

# Impact of Strategic Agility on Business Continuity Management (BCM): The Moderating Role of Entrepreneurial Alertness: An Applied Study in Jordanian Insurance Companies

Ghufran Saed Hijjawi<sup>1</sup> & Khaled Mahmoud Al-Shawabkeh<sup>1</sup>

<sup>1</sup>Business and Finance Faculty, The World Islamic Science and Education University (WISE), Amman, Jordan

Correspondence: Khaled Mahmoud Al-Shawabkeh, Business and Finance Faculty, The World Islamic Science and Education University (WISE), P.O Box (1101), Postal Code (11947), Amman, Jordan. E-mail: Kaled\_high@yahoo.com

Received: July 1, 2017

Accepted: August 12, 2017

Online Published: September 17, 2017

doi:10.5539/ijbm.v12n10p155

URL: <https://doi.org/10.5539/ijbm.v12n10p155>

## Abstract

This paper presents an introduction and identification of business continuity management under the influence of strategic agility. Consequently, this study investigating the underlying dimensions of strategic agility and business continuity management in the presence of entrepreneurial alertness with special emphasize to Jordanian Insurance companies. The results of the study indicates that operational agility is the most mature agility at Jordanian Insurance companies, and it works better with the presence of entrepreneurial alertness to get efficient and effective business continuity management.

**Methodology of the study:** Quantitative in approach, focused on data collection by closed questionnaire conducted for Jordanian insurance companies. Through SPSS application first assessment of theoretical model is performed.

**Keywords:** Business Continuity Management, Strategic Agility, Entrepreneurial Alertness, Jordanian Insurance Companies

## 1. Introduction

Nowadays the service companies become essential for any economy in the world as well as manufacturing ones since they make significant contribution for employment level. Insurance sector is a wide and huge sector in service companies in Jordan because the Jordanian insurance sector has strong potential for growth but still give its low penetration level of 2.13% compared to a global average of 6.23% due to a number of challenges, such as low disposable income and rising unemployment rates, lack of awareness and understanding of insurance and mitigation of risk amongst the population, particularly in terms of personal insurance such as life and fire insurance. A sizeable proportion of the population cannot afford insurance, and of those that can, many rely on family or state resources for life cover and old-age care.

The sector has a well-educated workforce but the majority lack technical expertise. Moreover, the most pressing issue, arguably, for the sector is then mandatory motor third-party liability insurance sector; the premiums on third-party liability insurance are regulated at below market rates according to industry insiders, which have resulted in the majority of market players recording losses from that business line.

The main purpose of this research is helping insurance companies to develop and continue by determine the most significant kind of agility needed in this challenging business environment and to study if there is impact of entrepreneurial alertness on improving the impact of strategic agility on business continuity management in Jordanian insurance companies.

## 2. Research Significance

*This study provides different contributions which are:*

➤ It is a reference for researchers who interested in strategic management topics especially; business continuity management.

➤ Reflects the effective dimensions of strategic agility in Jordanian insurance companies that affect the business continuity management.

### 3. Research Problem

Today, strategic agility is essential for the sustainability and continuity of any business compete in this sever globally environment. Insurance companies which are one of service providers have made a significant contribution in adding value for the customers. Entrepreneurial alertness is critical to be responsive, adaptive and flexible business. As a result this study will try to define what dimensions of strategic agility affect business continuity management. Accordingly, try to answer the main question “what is the impact of strategic agility on business continuity management of Jordanian Insurance companies in the presence of Entrepreneurial alertness”.

### 4. Literature Review

#### 4.1 Business Continuity Management (BCM)

BCM evolution passed through different stages according to business needs and environmental turbulence; first it started from Disaster Recovery planning (DRP) in United States banks between 1950s-1960s, the target was to protect critical information by taking backup; thus the focus was protecting the computer systems and their data centers instead of whole organization. Second: in1990s the shift was from DRP to Business continuity planning (BCP) with broader intention to protect whole organization’s critical services from any critical incidents. Third: from mid 1990s until now, BCM approach appear to include whole organization and its external factors that affect it (Abu baker, Yaacob, & Udin, 2015).

BCM can be defined as: “a holistic management process that identifies potential threats to an organization and the impacts to business operations that those threats, if realized, might cause, and which provides a framework for building organizational resilience with the capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities” (British Standard Institution, 2006, p. 1), Herbane conceptualized BCM as a process of number of activities that based on business continuity planning, thus testing, training and updating are essential for successful BCM. (Elliott, Swartz, & Herbane, 2010), (Herbane, 2010).

