the selected medium sized enterprises based on Yamane (1967:886) formula, which was modified by Saunders *et al*. (2003) to calculate sample sizes since the target population was known.

$$n = \frac{N}{1 + Ne^2} = \frac{10{,}924}{1 + [10{,}924\ (0.05)^2]}$$

In the first round, we received 326 responses to the questionnaires. The medium sized enterprises represented in the sample came from different industries, e.g. software services, information technology, equipment manufacturing, etc. Based on Li and Atuahene-Gima (2001), we defined new ventures as companies that were registered within the past 8 years and deleted responses from those that did not meet this requirement. We also deleted incomplete responses. This resulted in 291 valid questionnaires. The profiles of the sample are shown in Table 1.

Table 1: Sample Selection and Region

Sample Selection	**No of firms sampled**
Sample	386
Companies that responded	326
Companies with missing data	35
Final Sample	**291**

Note(s): the section describes the sample selection procedure

Source: Research Data, 2023

Measurement of Variable and Research Model

The core variables used in this study are medium sized enterprise performance, environmental uncertainty and organization performance. To ensure the

questionnaire's validity, measurements of the core variables were developed based on prior studies as follows.

Depended Variable-Organization Performance

Previous studies have measure organizational performance using the financial measures of Ramanujam and Venkatraman's (1987) scale and the non-financial performance scale of Avci et al. (2011), respectively. Generally, the performance measure selected has been considered since it has an influence on strategy performance studies (Jusoh & Parnell, 2008; Pongatichat & Johnston, 2008; Hillman& Keim, 2001; Van der Stede et al., 2006). Respondents were asked to provide a five-point rating of organization performance relative to its major competitors in the last five years for each item, varying from 1 = 'deteriorated significantly', and 5 = 'improved significantly'. Cronbach's α for the entire scale is 0.792. All the items on non financial performance in the past five year (factor loading = 0.707); financial performance in the past five year (factor loading = .826).

Independent Variable-Environmental Uncertainty

Environmental uncertainty represents one of the major contingencies faced by a company. Previous studies pointed that environmental uncertainty was divided into two sub-constructs: technological uncertainty and market uncertainty (Kim, Sawng, and Park, 2019). However, the study adopted Desarbo, Hwang, Stadler, and Kappe (2015) scale, within the context of market, and technological dimensions (Nusair, Al-Azri, Alfarhan, Al-Muharrami, & Nikashemi, 2022; DeSarbo et al., 2005) on a five-item scale. The three constructs are: market turbulence and technological turbulence. Each of these dimensions encompassed other items and was answered through a five-point Likert scale for all items, varying from 1 = 'Strongly Disagree', and 5 ='Strongly Agree'. Crombach'sα for market turbulence scale α = 0.821 and technological turbulence α = 0.702 and the entire scale is 0.754. All the items on market turbulence in the past five year (factor loading = 0.707); technological turbulence in the past five year (factor loading = .826).

Research model

Multiple linear regression analysis was carried out to regress independent variable (market turbulence and technological turbulence), with organizational performance. The study developed regression model to test the study hypothesis:

$$OP_{it} = \alpha_{it} + \beta_{11} TT + \beta_{12} MT + \varepsilon \qquad (M.1)$$

where TT is technological turbulence, the MT is market turbulence and OP is Organization performance (dependent variable).

RESULTS AND DISCUSSION

Classification of Medium Enterprises (MEs)

Table 2: presents results for the classification of medium sized enterprises. The study established that the respondents are Kenyan MEs owners had business period of more than 10 years (n=123, 42.26%), followed by 5 to 10 years (n= 117, 40.25%) and less than 5 years (n= 48, 16.49%). According to the U.S. Bureau of Labor Statistics (BLS), Data from the BLS shows that approximately 20% of new businesses fail during the first two years of being open, 45% during the first five

years, and 65% during the first 10 years. Only 25% of new businesses make it to 15 years or more. Generally, majority of the medium sized enterprises had industrial experience (n= 249, 85.86%). Industrial experience demonstrates the ability to understand the sequence of events in a life cycle of business, hence making better financial decisions. Additionally, in regard to the business structure majority of the respondents agreed that the business structure was that of limited liability (n= 165, 56.8%) while those with partnership (n= 87, 30.6%) and those with sole proprietorship (n= 39, 14.8%), thus, the owners medium sized enterprises prefer to reduce their personal exposure to financial risk by ensuring that the business is limited by liability. Finally, most of the medium size enterprises had assets worth more than one million Kenya shillings (1,000,001) (n=195, 67.01%). Majority of the firms had both industry and establishment experience (n=249, 85.6%) and (n=228, 77.96%) respectively. Essentially, high industrial and establishment experience enable firms to stay updated and informed of constant trends and changes that might occur in the business environment.

