

# Uncertain Supply Chain Management

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## Lesson learned from covid-19 pandemic and its impact on business continuity management BCM in the tourism sector in Jordan

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### ABSTRACT

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The preservation of business operations during and post the COVID-19 pandemic has emerged as a significant challenge for many enterprises. This research focuses on identifying the critical factors that influence the effective management of business continuity, based on lessons learned from the post-pandemic era. The primary objective of the investigation was to understand the impact of performance adaptability, innovation, talent preservation, and the implementation of a proactive, forward-thinking strategy on business continuity management. Furthermore, the study delves into the mediating role of strategic agility in these relationships. The study gathered data from personnel within the tourism sector of Jordan's prestigious Golden Triangle, which includes Petra, Wadi Rum, and Aqaba. The research utilized Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyze the structural model and to investigate the propositions outlined. The findings indicated that performance adaptability, innovation, talent preservation, strategic agility, and a proactive strategy positively impact business continuity management. Moreover, strategic agility was found to moderate the relationship between performance adaptability, innovation, talent preservation, and a proactive strategy, thereby enhancing business continuity management. These research outcomes offer insightful implications for managerial personnel within hotels and tourism companies, acting as a comprehensive guide for improving their business continuity management in the post-pandemic world.

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### 1. Introduction

The pervasive dissemination of the novel coronavirus, COVID-19, instantiated a global health crisis at the dawn of 2020. Upon recognizing the severity of this virulent contagion's spread, the World Health Organization (WHO) designated the situation as a pandemic on March 11th, 2020. By mid-November 2020, the disease had confirmedly infiltrated approximately 62 million individuals worldwide, culminating in the demise of 1.5 million people (Margherita & Heikkilä, 2021). The pandemic wreaked havoc on the financial structures of various nations, instigating numerous enterprises to suspend their operations (Walmsley et al., 2021). Jordan was no exception to this scenario, with COVID-19 forcing businesses to curtail their operational hours or shutter temporarily (Abu-Mater et al., 2021; Al-Kasasbeh, 2022). The tourism and hospitality sector bore the brunt of this impact, notwithstanding governmental support efforts (Harb et al., 2022). A decline in both international and domestic tourism, marked by cancellations and discontinued travel packages, precipitated a reduction in average hotel occupancy rates (Belal, 2021). Jordan's tourism sector, as a result, sustained a substantial loss estimated at one billion dinars (Hindi, 2020). Apart from the societal and health ramifications, COVID-19 posed a significant threat to organizational operations and the sustainability of their business continuity (Margherita & Heikkilä, 2021). Several businesses that halted operations during the pandemic found themselves ill-equipped to navigate the ensuing dynamic and turbulent market conditions. This difficulty primarily emanated from an absence of a robust business continuity plan (Remko, 2020). Indeed,

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such a plan is instrumental in enabling companies to endure crises and perform optimally during disaster situations. Conversely, companies without such a plan have an alarming 75% likelihood of failing within three years post-disaster (Fabeil et al., 2020). An effective business continuity plan is intrinsically linked to the establishment of comprehensive business continuity management, which can assist organizations in mitigating potential risks, expedite recovery from pandemics or crises (Muparadzi & Rodze, 2021), and enhance performance (Bakar et al., 2015; Al Ameri & Musa, 2021). Consequently, identifying the determinants that influence the development of business continuity management during the COVID-19 pandemic era is crucial (Alkhrabsheh et al., 2022).

Over recent years, business continuity management has gained substantial traction due to its recognition as a vital tool for organizational resilience during a crisis. This approach enables organizations to reevaluate the importance of proactive awareness and preparedness for unanticipated circumstances to prevent disruptions in everyday operations (Marisa and Oigo, 2018). Correspondingly, (Al Ameri & Musa, 2021) underscored business continuity management as a framework for scrutinizing an organization's susceptibility to diverse external and internal threats and highlighted its potential to augment organizational responsiveness to natural disaster threats, thereby safeguarding business interests. Although the origins of business continuity management lie in disaster recovery planning, this concept has evolved into a strategic management tool (Elliott et al., 2010). Estall (2012) elucidates it as “a holistic management process that identifies potential threats to an organization and the impacts to business operations those threats, if realized, might cause, and which provides a framework for building resilience and the capability of an effective response that safeguards the interests of its key stakeholders, reputation, brand, and value-creating activities”.

Marisa and Oigo (2018) highlighted that every organization in this 21<sup>st</sup> century needs a streamlined and clear business continuity management strategy as it's important for business performance, and besides this, consideration should be given to highlighting the factors involved in the development of business continuity management. Moreover, many studies have focused on different outcomes of business continuity management, including organizational performance (Bakar and Udin, 2015; Fischbacher-Smith, 2017) and quality of life (Bakar et al., 2015) but there is a dearth of literature on its antecedents, particularly in the context of COVID-19 pandemic. Therefore, this research has developed factors influencing business continuity management. These factors include performance adaptation, innovation, talent retention, and proactive strategy.

First, the current study has proposed that performance adaptation can help in business continuity management. The second factor proposed by this research is innovation, as Sawalha and Meaton (2012) highlighted that innovation is essentially required for business continuity management to design effective strategies for risk management and business continuity. Besides, innovation, talent retention remained a critical issue during the era of the pandemic (Rasheed et al., 2022), particularly in the hospitality sector (Salem et al., 2022), but it can play an important role in business continuity (Mbugua et al., 2015). Zeng and Zio (2017) argued that there is a need for a proactive approach to protecting the business and reducing the potential losses caused by some disruptive events and BCM can link the process of recovery within the risk assessment framework. Therefore, the current research considers this proactive approach as a proactive strategy that can lead to business continuity management. All the factors, performance adaptation, innovation, talent retention, and proactive strategy can influence business continuity management, but the relation of each factor with BCM could be strengthened with the presence of strategic agility is important in the service sector of Jordan and can also influence the BCM (Hijawi, 2017). Thus, strategic agility is considered a moderator in the relationships of performance adaptation, innovation, talent retention, and proactive strategy with business continuity management.