BCM viewed as risk management approach based on business value to keep business from any kind of threats that may result from different types of interruptions (Terrorism, Utility outage, Product contamination, Labor disruption, fire, ...). (Business Continuity Management, 2014). According to previous definitions; BCM is essential to have best practice organization that stimulates changes in culture and **resilience** (Sawalha, Anchor, & Meaton , 2015).

To understand BCM, Various factors that affect the succession of it must be known. From these factors are: project management, maintenance, technology, business continuity benefits, top management commitment, organization readiness and individual competency (Hoong, 2011), Strategic management, risk analysis, information, life cycle management resources, documentation, training and awareness. (Karim, 2011). Management support, organizational readiness and alertness. (Järveläinen, 2013).

Therefore, the researcher defines the BCM in terms of the following sub-variables (Everest, Garber, Keating and Peterson, 2008, 3).

#### 4.1.1 Management Support

Adequate and proper support from management through keeping on business continuity planning by assigning qualified people, enough resources and budgets. Organization's management identify specialized group to define required standards and best practice to ensure BCM.

#### 4.1.2 Risk Assessment and Risk Mitigation

Identify potential risks and its probabilities due to threats, then potential impact to the organization are determined. This is done at division level to ensure that the all possible risks are understood and managed appropriately. Risk assessment includes impact and probability of disruptions of all business, operational, and IT areas, and considers acceptable downtime.

#### 4.1.3 Business Impact Analysis (BIA)

Identify business processes that may cause disasters in the business unit functioning and determine the required recovery for these processes.

Sawalha, Anchor and Meaton (2015) mentioned that after identifying potential risks and critical functions, a business impact analysis is performed. BIA involves an assessment of the impact of risks on business critical

functions and subsequently on the continuity of business operations. This lays the foundation for the development of backup and data recovery strategies which will be the focus of the next phase.

#### 4.1.4 Business Recovery and Continuity Strategy

Details the recovery strategy in terms of actual steps, people, resources, communication and protocols, taking into consideration the organization's standards. Recovery time adequately reflects how much downtime the organization is willing to tolerate.

#### 4.1.5 Plan Awareness, Training and Maintenance

Education and awareness of the BCP are critical to the execution of BCM. Training and practicing for portions of BCP is also critical.

Within the BCM, the organization has set testing requirements for the organization wide continuity functions, business lines, and support functions. The BCM capabilities and documentation are maintained to ensure that they remain effective and aligned with business priorities.

### 4.2 Strategic Agility

In competitive global markets that characterized with rapid technological changes, customer needs fluctuations and increasing innovations; traditional organizations' strategies and approaches are not able to face these challenges; therefore, significant changes become critical to improve its competitive ability in this business environment. Agility is recognized as new challengeable pattern for competitive organizations. Several researchers define agility from different points; some academics define agility as: a business's ability to quickly adapt and adjust strategic direction of its core business in response to rapidly changing environmental conditions (McGaughey, 1999; Bessant et al., 2001).

Dove, (2001) characterize agility as the ability to remain competitive by effective knowledge management and focus on quickness in responding to turbulence, and clarify that speed areas are: time to market new products, time to process an order or service request, time to reconfigure organizational processes and systems to react to certain changes, and so on. Wadhwa and Rao (2003), differentiate between agility and flexibility; where agility means innovative response to large unpredictable changes that require control of group of systems, on another side flexibility is simply response to small-medium and predictable changes that needs focus on single system. Sambamurthy, define strategic agility as dynamic and complex variable that consist of three aspects: customer, operational (internal) and partnering agility (Sambamurth, Bharadwaj, & Grover, 2003). While, Arteta and Giachetti (2004) refer to the ability of proactive action towards change.

Doz and Kosonen (2010), Arbussa, Bikfalvi, & Marquès, (2017), analyze strategic agility into three meta-capabilities: strategic sensitivity, leadership unity and resource fluidity, which allow the company to "perceive early, decide quickly, and strike with strength and speed". Now a day the agility concept is applied widely in supply chain not in rigid organizations.

#### 4.2.1 Customer Agility

Ability of organization to detect business opportunities from customer's feedback, so customer voice is considered to build its competitive action (Atapattu and Sedera, 2013).

Roberts and Grover, clarify that customer agility consist of two key components: sensing and responding which are influenced by market orientation (Roberts and Grover, 2012). Wherease; Vagnoni, argue that strategic agility entail the following components: customer sensing capabilities, customer responding capabilities and customer learning capabilities (Vagnoni and Khoddami, 2016).