Table 2: Classification of Medium Enterprises

		Frequency	Percent
Establishment	Below 5 Years	048	16.49
	5-10 years	117	40.25
	More than 10 years	123	42.26
	Total	**291**	**100.00**
Business Structure	Sole Proprietorship	039	14.8
	Partnership	087	30.6
	Limited Liability	165	56.8
	Total	**291**	**100.00**
Establishment Experience	Yes	228	77.96
	No	063	22.04
	Total	**291**	**100.00**
Industry Experience	Yes	249	85.86
	No	042	14.14
	Total	**291**	**100.00**
Company Assets	Less than 500,000	135	12.38
	500,001- 1,000,000	060	20.61
	1,000,000-5,000,000	105	36.08
	More than 5,000,001	090	30.93
	Total	**291**	**100.00**

Source: Research Data, (2023)

Factor Analysis

A factor analysis is used to reduce and sort a large amount of data (Bortz (2000). The analysis was done for the study so as to identify the latent variables in the data constructs and prepare for regression (William *et al*., 2010; Idinga, 2015). Factor analyses for study variables market turbulence; technological turbulence and organization performance were summarized in Table 3. The principal component analysis (PCA) with Varimax rotation was conducted to identify the underlying factor for the study variables. The results depicted that loadings of all items used to check organization performance and environmental uncertainty dimensions (technological and market turbulent) were above 0.5 (Hair, *et al.*, 2014).

TheBartlett's Test of Sphericity provided a significant Chi-Square ($\chi 2$) of 1100.041 ($p < 0.5$) and Kaiser-Meyer-Olkin measure of sample adequacy was above 0.7 way above the standard value of .50 (Field, 2005), showing that it was sufficient to submit the data for factor analysis on the parameter (Leech et al., 2013). Also, the Alpha value Cronbach for all the items were above the conventional 0.7 ((Sekaran & Bougie, 2010), thus in support of internal consistency (Nunnally, 1978).

Table 3: Results of Confirmatory Factor Analysis

	Loadings	Eigen Value	% VAR	Mean	AVE
Market Turbulence (α =0.821; CR=0.851; AVE=0.564; KMO = 0.897)					
1. customers' product preferences change quite a bit over time	.734	**2.008**	56.4	**3.719**	.564
2. Our customers tend to look for new products all the time	.827				
3. our customers are price-sensitive, but price is relatively unimportant	.760				
4. New customers have product needs that are different from existing customers	.502				
5. We cater to many of the same customers that we used to in the past	.503				
6. It is very difficult to predict any changes in this marketplace	.501				
Technological Turbulence (α =0.702; CR=0.705; AVE=0.6614; KMO = 0.871)					
1. The technology in our industry is changing rapidly	.787	**2.438**	64.14	**3.688**	.6414
2. Technological changes provide big opportunities in our industry	.716				
3. It is difficult to forecast where the technology in our industry will be in years	.647				
4. Ideas have been made possible through technological breakthroughs	.507				
5. Technological developments in our industry are rather minor	.773				
6. The technological changes in this industry are frequent	.682				
Organization Performance (α =0.792; CR=0.795; AVE=0.464; KMO = 0.797)					
1. In the last five years the company sales growth	.752	**1.968**	46.4	**3.86**	.464
2. In the last five years the company profit after tax	.464				
3. In the last five years the company ROA	.669				
4. In the last five years the company ROE	.569				
5. In the last five years the company competitive position	.548				
6. In the last five years the company market share	.744				
7. the company overall performance and success	.654				
8. In the last five years the company customer satisfaction	.717				
9. In the last five years the company employee turnover	.523				
10. In the last five years the company image	.510				

Note(s): The table presents the factor analysis: Obs = 291; Extraction Method - Principal Component Analysis; Rotation Method - Varimax with Kaiser Normalization; Legend: AVE - Average Variance Extracted, VAR – Variance; $^{**}p < 0.005$

Descriptive and Correlation Result

Correlation Results

Table 3 presents results on correlation analysis between the studied variables. The pearson correlation results showed that market turbulence was positively and significantly associated with organizational performance ($r = 0.528$, $\rho < 0.01$). It is expected that market turbulence will influence organizational performance by 27.88% based on the coefficient of determination; hence, it is suitable for predicting firm performance. Generally, market turbulence reflects rapidly changing buyer preferences (Chatterjee, Feng, Nakata, & Sivakumar, 2023; Hult et al., 2004). Thus, the turbulence of the market in which an organization operates significantly influences its performance. The finding implies that changing customer product-related needs, as well as product development efforts, translate into rapid business growth. This finding is consistent with De Clercq et al. (2018), who find empirical support that "market turbulence had a positive effect on performance. Generally; market turbulence enhances sustainable firm behavior through the development of strong network relationships.