The inaugural contribution of this scholarly investigation delineates significant insights furnished by the COVID-19 pandemic for entities within the tourism and hospitality sectors. It emphasizes the imperative necessity for these organizations to concentrate on performance adaptation, innovation, talent retention, and the formulation of proactive strategies for the effective management of business continuity (BCM). Despite the abundance of research examining the diverse consequences of BCM, there exists a conspicuous scarcity of scholarly discourse on its precursors. Furthermore, the research void is particularly pronounced within the milieu of the COVID-19 pandemic and its implications on the tourism and hospitality industry. Margherita and Heikkilä (2021) accentuated this lacuna in research, drawing attention to the exigency of investigating business continuity and an organization's capacity to counteract the critical scenarios spawned by the pandemic.

Secondarily, this study acts as a conduit linking the theories of Dynamic Capabilities and Resource-Based Views (RBV). All the variables pertaining to BCM have been classified as organizational resources in this study. Concurrently, strategic agility is acknowledged as a dynamic capability (Weber & Tarba, 2014). This research meticulously converges these two theoretical paradigms.

Thirdly, this scholarly work explores the moderator effect of strategic agility between all the identified lessons (i.e., performance adaptation, innovation, talent retention, and proactive strategy) and BCM. A thorough investigation rooted in existing literature reveals a notable research gap in scrutinizing how performance adaptation, innovation, talent retention, and proactive strategy can facilitate organizations in business continuity management. This research endeavors to bridge this gap by evaluating the influence of performance adaptation, innovation, talent retention, and proactive strategy on BCM.

The research objectives of this study are manifold: to underscore the impact of performance adaptation, innovation, talent retention, and proactive strategy on BCM, and to probe the moderating role of strategic agility in the relationship between each of these facets and BCM.

Finally, the overarching goal of this research is to construct an applied model for business continuity in times of crisis or disaster, specifically within the tourism sector in Jordan. This model aims to incorporate the lessons learned from the COVID-19 pandemic and serve as a robust, practical guide for businesses in effectively navigating similar crises in the future. The insights gleaned from this study are expected to not only foster resilience and sustainability in the face of disruptive events but also propel the sector towards recovery and growth in the post-pandemic era. In this way, this work can make a significant contribution to the evolving field of business continuity management and its application in the context of the crisis-stricken tourism industry in Jordan.

The research gap identified in the provided text revolves around the context of business continuity management (BCM) in the tourism and hospitality sector during the COVID-19 pandemic era, specifically in Jordan. While there has been an abundance of research focusing on the consequences and outcomes of BCM, there is a notable scarcity of scholarly discourse on its antecedents, particularly in the specific context of the COVID-19 pandemic and its implications on the tourism and hospitality industry.

The current literature lacks comprehensive investigations into how various factors such as performance adaptation, innovation, talent retention, and proactive strategy can influence and facilitate organizations in implementing effective business continuity management strategies during times of crisis or disaster like the COVID-19 pandemic. Although the text has introduced these factors as potential influences on BCM, it highlights a clear research gap that needs to be addressed to better understand their individual and combined effects on organizational resilience and sustainability during crisis situations.

Additionally, the text suggests that strategic agility might play a moderating role in the relationship between the identified factors (performance adaptation, innovation, talent retention, and proactive strategy) and business continuity management. However, there is limited research exploring the specific role of strategic agility as a moderator in this context, further emphasizing the research gap.

The identified research gap thus focuses on the need for in-depth investigations that examine the determinants and facilitators of effective business continuity management during the COVID-19 pandemic and similar crisis scenarios, particularly in the tourism and hospitality sector in Jordan. By addressing this gap, scholars and practitioners can gain valuable insights into developing a robust and practical model for business continuity during crises, leveraging lessons learned from the COVID-19 pandemic to foster resilience, recovery, and growth in the post-pandemic era.

## 2. Literature Review

### 2.1 Performance Adaption and BCM

The concept of performance adaptation is becoming popular among researchers, and over the last decades, many researchers have worked on it. Moreover, it has been defined implicitly and explicitly (Baard et al., 2014), Allworth and Hesketh (1999, p.98) explained it as “behaviors demonstrating the ability to cope with change and to transfer learning from one task to another as job demands vary.” Whereas Pulakos et al. (2000, p.615) defined it as “altering behavior to meet the demands of the environment, an event or a new situation.” Furthermore, the most relevant definition of performance adaptation was given by (Baard et al., 2014, p.50) who defined it as “cognitive, affective, motivational, and behavioral modifications made in response to the demands of a new or changing environment, or situational demands”. Because of the conceptualization of (Baard et al., 2014), this research defined performance adaptation as modifications done by organizations to the demand of change in the environment because of the COVID-19 pandemic. Rapaport and Kirschenbaum (2009) argued that business continuity can be predicted by employees’ adoption ability of dynamic emergencies. In addition, Elshaer and Saad (2022) highlighted that adaptive performance significantly mediates the relationship between entrepreneurs’ resiliency and business continuity. Some studies focused on adaptive business continuity (e.g. Hatton and Brown, 2021; Lindstedt, 2020), and others focused on adaptive performance (e.g. Elshaer and Saad, 2022) but there is no research up to the authors’ knowledge that highlighted the influence of performance adaption on business continuity management. Therefore, to highlight the effect of performance adaption on business continuity management, the following hypothesis is developed:

**H<sub>1</sub>:** Performance adaptation has a positive effect on BCM.

### 2.2 Innovation and BCM

In organizations, innovation is an important factor that helps business continuity managers to design continuity solutions and develop innovative ideas for enhancing the protection of critical operations (Wong, 2009). Innovation is essentially required by business continuity management to create efficient strategies for managing business risk and business continuity (Herbane

et al., 2004; Herbane, 2010). Sawalha and Meaton (2012) highlighted that innovative work culture is essential for Jordanian companies to develop business continuity management. Many studies on innovation in the context of the COVID-19 pandemic highlighted its influence on performance (i.e. Sharma et al., 2021; Siagian et al., 2021), but there is a paucity of literature highlighting the role of innovation in business continuity management. Therefore, the hypothesis is developed:

**H<sub>2</sub>:** Innovation has a positive effect on BCM.

### *2.3 Talent Retention and BCM*

The notion of retention highlights the constant commitment and exchange of talents (i.e. talented employees) with organizations for their survival (Das & Baruah, 2013). The retention strategy should highlight the importance of talent and also it must be based on factors leading to talent retention (Veloso, et al., 2014). Rasheed et al., (2022) highlighted that talent retention is an important strategy that can play an active role in the long-term survival of organizations operating in continuous and strong markets because it helps in reducing the cost incurred on high turnover. Moreover, talent retention remained a hot issue for organizations during the COVID-19 pandemic. Organizations questing for talent found talent retention an important organizational issue (Iyria et al., 2014).

The best-performing and most talented employees are very much important for maintaining business continuity (Chao et al., 2020) in a turbulent environment. Ahmed (2021) indicated this turbulent environment as a COVID-19 outbreak and argued that the pandemic has realized organizations the importance of a business continuity plan for managing tragedy or emergencies. Further, they revealed that in such situations, organizations can align their succession plans with the talent retention strategy which can help them in achieving long-term business continuity. Abundant studies have examined the influence of talent retention on organizational performance (Kontoghiorghe & Frangou, 2009; Ibidunn et al., 2015; Lyria & Namusonge, 2017) but there is a paucity of literature explaining its relationship with business continuity management. Moreover, prior studies have ignored the fact that better organizational performance during disasters or pandemics from talent retention is actually because of its influence on business continuity management. Therefore, to investigate the relationship between talent retention and business continuity management, the following hypothesis is developed:

**H<sub>3</sub>:** Talent retention has a positive effect on BCM.

### *2.4 Proactive Strategy and BCM*

Proactive strategies are highly influential in turbulent economic or environmental conditions. These strategies can enhance market performance even in an economic downturn (Gyulavári & Kolos, 2015) but the implementation of such strategies was done by only a few countries during the era of the COVID-19 pandemic as every country cannot attain social governance without targeted adjustments (Sacco et al., 2021). Organizations always face different types of disruptions, even some times it's impossible to predict their nature, extent, and time. Therefore, they should be always equipped with a proactive approach that can help them in generating integrated business continuity (Sahebjamnia et al., 2015). Moreover, the proactive approach can help the business to eliminate the loss that occurred due to disruptive events. Whereas the BCM helps in the integration recovery process (Zeng & Zio, 2017), proactive strategies can positively influence business continuity management. Therefore, to examine this relationship, we hypothesized that:

**H<sub>4</sub>:** Proactive strategy has a positive effect on BCM.

### *2.5 Strategic Agility as a Moderator*

Strategic agility, as delineated by Doz and Kosonen (2010) as well as Weber and Tarba (2014), is an organizational capability that fosters flexibility and promotes continual, rapid self-renewal without compromising efficiency. As characterized by Weber and Tarba (2014), strategic agility is a dynamic capability instrumental in facilitating distinct variations within the structure, product, and processes of a business model.

With strategic agility recognized as a dynamic capability, it has been conceptualized as an enabler for organizations to exhibit greater proactivity in altering their organizational systems (Doz and Kosonen, 2008). Numerous studies underscore the performance-based benefits of strategic agility (Djaja and Arief, 2015; Lungu, 2020; Arokodare et al., 2019). Although there are a handful of studies linking strategic agility with business continuity management (Hijjawi, 2017; Rumman, 2022), there exists a noticeable literature gap within the context of the COVID-19 pandemic. In light of this, the following hypothesis has been formulated to underscore the impact of strategic agility on business performance:

**H<sub>5</sub>:** Strategic agility exerts a positive influence on Business Continuity Management (BCM).

Dynamic capabilities are revolutionizing industries worldwide (Rotjanakorn et al., 2020), and this investigation takes into account the Resource-Based View (RBV) and dynamic capability theory, given their relevance in determining organizational

behavior within a shifting environment. Strategic agility, as a dynamic capability, can bolster the relationship between organizational resources and business continuity management. Furthermore, there is a conspicuous dearth of academic literature delineating the role of strategic agility as a moderating variable between the diverse factors contributing to business continuity management. Consequently, the following hypotheses have been established:

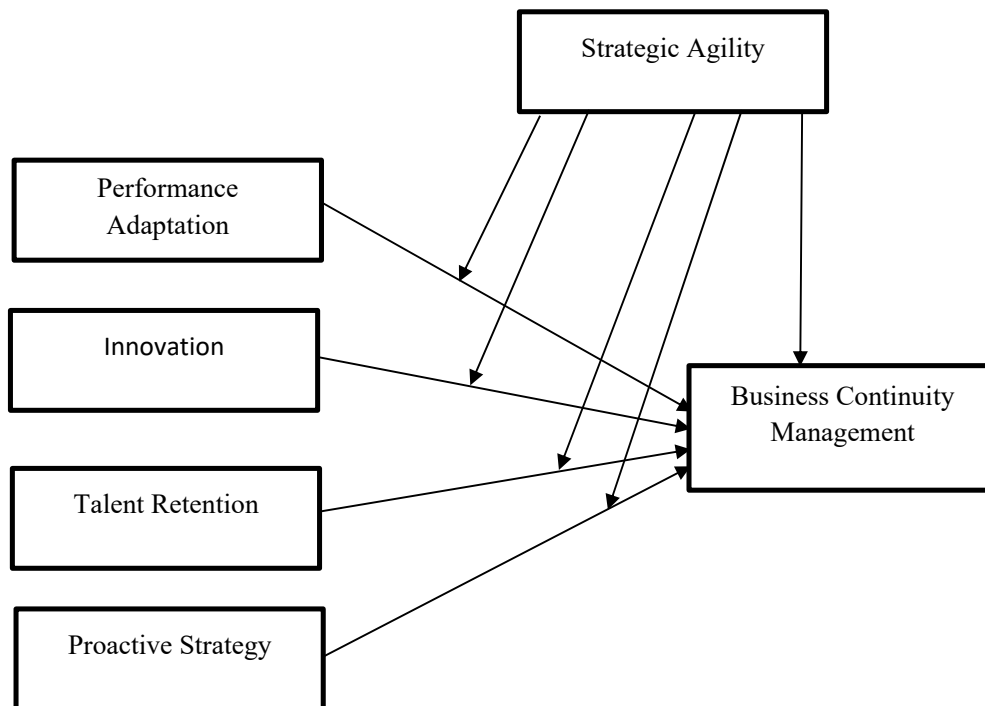
**H<sub>6</sub>:** *Strategic agility moderates the relationship between performance adaptation and BCM.*

**H<sub>7</sub>:** *Strategic agility moderates the relationship between innovation and BCM.*

**H<sub>8</sub>:** *Strategic agility moderates the relationship between talent retention and BCM.*

**H<sub>9</sub>:** *Strategic agility moderates the relationship between proactive strategy and BCM.*

Referencing the literature review aforementioned, the conceptual schema of this research is depicted in Figure 1 (Refer to Fig. 1).



**Fig. 1.** Research Framework

### 3. Methodology

This research utilized the quantitative approach as its most widely used scientific approach in business studies (Wilson, 2014). Moreover, it focused on the positivism approach. In support of the results obtained in this study, cross-sectional data was relied upon, as these data are collected over a specific period of time.

In order to reach the largest possible number of respondents, convenience sampling was used, as this type of sampling is considered one of the most widely used types in business studies and is considered one of the non-probability methods.

#### 3.1 Study population and sample

The population of this study included the tourism sector in Jordan, as this sector can be considered one of the important economic sectors in the Jordanian gross national product. Moreover, this sector was adversely affected during the COVID-19 pandemic (Belal, 2021). The study sample was selected from the so-called Golden Triangle, which includes Petra, Wadi Rum, and Aqaba.

The study sample comprised workers in this field, as 450 questionnaires were distributed, and after checking the questionnaires, (30) questionnaires were excluded and therefore (420) questionnaires were used in the data collection process. The response rate was 93%. Table 1 summarizes the demographic and functional characteristics of the study sample members.

**Table 1**  
Distribution of sample members

Characteristics	Category	No.	%
Gender	Males	310	74
	Females	110	26
Education	Diploma and less	35	8
	Bachelor	350	83
	master	33	8
	PhD	2	0.04
Job	Manager	40	10
	Administrative employee	140	33
	employee	240	57
Tourist service type	Tourist hotels	260	62
	Tourist restaurants	84	20
	Tourist offices	31	7
	Tourist Camps	25	6
	Antique shops	20	5
Total		420	100%

The table given above shows that most workers were male having a bachelor's level education. Moreover, most of the respondents were employees of hotels.

### 3.2 Instrument development

The questionnaire served as the principal instrument for data acquisition, given its prominence as one of the most widely adopted methodologies for amassing cross-sectional and self-administered data (Sekaran and Bougie, 2016). Items within the questionnaire were meticulously crafted to assess the variables under study, taking into account insights gleaned from notable prior research pertaining to these variables. The particulars of these items are delineated in Table 2. The questionnaire, in its entirety, comprised 38 items, each of which was encoded utilizing a five-point Likert scale.

