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Business model innovation of hotels in Vietnam during the COVID-19 pandemic

Nguyen Thuy Anh*, Tran Thi Phuong Uyen, Nguyen Thi Hong Ngoc, Nguyen Bao Ngoc, Pham Khoa Loc, Khong Le Chi Thanh

Foreign Trade University

No. 91 Chua Lang Street, Dong Da District, Hanoi, Vietnam

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Abstract: The hospitality industry faced enormous challenges in maintaining operations during the COVID-19 pandemic. Initial observations indicate that business model innovation might be a solution to recover from the COVID-19 crisis. This research conducts a survey comprising 350 participants employed in various roles within hotels located in Vietnam to assess the revamping of the business model through the lens of business practitioners. The empirical results show that the COVID-19 pandemic, business environment, and innovation culture impact the level of business model innovation of the hotel firms, in which the COVID-19 is the most influencing factor. In addition, the results indicate that the level of business model innovation has a positive impact on short-term outcomes and further enhances the overall business performance.

Keywords: Business model innovation, hotel industry, COVID-19 pandemic, business performance.

1. Introduction

The COVID-19 pandemic was described as an unprecedented crisis, profoundly impacting the global economy. Swift governmental measures like social distancing and travel restrictions significantly reduced tourism demand. The World Tourism Organization highlighted tourism as the most severely affected sector, estimating millions of job losses and hindering balanced and sustainable development. The hotel industry faces immense challenges amidst the global economic recession, necessitating business model innovation (BMI) to adapt to new societal conditions and sustain long-term operations and development of the hotel industry.

BMI is considered a promising solution for businesses, including hotel firms, to recover swiftly from the pandemic's impact (Kraus et al., 2020). However, empirical studies on BMI in the hotel industry are limited (Breier et al., 2021; Pascual-Fernández et al., 2021), and the comprehensive impact of BMI on business performance outcomes remains poorly navigated (Foss & Saebi, 2017).

Mitchell and Coles (2003) define BMIs as replacements made by companies that introduce a new product or service offerings to customers and end-users that were not previously available.

* Corresponding author
E-mail address: nthuyanh@ftu.edu.vn
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This process involves creating and implementing novel mechanisms to generate value and revenue, rather than relying on historical data or emulation of competitors.

Numerous studies show that BMI positively impacts firms' financial performance. The implementation of an innovative BM can significantly influence a firm's performance capabilities. Despite extensive research on BMI, there is limited empirical evidence within the hotel industry. In Vietnam, the tourism sector, including accommodations, lost approximately $23 billion in 2020 due to the absence of international visitors. The tourism sector contribution to Vietnam's GDP drops down significantly to 5.52% in 2020 compared to 12.5% in 2019 (VietnamBiz, 2023). During the COVID-19 pandemic, Vietnam's hotel industry underwent significant business model transformations to survive the challenging period. The COVID-19 pandemic further emphasizes the need for research on the renewal of BM in the hospitality industry. Few studies have explored the motivation for BMI during this challenging period. This study aims to fill the research gap by investigating the impact of the COVID-19 pandemic on BMI in the hotel industry in Vietnam. It employs a hybrid approach combining qualitative and quantitative techniques for data gathering, aiming to provide a comprehensive analysis of the influence of BMI on various aspects of the industry.

2. Literature review and hypotheses development

2.1. Business Model Canvas and business model innovation

Business model refers to the representation of an enterprise's logic for creating, distributing, and capturing value for its stakeholders (Bouwman et al., 2018; Chesbrough & Rosenbloom, 2002). In this study, we adopt the Business Model Canvas (BMC) by Osterwalder and Pigneur (2010) as a means of describing how an enterprise or network of enterprises generates and captures value for stakeholders, including (networked) enterprises and customers (Bouwman et al., 2018). The BMC is a modern strategic management tool used to represent existing business modelsor develop new ones. It comprises nine elements: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure (Osterwalder and Pigneur, 2010). BMI, as defined by Zott and Amit (2010), refers to changes in an enterprise's BM that are either new to the world or new to the enterprises under analysis. It involves reconfiguring activities within an existing BM to introduce new elements to the market where the enterprise competes (Santos et al., 2009). This deliberate process alters the enterprise's core elements and business logic (Bucherer et al., 2012). The foundational theory for BMI stems from the Dynamic Capabilities Theory by Teece et al. (1997). This theory explains that dynamic capabilities refer to a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. The theory emphasizes that in dynamic markets, a firm's ability to adapt, innovate, and transform its resources is critical for sustaining competitive advantage. This theory is highly applicable for businesses adapting to crisis conditions, such as COVID-19, by restructuring their operations or business models to ensure the sustainable development of hospitality enterprises.

Various authors measure BMI. Santos et al. (2009) consider changes in the architecture of BMs as an indicator of BMI. On the other hand, Foss and Saebi (2017) suggest two perspectives on BMI: changes in the architecture of a BM and changes in one or more components of BMs. In our study, we follow Foss and Saebi (2017) to measure the level of BMI in 9 components of customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure.

2.2. Drivers of business model innovation

Previous research has highlighted the diverse factors influencing drivers' behaviors and habits regarding BMI, which can be intrinsic or extrinsic to the organization (Foss & Saebi, 2017; Andreini & Bettinelli, 2017). In the external environment, various drivers have been identified, such as shifts in stakeholder demands, changes in the competitive landscape, and advancements in communication and information technologies (Ferreira et al., 2013). However, existing research has produced inconclusive results regarding the impact of business environment factors on BMI (Bouwman et al., 2018; Pateli & Giaglis, 2005). Specifically, recent studies have failed to substantiate the link between competition intensity and BM experimentation (Bouwman et al., 2018). Nevertheless, empirical investigations on the influence of different drivers on the propensity for engaging in BMI have been limited (Foss & Saeb, 2017; De Reuver et al., 2009).