However, the findings contradicted the research of Ebrahimi, Shafiee, Gholampour, and Yousefi (2018), whose research findings indicated a negative and significant effect of market turbulence on the performance of small and medium enterprises. In the same vein, results indicated that technological turbulence was positively and significantly correlated to organization performance ($r = 0.640$, $\rho<0.01$). It is expected that technological turbulence will influence organization performance by 40.96% based on the coefficient of determination; hence, it is suitable for predicting firm performance. The study results are consistent with the previous studies, indicating a positive effect of technological turbulence on organization performance (Baba et al., 2017; Baumann & Scheffer, 2011; Aleksić et al., 2016). Essentially, a high-tech turbulence environment creates opportunities for firms to build their superior competitive positions on the one hand (Sheng et al., 2011), while it may also create challenges that lead to high failure rates on the other hand (Cunha et al., 2014).

Table 3: Correlation Matrix between Variables and VIF Values

	OP	EU	Mean	Std. Deviation
Organization Performance (OP)	1		3.8695	.46193
Market Turbulence (MT)	.528**	1	3.7197	.52986
Technological Turbulence (TT)	.640**	.282**	3.6880	.47996

Note(s): the table presents the correlation matrix between variables of the study: Obs= 291; All numbers are rounded to four decimal places; ***p-value < 0.01; **p-value < 0.05; *p-value < 0.1

Source: Survey Data, 2023

Relationship between Environmental Uncertainty Dimensions [market and technological] on Organization Performance

The regression results for the effect of environmental uncertainty and organizational performance are shown in Table 4. The results depict that market turbulence and technological turbulence accounted for approximately 39.4% of the overall variance in organization performance (R^2 =.394, adjusted R^2 =.388). Additionally, the ANOVA method showed the combined estimation of all

independent variable as shown in Table 4 below were statistically significant (F= 62.109, ρ<0.05). The model was fit to predict organizational performance through market turbulence, and technological turbulence. Tale 4 showed that the Durbin–Watson statistic value was within the recommended range of 1.5 and 2.5 for independent observation (Turner, 2020; Garson, 2012). This implies that the assumption of independence from errors was not violated. In addition, all of the study variables had VIF values less than 10, while the tolerance values are more than 0.2. As a result, there is no evidence of an issue with multicollinearity amongst the explanatory variables in the study (Baba *et al*., 2018; Stevens, 2009; Kutner *et al*., 2005). Table 4 shows results of the relationship between that market turbulence and organizational performance. The results depict a coefficient estimate of market turbulence that is positive and statistically significant [β = .380, ρ < 0.05 (p=0.000)]. The result is an indication that market turbulence is positively associated to organizational performance.

Table 4: Direct Effect of Enviromental Uncertainity Dimentions (Market, Technological and Competatative Turbulence on Organization Performance

	Unstandardized coefficients	**standardized coefficients**				
	B	Beta	t	Sig.	VIF	Tolerance
(Constant)	1.240 (.224)		5.531	.000		
Predictor Variables						
Market Turbulence	.380(.023)	.136	2.927	.000*	1.02	.983
Technological Turbulence	.428 (.049)	.315	6.707	.000*	1.04	.961
Model Summary						
R	.628					
R Square	.394					
Adjusted R Square	.388					
F Change K	62.109**					
Durbin-Watson	1.548					

[a] Dependent Variable: **Organization Performance**

Note(s): the table presents the regression between study variables [market turbulence, and technological turbulence]: ***p-value < 0.01; **p-value < 0.05; *p-value < 0.1; Obs= 291; Standard errors are given in parentheses. All numbers are rounded to four decimal places; VIF <10 ; $\frac{1}{VIF}$ < 1 (Tolerance)

Source: Survey Data, 2023

Therefore, a 1% increase in market turbulent will lead to 0.38 unit increase in organization performance. Thus, market turbulence enhances sustainable firm behaviour, through the development of strong network relationships. The finding is consistent with those of (De Clercq et al., 2018), who supported that market turbulence enhances organizational performance. On the contrary, the findings related to this study do not support the research of Ebrahimi, Shafiee, Gholampour, & Yousefi (2018), whose research findings indicated that high levels of market turbulence results in lower small and medium sized enterprise performance.The results presented in Table 4 also depict a positive and significant association between technological turbulence and organization performance, based on the

coefficient [β =.428, ρ < 0.05 (p = 0.000)].Therefore, technological turbulenceis positively associated to organizational performance. Therefore, a 1% increase in technological turbulence will lead to 0.428increasesin organization performance. Thus, high-tech turbulence environments create opportunities for firms leading them to build their superior competitive positions. The study results are consistent with the previous studies, indicating a positive effect of technological turbulence on organization performance (Baba *et al*., 2017; Baumann & Scheffer, 2011; Aleksić *et al*., 2016).

CONCLUSION AND RECOMMENDATION

Generally, uncertainty creates effects that can lead to a negative or positive deviation from the objectives that the organization seeks to achieve. Negative effects are often referred to as threats, while the positive effects are referred to as opportunities. Hence, during high environmental uncertainties organizations should take advantage of the uncertainties to enhance its overall organization performance by taking advantage of the opportunities. From the contingency theory perspective organizations in uncertain environments are more effective when they adopt more organic structures. Therefore, organizations not neglected aspects of the contingency factors.