#### 4.2.2 Operational (internal) Agility

Ability of the firm to rapidly redesign the business processes based on the need to exploit new opportunities. (Sambamurthy, Bharadwaj and Grover, 2003), comment that operational agility also build on the accuracy and effective cost to change with greater flexibility and speed. Finaly, (Glicor, Holcomb and Feizabadi, 2016) clarify that operational agility tied with supply chain agility.

#### 4.2.3 Partnering Agility

Ability of the firm to get opportunities through building efficient supplying, manufacturing, logistics and customer support (Sambamurthy et al., 2003). From other side, it means ability to enhance its competitive position by making access to external competencies, resources and any other assets, through building strategic relations (Vagnoni et al., 2016).

### 4.3 Entrepreneurship Alertness

The first critical step for business succession is identification of opportunities which is considered entrepreneurship alertness. According to Kirzner (1979) entrepreneurial alertness refers to ability to discover unnoticed and overlooked business opportunities without searching and the utilization of resources to make benefit of these opportunities to create value.

Kirzner (1979), mention that there are certain characteristics of entrepreneurial alertness that differentiate it from conventional economic resources. (1) Entrepreneurial alertness does not indicate the weak possession of enough knowledge of market opportunities; (2) Entrepreneurial alertness is non-deployable and tacit (3) There is no market for hiring entrepreneurial services, and entrepreneurship cannot be seen in terms of demand and supply and (4) Entrepreneurship is costless.

Kirzner (1997) describes entrepreneurial alertness as "an attitude of receptiveness to available, but hitherto overlooked, opportunities", while Kirzner (2009) refers to alertness as "a sense of paying attention to what might be 'around the corner". Aviram, (2010) defines alertness as: "a concept defining a situation which can be described as a continuous state of being "on call".

### 5. Research Model and Hypothesis

The researchers have formulated main hypothesis according to the following conceptual model to describe and analyze the impact of entrepreneurial alertness on improving the impact of strategic agility on business continuity management in Jordanian insurance companies.