**Table 2**  
Items for study constructs

Construct	Item code	Item	Reference
performance adaptation (4 Items)	PA1	Select employees for facets of psychological hardiness, including commitment and (locus of) control	Charbonnier-Voirin and Roussel (2012), Charbonnier-Voirin et al. (2010), Bednall, and Henricks, 2021
	PA2	Modify performance appraisal to consider adaptive performance	
	PA3	Adopt transformational leadership behaviors, including a vision and positive attitude toward the team's ability	
	PA4	Choose the organizational structure that best suits the strategic needs of the organization; work within the structure to develop a learning culture	
Innovation (4 Items)	INN1	encouragement of a culture of creativity that overcomes risk aversion akin to setting up entrepreneurial nuclei throughout the organization	Yaba et al. 2021
	INN2	The ability to enhance financial and organizational performance during During crises based on the creative, practical, and innovative brand	
	INN3	The pandemic showed the fragility of global supply chains related to tourism services, and creativity appeared in turning to local supply chains.	
	INN4	creation of a collegial environment promoting cooperation and empowerment, on the basis of the value of the ideas generated by the group, irrespective of ranks in hierarchies,	
Proactive strategy (4 Items)	PA1	In a turbulent age, the only dependable advantage is a superior capacity for reinventing your business model before circumstances force you to	Hamel and Valikangas (2003), Elali,(2021)
	PA2	adopting new operational modalities and engineering structural changes that facilitate proactive dynamic organizational demarches, in terms of speed and flexibility of decision	
	PA3	Forming smart teams capable of collectively responding to crises and shocks	
	PA4	Adopting a culture of growth and success in which failure is regarded as part of learning to move forward.	
talent retention (4 Items)	TA1	Talent retention helps Organizations can cut costs with other strategies because high-performing talent helps them learn quickly	Rasheed., et al (2022)
	TA2	Good and specific plans must be followed that help talent to survive In the organization	
	TA3	Preserving highly qualified employees in times of crisis is more important than laying them off under the pretext of reducing costs	
	TA4	consider talents as their sustainable competitive advantages,	
Strategic agility (6 Items)	SA1	We are very sensitive to external changes (regarding customers, competitors, technologies, etc.) and integrate these into the strategic planning of our company.	Hock et al. (2016)
	SA2	We utilize different mechanisms to become aware of strategic developments early.	
	SA3	Our top management is able to make bold and fast strategic decisions.	
	SA4	Our management collaborates for strategic decisions	
	SA5	We are able to reallocate and utilize capital resources fluidly.	
	SA6	Our people and their competencies are highly mobile within our organization.	

**Table 2**  
Items for study constructs (Continued)

1	Management	MS1	Top management provides adequate financial and human-resource support for ISCM.	Järveläinen, (2013)
2	Support	MS2	Top management supports the development of ISCM.	
3	(4 Items)	MS3	Top management assumes ultimate responsibility for ISCM	
4		MS4	Top management requires regular ISCM reports	
1	External	ER1	We develop ISCM to improve our customer service	Järveläinen, (2013)
2	Requirement	ER2	We develop ISCM to improve our reputation from a customer perspective.	
3	(4 Items)	ER3	We develop ISCM because of legal or governmental requirements.	
4		ER4	We develop ISCM in order to survive in an extremely competitive environment.	
1	Organization	OR1	Creating a continuity plan is an integral part of developing a new product or service	Järveläinen, (2013)
2	Preparedness	OR2	There is an alternative for our critical facilities	
3	(4 Items)	OR3	Our communication works well in incident situations	
4		OR4	We have documented continuity plans regarding our business processes	
1	Embeddedness	OCP1	Responsibility for business continuity planning has been decentralized to the business units.	Järveläinen, (2013)
2	of Continuity	OCP2	The business units have coordinators for business continuity management (BCM).	
3	Practices	OCP3	Our staff members are committed to pursuing disruption-free operations.	
4	(4 Items)	OCP4	Our staff members know the continuity practices related to their own work	

### 3.3 Data Analysis

This study aims to know the direct effects that enhance the level of BCM in the tourism and hotel companies operating in Jordan. Partial Least Squares Structural Equation modeling PLS-SEM was used to test the structural model and hypotheses. PLS-SEM is based on the bootstrapping approach to estimating relationships. The Measurement model is first used to check validity and reliability, and then the Structural Model is used to test hypotheses (Hair et al., 2019).

## 4. Results

### 4.1 Measurement model

The Measurement model was confirmed and accepted by calculating the average variance extracted AVE and factor loadings, as the AVE values should be greater than (0.50) and the factor loadings value greater than (0.70). Reliability was checked by calculating Cronbach's alpha and composite reliability CR values, as the values should be greater than (0.70). Table 3 shows that these values are met.

**Table 3**  
Validity and Reliability

Second-order Construct	First-order Construct	Item	Factor loading	AVE	Composite reliability	Cronbach alpha
-	Performance adaptation	PA1	0.846	0.720	0.911	0.870
		PA2	0.887			
		PA3	0.863			
		PA4	0.794			
-	Innovation	INN1	0.776	0.597	0.856	0.776
		INN2	0.741			
		INN3	0.811			
		INN4	0.761			
-	Proactive strategy	PA1	0.862	0.742	0.920	0.884
		PA2	0.881			
		PA3	0.849			
		PA4	0.853			
-	talent retention	TA1	0.727	0.617	0.865	0.794
		TA2	0.775			
		TA3	0.813			
		TA4	0.822			
-	Strategic agility	SA1	0.796	0.655	0.919	0.895
		SA2	0.818			
		SA3	0.856			
		SA4	0.790			
		SA5	0.766			
		SA6	0.826			
BCM	Management Support	MS1	0.784	0.657	0.885	0.826
		MS2	0.817			
		MS3	0.812			
		MS4	0.828			
BCM	External Requirement	ER1	0.796	0.730	0.915	0.876
		ER2	0.867			
		ER3	0.870			
		ER4	0.881			
BCM	Organization Preparedness	OR1	0.840	0.679	0.894	0.839
		OR2	0.877			
		OR3	0.865			
		OR4	0.702			
BCM	Embeddedness of Continuity Practices	ECP1	0.846	0.699	0.902	0.854
		ECP2	0.874			
		ECP3	0.874			
		ECP4	0.742			

Discriminant validity was accepted in the study variables, as it was confirmed by using the method (Fornell and Larcker, 1981). According to this method, the square root of AVE values must be greater than all other correlation coefficients.