REFERENCE

Adhikara, A., MF, M., &Nur Diana, M. B. (2022). Organizational Performance in Environmental Uncertainty on the Indonesian Healthcare Industry: A Path Analysis. Academic Journal of Interdisciplinary Studies, 11(2), 365-377.

AfsharJahanshahi, A., &Brem, A. (2020). Entrepreneurs in post-sanctions Iran: Innovation or imitation under conditions of perceived environmental uncertainty?.Asia Pacific Journal of Management, 37(2), 531-551.

Alavi, M.; and Leidner, D.E., (2001), "Review: KM and KM Systems," MIS Quarterly Vol25. No.1; pp. 107-136.

Alchian, A. A., &Demsetz, H. (1972). Production, information costs, and economic organization. The American economic review, 62(5), 777-795.

Aleksić, J., Ansoldi, S., Antonelli, L. A., Antoranz, P., Babic, A., Bangale, P., ...&Tavecchio, F. (2016). The major upgrade of the MAGIC telescopes, Part I: The hardware improvements and the commissioning of the system. Astroparticle Physics, 72, 61-75.

Ali, M., &Varoğlu, M. A. (2022). Revisiting the Mintzberg, Lawrence, and Lorsch theories about organisational structure, strategy, and environmental dynamism from the perspective of small firms. Technology Analysis & Strategic Management, 34(1), 1-15.

Amis, J., Barney, J., Mahoney, J. T., & Wang, H. (2020). From the editors—Why we need a theory of stakeholder governance—And why this is a hard problem. Academy of Management Review, 45(3), 499-503.

Aprisma, R., &Sudaryati, E. (2020). Environmental Uncertainty and Firm Performance: The Moderating Role of Corporate Governance. JurnalAkuntansi, 24(2), 187-203.

Avci, U., Madanoglu, M., &Okumus, F. (2011). Strategic orientation and performance of tourism firms: Evidence from a developing country. Tourism Management, 32(1), 147-157.

Baba, C., Kearns, A., McIntosh, E., Tannahill, C., &Lewsey, J. (2017). Is empowerment a route to improving mental health and wellbeing in an urban regeneration (UR) context?.Urban studies, 54(7), 1619-1637.

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. Journal of management, 27(6), 643-650.

Baumann, N., &Scheffer, D. (2011). Seeking flow in the achievement domain: The achievement flow motive behind flow experience. Motivation and Emotion, 35, 267-284.

Bendickson, J., Gur, F. A., & Taylor, E. C. (2018). Reducing environmental uncertainty: How high performance work systems moderate the resource dependence-firm performance relationship. Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration, 35(2), 252-264.

Bergeron, F., Raymond, L., &Rivard, S. (2004). Ideal patterns of strategic alignment and business performance. Information & management, 41(8), 1003-1020.
Bergeron, F., Raymond, L., &Rivard, S. (2004). Ideal patterns of strategic alignment and business performance. Information & management, 41(8), 1003-1020.
Blind, K., &Mangelsdorf, A. (2016). Motives to standardize: Empirical evidence from Germany. Technovation, 48, 13-24.
Bourgeois III, L. J. (1980). Strategy and environment: A conceptual integration. Academy of management review, 5(1), 25-39.
Cadeaux, J., & Ng, A. (2012). Environmental uncertainty and forward integration in marketing: theory and meta-analysis. European Journal of Marketing, 46(1/2), 5-30.
Cadeaux, J., & Ng, A. (2012). Environmental uncertainty and forward integration in marketing: theory and meta-analysis. European Journal of Marketing, 46(1/2), 5-30.
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.
Chatterjee, L., Feng, C., Nakata, C., &Sivakumar, K. (2023). The environmental turbulence concept in marketing: A look back and a look ahead. Journal of Business Research, 161, 113775.
Chi, T., & Sun, Y. (2013). Development of firm export market-oriented behavior: Evidence from an emerging economy. International Business Review, 22(1), 339-350.
Chukuigwe, N. (2022). Assessing The Impact Of Data Storage Skills And Employee Performance. BW Academic Journal, 3-3.
Cruz-González, J., López-Sáez, P., Navas-López, J. E., & Delgado-Verde, M. (2015). Open search strategies and firm performance: The different moderating role of technological environmental dynamism. Technovation, 35, 32-45.
Cunha, M. P. E., Rego, A., Oliveira, P., Rosado, P., & Habib, N. (2014). Product innovation in resource-poor environments: Three research streams. Journal of Product Innovation Management, 31(2), 202-210.
Daft, R. L. (2007). Organization theory and design.
De Clercq, D., Haq, I. U., &Azeem, M. U. (2018). Self-efficacy to spur job performance: Roles of job-related anxiety and perceived workplace incivility. Management Decision, 56(4), 891-907.
DeSarbo, W. S., Hwang, H., Stadler Blank, A., &Kappe, E. (2015). Constrained stochastic extended redundancy analysis. Psychometrika, 80, 516-534.
DeSarbo, W., Di Benedetto, A., Song, M., & Sinha, I. J. (2005). Extending the Miles and Snow strategic framework: Strategic types, capabilities, environmental uncertainty, and firm performance. Strategic Management Journal, 26(1), 47-74.
Díez-Martín, F., Blanco-González, A., &Díez-de-Castro, E. (2021). Measuring a scientifically multifaceted concept. The jungle of organizational legitimacy. European Research on Management and Business Economics, 27(1), 100131.
Donaldson, L. (1995). Strategy and structural adjustment to regain fit and performance: In defense of contingency theory. Contingency theory, 273-296.
Ebrahimi, P., Shafiee, B., Gholampour, A., &Yousefi, L. (2018). Impact of organizational innovation, learning orientation and entrepreneurship on SME performance: The moderating role of market turbulence and ICT. Competitiveness in Emerging Markets: Market Dynamics in the Age of Disruptive Technologies, 447-480.
Ebrahimi, P., Shafiee, B., Gholampour, A., &Yousefi, L. (2018). Impact of Organizational Innovation, Learning Orientation and Entrepreneurship on SME. Competitiveness in Emerging Markets: Market Dynamics in the Age of Disruptive Technologies, 447.
Ebrahimi, P., Shafiee, B., Gholampour, A., &Yousefi, L. (2018). Impact of organizational innovation, learning orientation and entrepreneurship on SME performance: The moderating role of market turbulence and ICT. Competitiveness in Emerging Markets: Market Dynamics in the Age of Disruptive Technologies, 447-480.
Elbanna, S. (2010). Strategic planning in the United Arab Emirates. International Journal of Commerce and Management, 20(1), 26-40.
Elbanna, S. (2012). Slack, planning and organizational performance: Evidence from the Arab Middle East. European Management Review, 9(2), 99-115.
Fazal, H., Muhammad, J., &Zahoor, U. H. (2020). Operational perspective of SMEs performance and competitive priorities practices: Path analytic approach. Studies in Business and Economics, 15(1), 55-67.
Fisher, M. L. (1997). What is the right supply chain for your product?.Harvard business review, 75, 105-117.
Galbraith, J. R. (1977). Organization design. Reading, Ma.
García-Pérez, A. M., &Yanes-Estévez, V. (2022). Longitudinal study of perceived environmental uncertainty. An application of Rasch methodology to SMES. Journal of Advances in Management Research, 19(5), 760-780.