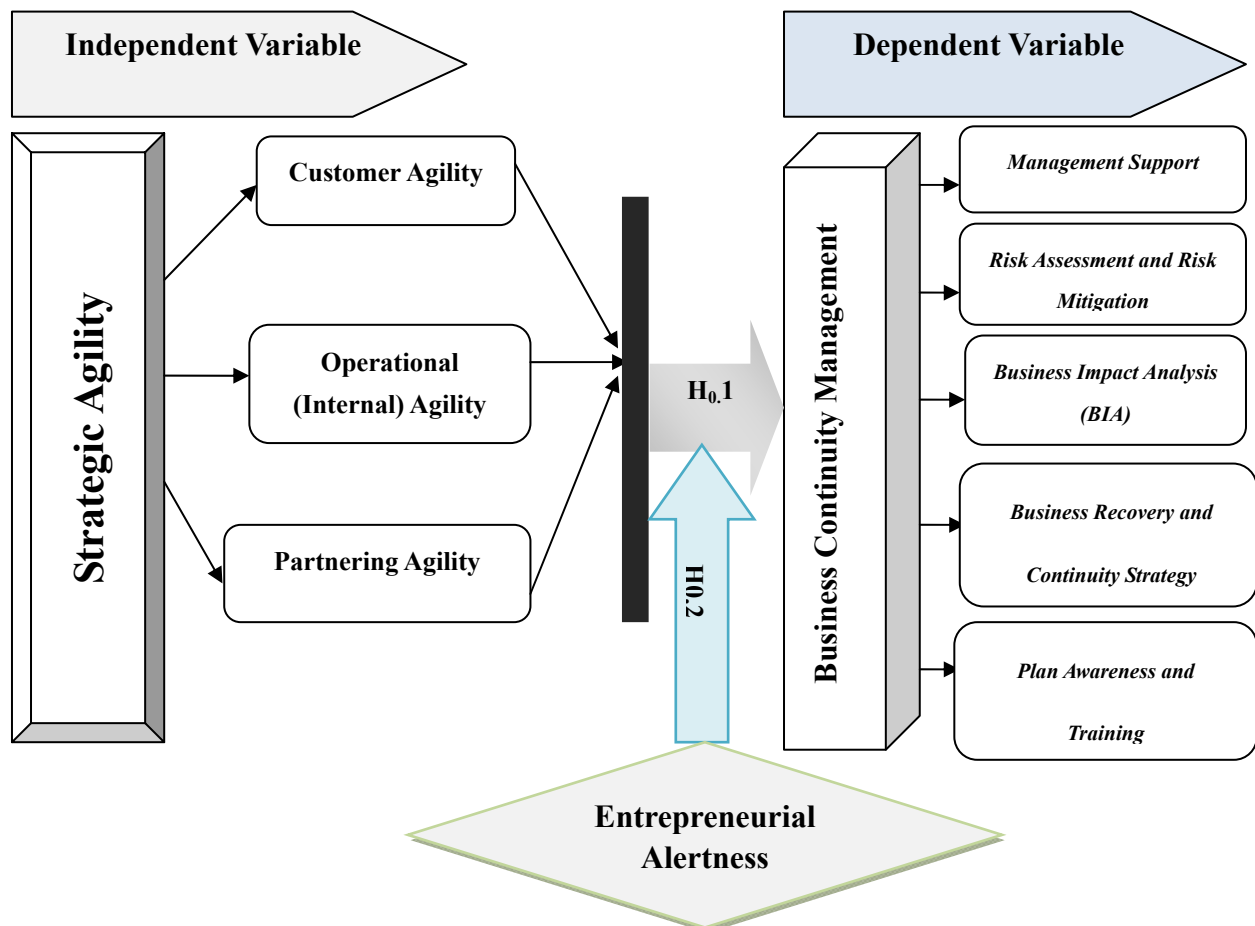


Figure 1. Study model

**H0.1:** There is no significant impact of strategic agility on business continuity management in Jordanian insurance companies at level ( $\alpha \leq 0.05$ ).

**H0.2:** There is no significant impact of entrepreneurial alertness on improving the impact of strategic agility on

business continuity management in Jordanian insurance companies at level ( $\alpha \leq 0.05$ ).

## 6. Research Design and Methodology

This study is descriptive, quantitative in nature, based on both primary and secondary data. It starts with literature review that explores the variables of the study (strategic agility; business continuity management; and entrepreneurial alertness). Our literature review enabled us to design a conceptual framework. An Applied study has been designed to test the model; therefore, primary data collection was based on a questionnaire (appendix 1) which was randomly distributed to Jordanian insurance companies based on equal stratified random sampling. Items used in the questionnaire were based on a Likert scale.

### 6.1 Population and Sample

The population of the current study consists of (24) Jordanian insurance companies listed in table (1) below; and the number of managers were (468) managers at the top & middle managerial level, accordingly, questionnaire was distributed to (144) managers at top & middle managerial level., out of which (139) questionnaire were returned and only (132) questionnaire were suitable for statistical analysis which led to (91.6%) response rate (Sekaran & Bougie, 2010, p. 109).

Table 1. Jordanian Insurance companies

➤ <b>Composite companies (non- life, life &amp; medical)</b>	1.	<i>Jordan International Insurance</i>
	2.	<i>Jordan French Insurance</i>
	3.	<i>Jordan Insurance</i>
	4.	<i>Islamic Insurance</i>
	5.	<i>Arabia Insurance Jordan</i>
	6.	<i>National Insurance</i>
	7.	<i>Middle East Insurance</i>
	8.	<i>Arab Life &amp; Accidents Insurance</i>
	9.	<i>Jerusalem Insurance</i>
	10.	<i>United Insurance</i>
	11.	<i>Arab Jordanian Insurance</i>
	12.	<i>Group Al Nisr Al Arai Insurance</i>
	13.	<i>First Insurance</i>
	14.	<i>Delta Insurance</i>
	15.	<i>Euro Arab Insurance Group</i>
➤ <b>Composite companies (non- life &amp; medical):</b>	16.	<i>Arab Union International Insurance</i>
	17.	<i>Arab Orient Insurance</i>
	18.	<i>Jordan Emirates Insurance</i>
	19.	<i>Al Manara Insurance</i>
	20.	<i>The Mediterranean &amp; Gulf Insurance</i>
	21.	<i>Philadelphia Insurance</i>
	22.	<i>Arab Assurers</i>
➤ <b>Life insurance companies:</b>	23.	<i>MetLife Alico</i>
➤ <b>non-life insurance companies:</b>	24.	<i>Holy Land Insurance</i>

### 6.2 Validity Test

To test validity, the survey instrument was distributed to a sample of universities professors and professionals to determine whether the survey was clear, understandable, and measured appropriate content. Feedback provided by them indicates that changes were necessary in the wording and format of the survey; all notes were taken in consideration for forming the final copy of the questionnaire.

### 6.3 Reliability Test

Reliability refers to the degree that the dimension is free of accidental errors and offer constant data and is expressed as a coefficient. The coefficient ranges from (0, 00–1.00), so if the coefficient is high this means the reliability is high and vice versa. Table (2) showed that reliability coefficients for all items were above 0.60% used in the current study. The reliability coefficients for all the items ranged from (0.777 to 0.970). Hence, the current study's questionnaire items were all of reasonable satisfactory reliability.