Table 4 shows the fulfilment of these criteria in the study variables.

**Table 4**  
Discriminant validity

	ECS	ER	INN	MS	OP	PS	SA	PA	TR
ECS	<b>0.836</b>								
ER	0.748	<b>0.854</b>							
INN	0.617	0.557	<b>0.773</b>						
MS	0.711	0.815	0.619	<b>0.811</b>					
OP	0.813	0.76	0.615	0.755	<b>0.824</b>				
PS	0.663	0.616	0.484	0.607	0.624	<b>0.861</b>			
SA	0.667	0.611	0.56	0.642	0.632	0.561	<b>0.809</b>		
PA	0.568	0.523	0.762	0.583	0.57	0.457	0.469	<b>0.848</b>	
TR	0.548	0.481	0.694	0.53	0.57	0.446	0.429	0.562	<b>0.785</b>

In another way, Discriminant validity was checked by the HTMT ratio. According to (Henseler et al., 2015) the HTMT values should be less than (0.90). According to Table 5, the check for Discriminant validity can be accepted in all constructs.

**Table 5**  
Discriminant validity (HTMT)

	ECP	ER	INN	MS	OP	PS	SA	PA	TR
ECP									
ER	0.862								
INN	0.751	0.667							
MS	0.842	0.856	0.767						
OP	0.862	0.886	0.762	0.705					
PA	0.759	0.699	0.578	0.708	0.725				
SA	0.756	0.684	0.675	0.741	0.726	0.625			
PA	0.654	0.593	0.809	0.682	0.667	0.516	0.528		
TR	0.654	0.566	0.868	0.641	0.687	0.519	0.489	0.667	

#### 4.2 Structural model

Upon the successful validation of all pertinent statistical examinations correlated with the Measurement Model, we proceeded to assess the proposed study hypotheses by implementing a bootstrapping method (Hair et al., 2014). This nonparametric statistical method is renowned for its efficacy in generating innovative insights during exploratory research endeavors. Prior to embarking on the hypothesis testing phase, it was imperative to ascertain the absence of multicollinearity issues within the independent variables. This was confirmed by noting that all Variance Inflation Factor (VIF) values were comfortably below the threshold of 5. The predictive capacity of the adopted model was determined to be robust and above par, as manifested by an  $R^2$  value of 0.710. This figure signifies a high degree of predictive prowess within the purview of this study. The endorsement of all hypotheses was corroborated by the observed positive and statistically significant effects in all direct relationships. For instance, the correlation between Perceived Affordability (PA) and Business Continuity Management (BCM) was found to be positive and statistically significant ( $\beta=0.161$ ,  $P\text{-value}=0.001$ ). Similarly, the association between Innovation (INN) and BCM also exhibited positivity ( $\beta=0.111$ ,  $P\text{-value}=0.036$ ). This pattern was also noticeable in the relationship between Perceived Security (PS), Trust (TR), and BCM ( $\beta=0.342$ ,  $P\text{-value}=0.000$ ;  $\beta=0.133$ ,  $P\text{-value}=0.003$ ). The relationship between Strategic Agility (SA) and BCM too was affirmed as statistically significant ( $\beta=0.317$ ,  $P\text{-value}=0.000$ ). Additionally, this investigation scrutinized the nuanced role of SA in modifying the relationships between PA, INN, PS, TR, and BCM. The results pointed towards a significant moderating role played by strategic agility across all study hypotheses. Table (6) provides a comprehensive view of the hypothesis testing outcomes, while Figure 2 illustrates the finalized structural model employed for evaluating the study's hypotheses.

**Table 6**  
Hypotheses testing

Path	Beta value	Std. Error	t-Statistic	P-Value	Result
PA $\Rightarrow$ BCM	0.161	0.049	3.305	0.001	Support
INN $\Rightarrow$ BCM	0.111	0.049	2.26	0.036	Support
PS $\Rightarrow$ BCM	0.342	0.051	6.648	0.000	Support
TR $\Rightarrow$ BCM	0.133	0.044	3.005	0.003	Support
SA $\Rightarrow$ BCM	0.317	0.040	7.941	0.000	Support
PA*SA $\Rightarrow$ BCM	0.024	0.012	2.00	0.043	Support
INN*SA $\Rightarrow$ BCM	0.081	0.032	2.53	0.034	Support
PS*SA $\Rightarrow$ BCM	0.040	0.02	2.00	0.043	Support
TR*SA $\Rightarrow$ BCM	0.057	0.027	2.11	0.042	Support