Gavrea, C., Stegerean, R., &Divoiu, I. A. (2019). Performance Improvement: Case Study In A Distribution Company. Managerial Challenges of the Contemporary Society. Proceedings, 12(1), 89-97.
George, B., Walker, R. M., & Monster, J. (2019). Does strategic planning improve organizational performance? A meta-analysis. Public Administration Review, 79(6), 810-819.
Gifford, W. E., Bobbitt, H. R., & Slocum Jr, J. W. (1979). Message characteristics and perceptions of uncertainty by organizational decision makers. Academy of Management Journal, 22(3), 458-481.
Goll, I., & Rasheed, A. M. (1997). Rational decision-making and firm performance: the moderating role of the environment. Strategic management journal, 18(7), 583-591.
Hall, J., &Rosson, P. (2006). The impact of technological turbulence on entrepreneurial behavior, social norms and ethics: Three internet-based cases. Journal of Business Ethics, 64, 231-248.
Haque, A., Fatima, H., Abid, A., &Qamar, M. A. J. (2019). Impact of firm-level uncertainty on earnings management and role of accounting conservatism. Quantitative Finance and Economics, 3(4), 772-794.
Harrington, R. J., Lemak, D. J., Reed, R., & Kendall, K. W. (2004). A question of fit: The links among environment,strategy formulation, and performance. Journal of Business and Management, 10(1), 15-38.
Hart, S., &Banbury, C. (1994). How strategy-making processes can make a difference. Strategic management journal, 15(4), 251-269.
HASSAS, M., JABBA, N., & BENTAHAR, A. (2021). Approches de mesure du concept de performance: Une revue de la littérature. International Journal of Financial Accountability, Economics, Management, and Auditing (IJFAEMA), 3(5), 911-917.
Henderson, I. (1993). Action learning: a missing link in management development?.Personnel Review, 22(6), 14-24.
Hill, C. W., &Rothaermel, F. T. (2003). The performance of incumbent firms in the face of radical technological innovation. Academy of management review, 28(2), 257-274.
Hillman, A. J., &Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line?.Strategic management journal, 22(2), 125-139.
Hosseini, S. M., &Sheikhi, N. (2012). An empirical examination of competitive capability's contribution toward firm performance: moderating role of perceived environmental uncertainty. International Business Research, 5(5), 116-131.
Hult, G. T. M., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. Industrial marketing management, 33(5), 429-438.
Hult, G. T. M., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. Industrial marketing management, 33(5), 429-438.
Hussein, N., Mohamad, A., Noordin, F., & Ishak, N. A. (2014). Learning organization and its effect on organizational performance and organizational innovativeness: A proposed framework for Malaysian Public Institutions of Higher Education. Procedia-Social and Behavioral Sciences, 130, 299-304.
Hussein, N., Mohamad, A., Noordin, F., & Ishak, N. A. (2014). Learning organization and its effect on organizational performance and organizational innovativeness: A proposed framework for Malaysian Public Institutions of Higher Education. Procedia-Social and Behavioral Sciences, 130, 299-304.
Incekara, M. (2018, June). "Grey-box" and "Black-box" supplier-buyer relationship in product innovation under technology and market uncertainty. In 2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC) (pp. 1-7). IEEE.
Jabnoun, N., Khalifah, A., & Yusuf, A. (2003). Environmental uncertainty, strategic orientation, and quality management: a contingency model. Quality Management Journal, 10(4), 17-31.
Jauch, L. R., & Kraft, K. L. (1986). Strategic management of uncertainty. Academy of management review, 11(4), 777-790.
Jaworski, B. J., &Kohli, A. K. (1993). Market orientation: antecedents and consequences. Journal of marketing, 57(3), 53-70.
Jensen, M. C., &Meckling, W. H. (1979). Rights and production functions: An application to labor-managed firms and codetermination. Journal of business, 469-506.
Johannesson, J., &Palona, I. (2010). Environmental turbulence and the success of a firm's intelligence strategy: Development of research instruments. International Journal of Management, 27(3), 448.
Johannesson, J., &Palona, I. (2010). Environmental turbulence and the success of a firm's intelligence strategy: Development of research instruments. International Journal of Management, 27(3), 448.
Jokipii, A. (2010). Determinants and consequences of internal control in firms: a contingency theory based analysis. Journal of Management & Governance, 14, 115-144.