Table 2. Values of Cronbach's Alpha for the study variables

Variables	No. of Items	Cronbach's Alpha
<b>Strategic Agility</b>	17	0.911
<i>Customer Agility</i>	6	0.777
<i>Operational (Internal) Agility</i>	6	0.879
<i>Partnering Agility</i>	5	0.781
<b>Business Continuity Management</b>	27	0.964
<i>Management Support</i>	4	0.856
<i>Risk Assessment and Risk Mitigation</i>	6	0.872
<i>Business Impact Analysis (BIA)</i>	5	0.870
<i>Business Recovery and Continuity Strategy</i>	5	0.875
<i>Plan Awareness, Testing, Training &amp; Maintaining</i>	7	0.912
<b>Entrepreneurial Alertness</b>	3	0.835
<b>Total Instrument</b>	47	0.970

#### 6.4 Data Analysis

##### 6.4.1 Demographic Variables (Respondent Profile)

The following Table 3 presents the demographic variables of the study which includes (gender, age, Academic qualification, Years of Experience).

Table 3. Distribution of the sample according to demographic variables (n = 132)

No.	Variable	category	frequency	percentage
1.	<b>Gender</b>	Male	94	71%
		Female	38	29%
		Less than 30	25	18.9%
2.	<b>Age</b>	From 30 - less than 40 years	45	34.1%
		From 40 - less than 50 years	27	20.5%
		50 years and above	35	26.5%
3.	<b>Academic qualification</b>	Diploma	17	13%
		Bachelor	112	85%
		Master or PhD	3	2%
4.	<b>Experience</b>	Less than 5 years	16	12.1%
		From 5- less than 10 years	67	50.8%
		From 10- less than 15 years	34	25.8%
		15 years or more	15	11.4%

It is clear from the table that the males represent (71%) of the study sample, while the age category 30-less than 40 years are the largest by (34.1%), and the academic qualification (Bachelor) is the greatest percentage (85%), also the experience category (From 5- less than 10 years) formed the greatest percentage (67 %), this consists with the natural administrative pyramid in the Jordanian insurance companies, and consists with the study's unit analysis.

##### 6.4.2 Descriptive Analysis for study Variables

The descriptive statistics of the constructs used in the proposed research model can be shown table 4. All means were above the mid-point of 2.5 and all of the variables were classified "high".

The results show that the majority of respondents express generally positive answers to the variables used in the research model. The results in table 4 also show the importance degree and the rank for each item in the questionnaire.

Table 4. Descriptive analysis for study variables

variable	N	Mean	Std. Dev	Rank
<b>Strategic Agility</b>	132	3.9015	.57515	High
<i>Customer Agility</i>	132	3.8460	.63293	High
<i>Operational (Internal) Agility</i>	132	3.9010	.74374	High
<i>Partnering Agility</i>	132	3.9697	.59179	High
<b>Business Continuity Management</b>	132	3.8484	.59008	High
<i>Management Support</i>	132	3.7102	.78014	High
<i>Risk Assessment and Risk Mitigation</i>	132	3.8838	.64136	High
<i>Business Impact Analysis (BIA)</i>	132	3.8939	.66559	High
<i>Business Recovery and Continuity Strategy</i>	132	3.9061	.65729	High
<i>Plan Awareness, Testing, Training &amp; Maintaining</i>	132	3.8231	.63567	High
<b>Entrepreneurial Alertness</b>	132	3.9318	.64169	High

## 7. Testing the Hypothesis

**H0.1:** There is no significant impact of strategic agility on business continuity management in Jordanian insurance companies at level ( $\alpha \leq 0.05$ ).

To test this hypothesis, the researchers use multiple regression analysis to ensure the impact of strategic agility with its dimensions: (customer agility, operational agility, and partnering agility) on business continuity management in Jordanian insurance companies.

Table 5. Multiple regression analysis to ensure the impact of strategic agility with its dimensions on business continuity management in Jordanian insurance companies

Dimension (BCM)	Standardized coefficients (Beta)	t	Sig.
customer agility	0.185	2.437	0.016
operational agility	0.389	4.704	0.000
partnering agility	0.343	4.963	0.000
<b>R</b>	0.800		
<b>R<sup>2</sup></b>	0.640		
<b>F</b>	75.742		
<b>Significance</b>	0.000		

\* The impact is significant at level ( $\alpha \leq 0.05$ ).

Table 5 shows that the impact of strategic agility with its dimensions on business continuity management in Jordanian insurance companies. The regression model achieve a high degree of fit, as reflected by "R" (0.800) and "R<sup>2</sup>" value (0.640), which asserted that (64%) of the explained variation of business continuity management in Jordanian insurance companies can be accounted for strategic agility with its dimensions: (customer agility, operational agility, and partnering agility).