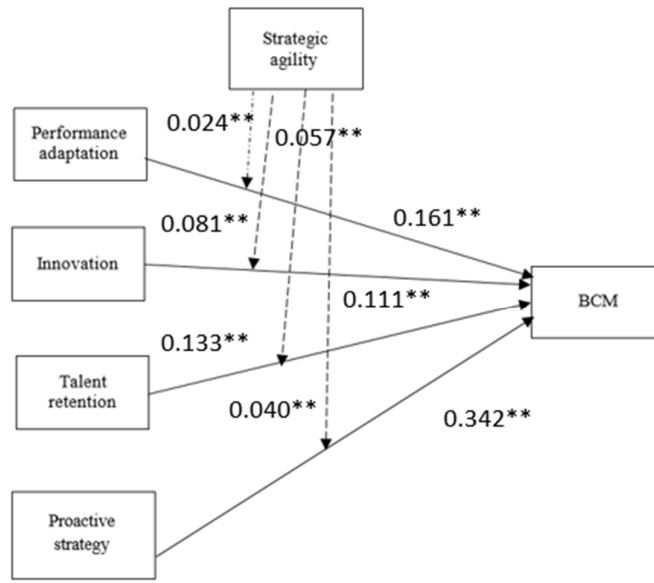


Fig 2. Results of SEM

## 5. Discussion

The adverse repercussions of the COVID-19 pandemic on Jordan's tourism sector are undeniable, yet there remains a significant void in literature underscoring these effects (Belal, 2021). Numerous enterprises found their survival jeopardized during this period of unprecedented disruption, largely attributable to the absence of cogent business continuity plans (Remko, 2020). As Marisa and Oigo (2018) posited, robust business continuity management is of paramount importance for organizations as it readies them for unpredictable circumstances. Despite this, the knowledge gleaned from the pandemic in terms of fortifying business continuity management remains a topic of intense deliberation. Consequently, this research sought to shed light on the precursors to effective business continuity management, inclusive of performance adaptation, innovation, talent retention, and the deployment of proactive strategies. Additionally, the role of strategic agility as a moderating force in the relationship between these factors and business continuity management was meticulously assessed.

The initial hypothesis (H1) of this investigation was predicated on examining the correlation between performance adaptation and business continuity management. The empirical results underscored a favorable relationship between these two constructs, bolstering the findings from Elshaer and Saad (2022) who spotlighted the intermediating role of adaptive performance in strengthening the link between entrepreneurial resilience and business continuity. The data gleaned from this study confirm that organizations should pivot towards performance adaptation amidst pandemics like COVID-19 or during any periods of turbulence to secure business continuity. Therefore, performance adaptation has emerged as a pivotal lesson from the COVID-19 pandemic. Alongside this, innovation and talent retention also surfaced as key lessons, prompting the establishment of the third and fourth hypotheses to emphasize the influence of these components on business continuity management. The findings underscore the indispensable role of innovation in fostering business continuity, particularly within service sectors such as tourism and hospitality. Here, an innovative corporate culture can serve as the cornerstone of business continuity plans, aligning with Sawalha and Meaton's (2012) argument that innovative work environments fuel the development of business continuity management. Additionally, the findings point to the substantial impact of talent retention on business continuity, echoing Ahmed (2021) proposition that during pandemic-induced crises, organizations should craft succession plans hinging on talent retention strategies to secure long-term business continuity.

The fourth hypothesis (H4) was posited to dissect the impact of proactive strategy on business continuity management. The findings underscored the salience of proactive strategies in the context of bolstering business continuity during and post-COVID-19 pandemic, thereby validating H4. It was revealed that effective business continuity management is intricately connected to the formulation of proactive strategies. Given the profound disruption pandemics inflict on businesses, the maintenance of operational productivity demands the cultivation of a business continuity management plan, viewed as a proactive strategy. This aligns with Sahebjamnia et al.'s (2015) contention that a proactive orientation is indispensable for

generating integrated business continuity. The fifth hypothesis sought to understand the connection between strategic agility and business continuity management, with the findings highlighting that strategic agility significantly bolsters business continuity. This corresponds with Hijjawi's (2017) observation that Jordanian service providers need strategic agility for effective business continuity management. The study concludes that performance adaptation, innovation, talent retention, and proactive strategy are the vital lessons extracted from the COVID-19 pandemic for business continuity management. It further illuminates how these elements can foster a more efficacious business continuity management in the presence of strategic agility. Consequently, hypotheses H6, H7, H8, and H9 were developed, all of which were validated by the findings. These results showcased that strategic agility significantly moderates the relationships between performance adaptation, innovation, talent retention, proactive strategy, and business continuity management. Consequently,

all organizations, regardless of their domain, should prioritize innovation, performance adaptation, talent retention, proactive strategy, and strategic agility in order to safeguard their business continuity management both during and in the aftermath of phenomena such as the COVID-19 pandemic. By doing so, these organizations can strengthen their ability to withstand unforeseen circumstances.

## 6. Implications

The COVID-19 pandemic disruption has underscored the criticality of proactive business continuity management in all sectors, particularly the tourism industry. This research offers valuable theoretical and practical insights into navigating turbulent market conditions, underscoring the need for organizations to be prepared for unexpected scenarios, a lesson made especially relevant post-pandemic. The study emphasizes the role of proactive strategy development, strategic agility, performance adaptation, and talent retention in building business resilience in the face of unforeseen circumstances. These elements, the research suggests, should be integrated into the operational and strategic planning of all businesses, not as a reactive measure, but as a strategic investment. Such an approach can ensure the rapid restoration of business operations in the event of an unplanned interruption, transforming potential challenges into opportunities for growth and innovation. In terms of theoretical implications, this research expands the discourse on business continuity management. It opens up avenues for further studies, directing researchers to explore factors leading to effective business continuity management, and the potential applicability of these principles to various sectors and different kinds of disruptions. As for practical implications, this study provides an actionable framework for business continuity management, relevant not only during and post-pandemic conditions but for any organization facing unforeseen disruptions. This model emphasizes the importance of embedding effective business continuity practices into critical processes, a notion supported by Bakar et al., (2017). Specifically for practitioners, tourism business owners, and those interested in the tourism sector, the research findings serve as a guideline to enhance business continuity. They can develop strategies focusing on performance adaptation, talent retention, proactive strategy, and strategic agility. Furthermore, the study provides a benchmark for businesses in this sector to measure and improve their business continuity practices. In summary, this research elucidates the significant role of strategic agility, proactive business continuity management, and talent retention in times of uncertainty, offering a robust model and theoretical foundation for businesses to survive and thrive amid volatile market conditions.