Jurkovich, R. (1974). A core typology of organizational environments. Administrative science quarterly, 380-394.
Jusoh, R., & Parnell, J. A. (2008). Competitive strategy and performance measurement in the Malaysian context: An exploratory study. Management decision, 46(1), 5-31.
Kalyar, M. N., Shafique, I., & Ahmad, B. (2020). Effect of innovativeness on supply chain integration and performance: Investigating the moderating role of environmental uncertainty. International Journal of Emerging Markets, 15(2), 362-386.
Kim, M., Park, H., Sawng, Y. W., & Park, S. Y. (2019). Bridging the gap in the technology commercialization process: Using a three-stage technology–product–market model. Sustainability, 11(22), 6267.
Klenner, N., Gemser, G., &Karpen, I. (2022). Achieving Productive Contradiction: How Entrepreneurs Manage Role Identity Tension. In Academy of Management Proceedings (Vol. 2022, No. 1, p. 13750). Briarcliff Manor, NY 10510: Academy of Management.
Koh, H. C. (1996). Testing hypotheses of entrepreneurial characteristics: A study of Hong Kong MBA students. Journal of managerial Psychology, 11(3), 12-25.
Kor, Y. Y., & Mahoney, J. T. (2005). How dynamics, management, and governance of resource deployments influence firm-level performance. Strategic management journal, 26(5), 489-496.
Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). Applied linear statistical models. McGraw-hill.
Lawrence, P. R., &Lorsch, J. W. (1967). Differentiation and integration in complex organizations. Administrative science quarterly, 1-47.
Li, H., &Atuahene-Gima, K. (2001). Product innovation strategy and the performance of new technology ventures in China. Academy of management Journal, 44(6), 1123-1134.
Link, S., &Naveh, E. (2006). Standardization and discretion: does the environmental standard ISO 14001 lead to performance benefits?.IEEE transactions on engineering management, 53(4), 508-519.
Liu, C. H. (2017). The relationships among intellectual capital, social capital, and performance-The moderating role of business ties and environmental uncertainty. Tourism Management, 61, 553-561.
López-Gamero, M. D., Molina-Azorín, J. F., &Claver-Cortés, E. (2009). The whole relationship between environmental variables and firm performance: Competitive advantage and firm resources as mediator variables. Journal of environmental management, 90(10), 3110-3121.
Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. Strategic management journal, 3(1), 1-25.
Milliken, F. J. (1987). Three types of perceived uncertainty about the environment: State, effect, and response uncertainty. Academy of Management review, 12(1), 133-143.
Molina-Ramírez, E., & Barba-Sánchez, V. (2021). Embeddedness as a differentiating element of indigenous entrepreneurship: insights from Mexico. Sustainability, 13(4), 2117.
Morgan, R. E., &Turnell, C. R. (2003). Market-based organizational learning and market performance gains. British Journal of Management, 14(3), 255-274.
Mubeen, R., Han, D., Abbas, J., Álvarez-Otero, S., &Sial, M. S. (2021). The relationship between CEO duality and business firms' performance: the moderating role of firm size and corporate social responsibility. Frontiers in psychology, 12, 669715.
Myers, S., & Marquis, D. G. (1969). Successful industrial innovations: A study of factors underlying innovation in selected firms (Vol. 69, No. 17). National Science Foundation.
Nwokah, N. G. (2008). Strategic market orientation and business performance. European Journal of Marketing, 42(3/4), 279.
O'Toole Jr, L. J., & Meier, K. J. (2015). Public management, context, and performance: In quest of a more general theory. Journal of public administration research and theory, 25(1), 237-256.
Özsomer, A., Calantone, R. J., & Di Bonetto, A. (1997). What makes firms more innovative? A look at organizational and environmental factors. Journal of business & industrial marketing, 12(6), 400-416.
Parnell, J. A., Lester, D. L., Long, Z., &Köseoglu, M. A. (2012). How environmental uncertainty affects the link between business strategy and performance in SMEs: Evidence from China, Turkey, and the USA. Management Decision, 50(4), 546-568.
Paulraj, A., & Chen, I. J. (2007a). Environmental uncertainty and strategic supply management: a resource dependence perspective and performance implications. Journal of Supply Chain Management, 43(3), 29-42.
Paulraj, A., & Chen, I. J. (2007b). Strategic buyer–supplier relationships, information technology and external logistics integration. Journal of Supply Chain Management, 43(2), 2-14.
Pennings, J. M., & Goodman, P. S. (1977). New perspectives on organizational effectiveness. Jossey-Bass.