As well as Table (5) shows that the analysis of variance of the fitted regression equation is significant with Analysis of variance Show that (F= 75.742), with (Sig. = 0.000), on (DF = 3), which means that a significant regression. It is clear from the Coefficient table that (beta = .185), (t= 2.437), at (Sig. =0 .016) for customer agility, operational agility (beta =.389), (t= 4.704), at (Sig. =0 .000), for partnering agility (beta = .343), (t= 4.963), at (Sig. =0 .000), this confirms that a significant Coefficient, for strategic agility.

Since the ( $\alpha$ ) value is less than (0.05), it shows a statistically significant impact between the variables at (0.95) confidence level.

So, rejecting the null hypothesis and accepting the alternative hypothesis, this states:

**"There is significant impact of strategic agility on business continuity management in Jordanian insurance companies at level ( $\alpha \leq 0.05$ )".**

**H0.2:** There is no significant impact of entrepreneurial alertness on improving the impact of strategic agility on business continuity management in Jordanian insurance companies at level ( $\alpha \leq 0.05$ ).

To test this hypothesis, the researchers use the multiple hierarchical regression analysis to ensure impact of entrepreneurial alertness on improving the impact of strategic agility on business continuity management at Jordanian insurance companies. As shown in Table (6).

Table. 6. Multiple hierarchical regression analysis.

Dependent V	Independent- variables	First step			Second step		
		$\beta$	t	Sig.	$\beta$	t	Sig.
Business Continuity Management (BCM)	Customer Agility	.185	2.437	.016	.123	1.691	.093
	Operational Agility	.389	4.704	.000	.312	3.924	.000
	Parenting Agility	.343	4.963	.000	.266	3.955	.000
	Entrepreneurial Alertness	(Moderating V)	→	.284	4.288	.000	
	R	0.800		0.828			
	R <sup>2</sup>	0.640		0.685			
	R <sup>2</sup> Δ	0.640		0.045			
FΔ	75.742		69.119				
F Δ Sig.	0.000		0.000				

A hierarchical regression or moderator regression has been recommended by many scholars as the technique for analyzing the moderating effect (Frazier, Tix, & Barron, 2004).

Table 6 shows results of the Hierarchical Multiple Regression based on two models, since the results of the first model reflected on the first step, the presence of the impact with statistical significance of the independent variable (strategic agility) represent by (customer agility, operational agility, and partnering agility) together on business continuity management in Jordanian insurance companies, since F value= (75.742) with significance level Sig F= 0.000, which is less than (0.05), and determination coefficient ( $R^2=0.640$ ) indicates that (strategic agility dimensions) collectively explained (64%) of the resulting variance in the (business continuity management). In the second step: (entrepreneurial alertness) variable is inserted in the regression model,  $R^2$  value increased by (4.5%), this percentage with statistical significance, since  $\Delta F$  value = 69.119, and (Sig  $\Delta F=0.000$ ) which is less than (0.05), and ( $\beta=0.284$ ) at (entrepreneurial alertness) and ( $t=4.288$ ), with (Sig = 0.000) this confirms the significance impact of entrepreneurial alertness on improving the impact of strategic agility on business continuity management in Jordanian insurance companies, since the total variance explanation percentage improved by (4.5%) to raise from (64%) to (68.5%). So, rejecting the second null hypothesis and accepting the alternative hypothesis, this states:

***"There is significant impact of entrepreneurial alertness on improving the impact of strategic agility on business continuity management in Jordanian insurance companies at level ( $\alpha \leq 0.05$ )".***

## 8. Discussion

The service sector in which insurance companies are large segment of it; has become a prominent and has recognized itself as a major force in the global economy.

As any service company strategic agility is important to keep business continuity as it deals all the way with changeable customers' needs and unstable business environment; thus the case at Jordanian insurance companies. The study reveals after testing the model that operational agility is the most effective agility on business continuity at Jordanian insurance companies while customer agility is the least, which reflects those customers' needs in Jordanian markets toward insurance still limited and somehow stable. From other side, the operational agility is crucial in Jordan for insurance companies since it is found in very turbulent business environment. Thus, this study offers useful insights and opens new avenues to conceptualize how strategic agility might affect business continuity management in the presence of entrepreneurial alertness in Jordanian companies.

## 9. Conclusions

This study investigate business continuity management at Jordanian insurance companies in the presence of



strategic agility with its different dimensions and in the presence of entrepreneurial alertness, it found that this sector in Jordan markets has many challenges to be able to continue such as: big investment in latest technology and in its human resources to be able to continue and to be more responsive and flexible with its customers. It is found that this sector needs agile and entrepreneurial management to connect employees with customers and to be able to sustain strategically in the market.