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These elements, the research suggests, should be integrated into the operational and strategic planning of all businesses, not as a reactive measure, but as a strategic investment. Such an approach can ensure the rapid restoration of business operations in the event of an unplanned interruption, transforming potential challenges into opportunities for growth and innovation. By implementing proactive business continuity management practices, organizations can anticipate and respond effectively to disruptions, minimizing the adverse impacts on their operations, reputation, and stakeholders.

In terms of theoretical implications, this research expands the discourse on business continuity management. It opens up avenues for further studies, directing researchers to explore factors leading to effective business continuity management, and the potential applicability of these principles to various sectors and different kinds of disruptions. The study highlights the significance of strategic agility, which allows organizations to adapt swiftly to changing circumstances and seize emerging opportunities. This research bridges the gap between dynamic capabilities and resource-based view theories, providing a solid foundation for understanding how organizational resources and capabilities can contribute to resilience and continuity.

As for practical implications, this study provides an actionable framework for business continuity management, relevant not only during and post-pandemic conditions but for any organization facing unforeseen disruptions. This model emphasizes the importance of embedding effective business continuity practices into critical processes, a notion supported by Bakar et al., (2017). By integrating BCM into the organizational culture, businesses can foster a proactive and resilient mindset among employees, promoting a collective effort towards mitigating risks and ensuring continuity.

Specifically for practitioners, tourism business owners, and those interested in the tourism sector, the research findings serve as a guideline to enhance business continuity. They can develop strategies focusing on performance adaptation, talent retention, proactive strategy, and strategic agility. In the tourism industry, where customer satisfaction and trust are paramount, implementing effective BCM practices can instill confidence in travelers and enhance their loyalty. Furthermore, the study provides a benchmark for businesses in this sector to measure and improve their business continuity practices. By benchmarking against the identified factors, organizations can assess their strengths and weaknesses, identify areas for improvement, and establish best practices for enhancing resilience. Moreover, the research encourages collaboration among stakeholders within the tourism industry to share insights, experiences, and best practices for collective preparedness. In summary, this research elucidates the significant role of strategic agility, proactive business continuity management, and talent retention in times of uncertainty, offering a robust model and theoretical foundation for businesses to survive and thrive amid volatile market conditions. The implications of this study extend beyond the pandemic, providing valuable guidance for organizations facing any form of crisis or disruption. By embracing a proactive and strategic approach to BCM, businesses can not only withstand challenges but also position themselves for long-term growth and success in an increasingly dynamic and unpredictable business landscape.

### **7. Limitations and Recommendations**

The present research yields substantial insights for both practitioners and academics; however, its findings are subject to certain constraints, which merit attention in subsequent inquiries. To commence, the investigative focus of this study was limited to the tourism and hospitality industry within Jordan. Future research could extend this purview to encompass the Small and Medium Enterprises (SME) sector, which also suffered significant disruptions amidst the COVID-19 pandemic, as illuminated by Al-Hyari (2020). Secondly, this analysis concentrated primarily on four key determinants of business continuity management. Forthcoming investigations could broaden this framework by examining additional factors or strategic influences that may shape business continuity management. Lastly, the study's attention was largely centred on selected organizational factors. The conceptual model proposed by this research is amenable to extension, with a suggestion for the incorporation of individual elements such as psychological empowerment. Such a focus may provide a more holistic understanding of the factors influencing business continuity management.

### **8. Conclusion**

The present study offers illuminating perspectives on the governance of business continuity in response to the aftershocks of the COVID-19 crisis, with a particular focus on the tourism industry within the illustrious Golden Triangle of Jordan: Petra, Wadi Rum, and Aqaba. The research elucidated those quintessential elements such as performance adaptability, ingenuity, talent conservation, strategic agility, and proactive measures play a pivotal role in efficaciously maneuvering business continuity in the midst of and following a pandemic. This research harnessed the analytical strength of Partial Least Squares Structural Equation Modelling (PLS-SEM) to probe into these cardinal factors and their repercussions on business continuity management. The outcomes corroborated that these variables indeed exert a positive impact on business continuity governance. Notably, strategic agility emerged as a vital moderating variable that amplifies the link between performance adaptability, creative solutions, talent safeguarding, proactive strategy, and business continuity administration.

Nonetheless, it is of paramount importance to acknowledge certain constraints in this study. The investigation homed in exclusively on the tourism and hospitality sector in Jordan, thereby allowing room for additional research within the Small and Medium Enterprises (SMEs) domain, which likewise grappled with significant hurdles amid the COVID-19 pandemic. Moreover, the inquiry was primarily tethered to four determinants of business continuity management, implying the prospect for subsequent studies to explore other potential determinants that may significantly affect business continuity administration. The ambit of the present research was predominantly restricted to organizational aspects, hence hinting at the potential for ensuing research to factor in individualistic components such as psychological empowerment. By integrating such elements, a more exhaustive comprehension of the factors steering business continuity management could be derived. In spite of these limitations, the outcomes of this research can serve as a comprehensive manual for managerial individuals in hotels and tourism corporations, especially those functioning within the Golden Triangle. The wisdom derived from the COVID-19 pandemic and encapsulated in this study will equip these institutions in fortifying their business continuity management strategies, thereby guaranteeing enhanced resilience and adaptability in the face of forthcoming crises or disruptions. Future research endeavors should capitalize on the insights of this study to further broaden our understanding of business continuity management in the aftermath of worldwide disruptions.

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