Pfeffer, J. (1987). A resource dependence perspective on intercorporate relations. Intercorporate relations: The structural analysis of business, 1(1), 25-55.
Pheng, L. S., & Shang, G. (2011). Bridging Western management theories and Japanese management practices: Case of the Toyota Way model. Emerald Emerging Markets Case Studies, 1(1), 1-20.
Pollard, B., Hobbs, R., Henderson, R., Caballero, M. D., & Lewandowski, H. J. (2021). Introductory physics lab instructors' perspectives on measurement uncertainty. Physical Review Physics Education Research, 17(1), 010133.
Pongatichat, P., & Johnston, R. (2008). Exploring strategy-misaligned performance measurement. International Journal of Productivity and Performance Management, 57(3), 207-222.
Pourali, M. R., Largani, M. S., Ebrahimi, M., &Hasanpour, H. (2019). Corporate governance, environmental uncertainty, and profit fluctuations. International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies, 10(10), 1-12.
Pratono, A. H. (2018). Does firm performance increase with risk-taking behavior under information technological turbulence? Empirical evidence from Indonesian SMEs. The Journal of Risk Finance, 19(4), 361-378.
Quemada, M., Lassaletta, L., Jensen, L. S., Godinot, O., Brentrup, F., Buckley, C., ...&Oenema, O. (2020). Exploring nitrogen indicators of farm performance among farm types across several European case studies. Agricultural Systems, 177, 102689.
Ramanujam, V., &Venkatraman, N. (1987). Planning system characteristics and planning effectiveness. Strategic Management Journal, 8(5), 453-468.
Renwick, D. W., Jabbour, C. J., Muller-Camen, M., Redman, T., & Wilkinson, A. (2016). Contemporary developments in Green (environmental) HRM scholarship. The International Journal of Human Resource Management, 27(2), 114-128.
Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. Journal of management, 35(3), 718-804.
Robert Mitchell, J., Shepherd, D. A., &Sharfman, M. P. (2011). Erratic strategic decisions: when and why managers are inconsistent in strategic decision making. Strategic management journal, 32(7), 683-704.
Sabherwal, R., & Chan, Y. E. (2001). Alignment between business and IS strategies: A study of prospectors, analyzers, and defenders. Information systems research, 12(1), 11-33.
Sabherwal, R., Sabherwal, S., Havakhor, T., &Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty. MIS quarterly, 43(2), 453-474.
Sabherwal, R., Sabherwal, S., Havakhor, T., &Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty. MIS quarterly, 43(2), 453-474.
Sanders, N. R., &Premus, R. (2005). Modeling the relationship between firm IT capability, collaboration, and performance. Journal of business logistics, 26(1), 1-23.
Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of management Review, 26(2), 243-263.
Scott, J. E. (1992). Supramolecular organization of extracellular matrix glycosaminoglycans, in vitro and in the tissues. The FASEB journal, 6(9), 2639-2645.
Servais, P., &Aidemark, J. (2023, August). Entrepreneurial Learning Through International Business Model Innovation: an Example from a South Baltic Interreg project. In International Symposium on Digital Transformation.
Shane, S., &Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. Academy of management review, 25(1), 217-226.
Sharfaei, S., Wei Ong, J., &Ojo, A. O. (2023). The impact of market uncertainty on international SME performance. Cogent Business & Management, 10(1), 2198160.
Sheng, S., Zhou, K. Z., & Li, J. J. (2011). The effects of business and political ties on firm performance: Evidence from China. Journal of Marketing, 75(1), 1-15.
Siggelkow, N., &Rivkin, J. W. (2005). Speed and search: Designing organizations for turbulence and complexity. Organization science, 16(2), 101-122.
Simon, H. A. (1976). From substantive to procedural rationality. In 25 years of economic theory: Retrospect and prospect (pp. 65-86). Boston, MA: Springer US.
Skinner, E. W. (1969). Relationships between leadership behavior patterns and organizational-situational variables. Personnel Psychology.
Slater, S. F., &Narver, J. C. (1994). Does competitive environment moderate the market orientation-performance relationship?.Journal of marketing, 58(1), 46-55.
Song, H. S. (2005). Capital structure determinants an empirical study of Swedish companies. KTH Royal Institute of Technology.