## 10. Recommendation

This study can be considered one step in investigating what can affect business continuity management in the presence of agility and entrepreneurship at Jordanian markets focused on insurance companies. Other researchers can continue this study on the same sector but under different independent variables, or can study other sector for service provider companies to get full picture of the Jordan markets.

## References

- Abu, B., Zahari, Y., Noor, S. A., & Udin, Z. M. (2015). Business Continuity Management Factors and Organizational Performance: A study on the Moderating Role of it Capability. *Journal of Management Info*, 7(1), 12-39.
- Arbussa, A., Bikfalvi, A., & Marquès, P. (2017). Strategic agility-driven business model renewal: the case of an SME. *Management Decision*, 55(2), 271-293. <https://doi.org/10.1108/MD-05-2016-0355>
- Arteta, B., & Giachetti, R. (2004). A measure of agility as the complexity of the enterprise system. *Robotics and Computer-Integrated Manufacturing*, 20(6), 495-503. <https://doi.org/10.1016/j.rcim.2004.05.008>
- Atapattu, M., & Sedera, D., (2013). Agility of the firm: customer's perspective. *21st European Conference on Information Systems*. Utrecht University, The Netherlands.
- Aviram, A. (2010). Entrepreneurial Alertness and Entrepreneurial Awareness-Are They the Same? *Academy of Entrepreneurship Journal*, 16(1), 111-124.
- Bessant, J., Francis, D., Meredith, S., & Kalinsky, R. (2001), "Developing manufacturing agility in SMEs. *International Journal of Technology Management*, 22(1), 28-54. <https://doi.org/10.1504/IJTM.2001.002953>
- British Standards Institution. (2006). BS 25999-1 Code of practice for business continuity management. London: British Standards Institution
- Dove, R. (2001). *Response Ability: The Language, Structure, and Culture of the Agile Enterprise*. New York, NY: John Wiley & Sons.
- Doz, Y., & Kosonen, M. (2010). Embedding strategic agility: a leadership agenda for accelerating business model renewal. *Long Range Planning*, 43(2-3), 370-382. <https://doi.org/10.1016/j.lrp.2009.07.006>
- Everest, D., Garber, R. E., Keating, M., & Peterson, B. (2008). Business Continuity Management. The Institute of Internal Auditors, USA.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counselling psychology research. *Journal of Counselling Psychology*, 51(1), 115-134. <https://doi.org/10.1037/0022-0167.51.1.115>
- Glicor, D., Holcomb, M., & Feizabadi, J. (2016). An exploration of the strategic antecedents of firm supply chain agility: The role of a firm's orientations. *International Journal of Production Economics*, 179, 24-34. <https://doi.org/10.1016/j.ijpe.2016.05.008>
- Herbane, B. (2010). The evolution of business continuity management: A historical review of practices and drivers. *Business History*, 52(6), 978-1002. <https://doi.org/10.1080/00076791.2010.511185>
- Hoong, L. L. (2011). Factors Influencing the Success of the Disaster Recovery Planning Process : A Conceptual Paper. In Research and Innovation in Information Systems (ICRIIS). 2011 International Conference. Hurley. <https://doi.org/10.1109/ICRIIS.2011.6125683>
- Järveläinen, J. (2013). IT incidents and business impacts: Validating a framework for continuity management in information systems. *International Journal of Information Management*, 33(3), 583-590. <https://doi.org/10.1016/j.ijinfomgt.2013.03.001>
- Karim, A. J. (2011). Business Disaster Preparedness: An Empirical Study for measuring the Factors of Business Continuity to face Business Disaster. *International Journal of Business & Social Science*, 2(18), 183-192.
- Kirzner, I. M. (1979). *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship*. Chicago: University of Chicago Press.