Song, L., Augustine, D., & Yang, J. Y. (2016). Environmental uncertainty, prospector strategy, and new venture performance: the moderating role of network capabilities. International Entrepreneurship and Management Journal, 12, 1103-1126.
Stede, W. A. V. D., Chow, C. W., & Lin, T. W. (2006). Strategy, choice of performance measures, and performance. Behavioral research in accounting, 18(1), 185-205.
Stegerean, R., &Gavrea, C. (2010). Innovation AndDeveliopment-Criteria For Organizational Performance. Managerial Challenges of the Contemporary Society. Proceedings, 202.
Stevens, C. J., Schubert, E., Morris, R. H., Frear, M., Chen, J., Healey, S., ...& Hansen, S. (2009). Cognition and the temporal arts: Investigating audience response to dance using PDAs that record continuous data during live performance. International Journal of Human-Computer Studies, 67(9), 800-813.
Stock, G. N., Greis, N. P., & Kasarda, J. D. (2000). Enterprise logistics and supply chain structure: the role of fit. Journal of operations management, 18(5), 531-547.
Sundqvist, S., Kyläheiko, K., Kuivalainen, O., &Cadogan, J. W. (2012). Kirznerian and Schumpeterian entrepreneurial-oriented behavior in turbulent export markets. International Marketing Review, 29(2), 203-219.
Talukdar, A. (2020). A Qualitative Study of Peer Relationships: How it can impact Employee's Organisational Commitment (Doctoral dissertation, Dublin, National College of Ireland).
Thang, N. N., Buyens, D., & Leuven, V. (2008). Training, organizational strategy, and firm performance. FaculteitEconomieenBedrijfskunde, Univ. Gent.
Vaitoonkiat, E., &Charoensukmongkol, P. (2020). Interaction effect of entrepreneurial orientation and stakeholder orientation on the business performance of firms in the steel fabrication industry in Thailand. Journal of Entrepreneurship in Emerging Economies, 12(4), 453-473.
Valentinov, V. (2012). Toward a critical systems perspective on the nonprofit sector. Systemic Practice and Action Research, 25, 355-364.
Varela, J. A., &del Río, M. (2003). Market orientation behavior: an empirical investigation using MARKOR. Marketing Intelligence & Planning, 21(1), 6-15.
Venkatraman, N. (1989). The concept of fit in strategy research: Toward verbal and statistical correspondence. Academy of management review, 14(3), 423-444.
Wagner, C. S., &Leydesdorff, L. (2005). Network structure, self-organization, and the growth of international collaboration in science. Research policy, 34(10), 1608-1618.
Wang, Z., Fang, J., Tang, Z., & Lin, X. (2012). Relative role of contemporary environment versus history in shaping diversity patterns of China's woody plants. Ecography, 35(12), 1124-1133.
Watson, P. G., & Young, R. D. (2004). Scleral structure, organisation and disease. A review. Experimental eye research, 78(3), 609-623.
Wheel Wright, S. C. (1984). Manufacturing strategy: defining the missing link. Strategic management journal, 5(1), 77-91.
Xheneti, M., & Bartlett, W. (2012). Institutional constraints and SME growth in post-communist Albania. Journal of Small Business and Enterprise Development, 19(4), 607-626.
Zahra, S. A. (1996). Goverance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. APaulraj and Chen, 2007cademy of management journal, 39(6), 1713-1735.
Zayadin, R., Zucchella, A., Anand, A., Jones, P., & Ameen, N. (2023). Entrepreneurs' decisions in perceived environmental uncertainty. British Journal of Management, 34(2), 831-848.
Zeithaml, V. A., Berry, L. L., &Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. Journal of marketing, 52(2), 35-48.
Zhang, Q., Oo, B. L., & Lim, B. T. H. (2022). Linking corporate social responsibility (CSR) practices and organizational performance in the construction industry: A resource collaboration network. Resources, Conservation and Recycling, 179, 106113.
Zhou, S., Zhang, D., Lyu, C., & Zhang, H. (2018). Does seeing "mind acts upon mind" affect green psychological climate and green product development performance? The role of matching between green transformational leadership and individual green values. Sustainability, 10(9), 3206.
Zubac, A., Dasborough, M., Hughes, K., Jiang, Z., Kirkpatrick, S., Martinsons, M. G., ...&Zwikael, O. (2021). The strategy and change interface: Understanding "enabling" processes and cognitions. Management Decision, 59(3), 481-505.