- Kirzner, I. M. (1997). Interview with Israel M. Kirzner. *Austrian Economics Newsletter*, 17(1).
- Kirzner, I. M. (2009). The Alert and Creative Entrepreneur: A Clarification. *Small Business Economics*, 32(2), 145-152. <https://doi.org/10.1007/s11187-008-9153-7>
- McGaughey, R. E. (1999). Internet technology: contributing to agility in the twenty-first century. *International Journal of Agile Management Systems*, 1(1), 7-13. <https://doi.org/10.1108/14654659910266655>
- Roberts, N., & Grover, V. (2012). Leveraging information technology infrastructure to facilitate a firm's customer agility and competitive activity: An empirical investigation. *Journal of Management Information Systems*, 28(4), 231-270. <https://doi.org/10.2753/MIS0742-1222280409>
- Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS Quarterly*, 27(2), 237-263.
- Sawalha, I., Hanna, S., Anchor, J. R., & Meaton, J. (2015). Continuity Culture: A Key Factor for Building Resilience and Sound Recovery Capabilities. *International Journal of Disaster Risk Science*, 6(4), 428-437. <https://doi.org/10.1007/s13753-015-0070-5>
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill-building approach* (5th ed.). New York, NY: John Wiley & Sons Inc.
- Vagnoni, E., & Khoddami, S. (2016). Designing Competitively Activity Model through the Strategic Agility Approach in Aturbulent Environment. *Foresight*, 18(6), 625-648. <https://doi.org/10.1108/FS-03-2016-0012>
- Wadhwa, S., & Rao, K. S. (2003). Flexibility and agility for enterprise synchronization: Knowledge and innovation management towards flexibility. *Studies in Informatics and Control*, 12(2), 111-128.

### **Appendix 1 (Questionnaire):**

(1) Strongly disagree      (2) Disagree      (3) Neutral      (4) Agree      (5) Strongly agree

#### **# Strategic Agility:**

##### **a) Customer Agility:**

1. Build customer relationship management (CRM) system with our customers.
2. Increasing loyalty of customers.
3. Need for (more) online facilities toward customers
4. Need for more customized/tailored services toward customers
5. Need for quicker response to customer-service requests
6. Share customers in any change in our services.

##### **b) Operational (Internal) Agility:**

7. Growing demand for financial transparency and accountability.
8. Changing requirements take too short to implement into the organization and systems.
9. Organizational change (e.g., merger, acquisition, and reorganization of internal processes).
10. Digitalization of documents and e-signatures.
11. Increasing time and money spent on maintenance and support of existing IT infrastructure.
12. Desire to increase the levels of expertise of employees.

##### **c) Partnering Agility:**

13. Increasing number of partnerships.
14. Need for structured information exchange with other organizations/integration with systems of partners in network.
15. Need for easier switching between suppliers of products and services.
16. Accelerating rate of innovation of product technology.
17. Share partners with any development in our business network.

#### **# Business Continuity Management:**

##### **1. Management Support:**

18. Organization's management maintains and practice BCP process.
19. Organization's management applies enough resources for BCP process.
20. Organization's management participates in training sessions for BCM program.
21. Organization's management identify specialized group to define required standards and best practice to ensure BCM.

##### **2. Business Impact Analysis :( BIA)**

22. A comprehensive impact analysis (BIA) exists and is prepared with the line of business input.
23. Reputation risks are considered and all relevant stakeholders are considered in the BIA.
24. Organization defines what possible impact of these disasters and how recovers it.
25. Organization put business recovery people to meet with different functioning teams to assets disaster impacts.
26. Organization assigns internal and external people to be business recovery staff.

##### **3. Risk Assessment and Mitigation:**

27. Various types of events that could prompt the formal declaration of a crisis or disaster and the process for invoking the BCP

---

and CMP are clearly described.

28. Work flow analysis was performed and results are documented, if deemed necessary by the organizational leadership.
29. Prioritization of business functions is adequate.
30. Risk assessment includes impact and probability of disruptions of all business, operational, and IT areas, and considers acceptable downtime.
31. Financial impact in case of emergency reflects accurately the cost in case of emergency.
32. Employees understand their role in case of emergency.

#### **4. Recovery Plan:**

33. RPOs (recovery point objective) are clearly defined and communicated.
34. RPOs consider the organization's recovery needs.
35. RTOs (recovery time objective) are clearly defined and communicated.
36. Recovery time adequately reflects how much downtime the organization is willing to tolerate.
37. BIA (business impact analysis) results are considered in defining RPO and RTO.

#### **5. Plan Awareness, Testing, Training & Maintaining:**

38. Testing strategy includes documented test plans and related testing scenarios, methods, and schedules; without prior notice to employees.
39. Testing strategy is in line with management's assumptions and expectations.
40. BCM findings or areas for improvement are addressed and corrected.
41. The BCM capabilities and documentation are maintained to ensure that they remain effective and aligned.
42. Employees' alertness of BCP (business continuity planning) is existed.
43. All staff is trained and aware of their responsibilities
44. Training details, such as content, participants, and timing are documented.

#### **# Entrepreneurship Alertness:**

45. Organization can sense opportunity faster than competitors.
  46. Organizations use its resources to make fast benefits of discovered opportunities.
  47. Organization has continuous watching of markets opportunities.
- 

## **Copyrights**

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).