Pucihar et al. (2019) have proposed that the business environment is an exogenous factor influencing the degree of BMI, particularly among small and medium-sized enterprises. This business environment is characterized by intense competition and market instability, and the researchers examined the dynamic behaviors of competitors and customers within the market (Jaworski & Kohli, 1993). Based on previous research results, we hypothesize that:

H1: The business environment has a positive impact on the level of BMI of hotel firms.

Ritter and Pedersen (2020) have analyzed the potential impact of the COVID-19 pandemic on existing BMs. Similarly, Kraus et al. (2020) have examined how family firms, responded to the COVID-19 crisis and identified temporary BMI as a potential recovery strategy in the aftermath of the crisis. Breier et al. (2021) suggest that BMI could be a viable approach for hotels to recover and resume operations following a crisis, such as the COVID-19 pandemic. The following hypothesis is proposed:

H2: The COVID-19 pandemic has a positive impact on the level of BMI of hotel firms.

Previous research has also delineated BMI as an endeavor to capitalize on novel opportunities, mainly arising from emerging information technologies (Bouwman et al., 2018). Most preceding investigations have predominantly relied on case studies as their foundational methodological approach (Foss & Saebi, 2017). Certain scholars have specifically focused on examining the impact of technological advancements on the emergence of fresh BMs in the domain of electronic commerce (Foss & Saebi, 2017; Jaworski & Kohli, 1993; Wirtz et al., 2010). Moreover, the existing literature has convincingly demonstrated that technology volatility significantly influences the experimentation and exploration of new BMs (Upward & Jones, 2016). Pucihar et al. (2019) highlight that the utilization of technology positively impacts the levels of BMI. Therefore, the hypothesis is posed as follows:

H3: Technology has a positive impact on the level of BMI of hotel firms.

The concept of BMI hinges on a company's ability to leverage its internal capabilities and resources to foster innovative changes within its BM (Zott & Amit, 2010). In this study, innovation is viewed as an endogenous factor defined as the enterprise's capacity or potential to introduce novel processes or new products/services within the organization (Hult et al., 2004). Previous research has indicated a positive association between innovation efforts and the willingness to experiment with different BMs (Foss & Saebi, 2017; Pucihar et al., 2019). The present study articulates the research hypothesis as follows:

H4: Innovation culture has a positive impact on the level of BMI of hotel firms.

2.3. Outcomes of BMI

BMI leads to alterations in the configuration of the BM, encompassing potential modifications to one or multiple components within the model (Zott & Amit, 2010; Foss & Saebi, 2017; Santos et al., 2009). Bashir et al. (2020) have identified three primary outcomes resulting from integrating the novel BM into the business process system. These outcomes encompass enhanced business performance, increased competitive advantage, and a catalytic effect on innovation.

To measure the short-term outcomes of BMI in enterprises, the research team employs nine measurement factors, including changes in key business processes, utilization of information technology in the management and control of internal operational processes, standardization and linkage of operational processes, application of information and communication technology, optimization of the information technology platform, utilization of media and social networks, and adjustments in the organizational structure of the hotel. The current investigation formulates the research hypothesis as follows:

H5: The level of BMI has a positive impact on the short-term outcomes of hotel firms.

Numerous previous studies have established a connection between business performance and BMI (Zott & Amit, 2007; Aspara et al., 2010; Cucculelli & Bettinelli, 2015; Volberda et al., 2017). Implementing various changes to the BM can potentially improve overall business performance (Giesen et al., 2007). Researchers have noted that assessing a company's performance can be achieved through the utilization of financial metrics, non-financial metrics, or a combination of both (Shane & Venkataraman, 2000; Cucculelli & Bettinelli, 2015). In this context, various criteria are employed to measure business performance,

including hotel revenue, profitability, market share, customer loyalty, and customer satisfaction. The authors present the subsequent hypothesis:

H6: The short-term outcomes of BMI have a positive impact on the business performance of hotel firms.

3. Research methodology

3.1. Measurement model

An extensive collection of validated measurements was created using the results of the literature research on body mass index, BMI, and BMI in hotels. The comprehensive questionnaire included several inquiries on BMs and BMI practices and the impacts of the COVID-19 pandemic.

We created constructs for the regression to build up the empirical analysis for our investigation. Only the questions that connected to the elements important for the study model's established components (Figure 1) were chosen for further investigation. Table 1 lists the constructions and the corresponding measuring items:

Table 1: Constructs and items in the research model

Construct	Measure of scale	Variable	Sources
Business environment (BE)	The government policies and decisions change frequently.	BE1	Jaworski and Kohli (1993); Johnson et al. (2008)
	Our hotel offers competitive prices compared to the industry standard.	BE2	
	Our competitors have exhibited strong reactions to our innovation.	BE3	
	The preferences and needs of our customers are subject to regular changes.	BE4	
COVID-19 pandemic (CV)	During the COVID-19 pandemic, demand for hotels plummeted.	CV1	Developed by authors
	During the COVID-19 pandemic, hotel revenue suffered a significant decline.	CV2	
	During the COVID-19 pandemic, hotels drastically decreased numerous expenses such as salaries, advertising costs, and communication expenses.	CV3	
	During the COVID-19 pandemic, the employee engagement and loyalty was lower.	CV4	
Technology (TE)	The industry's technology (payment method, booking website/application…) is rapidly evolving.	TE1	Bouwman et al. (2018), Marolt et al. (2016)
	The level of technological advancement in the industry is excessive.	TE2	
Innovation culture (IC)	Our hotel's culture is focused on continuous innovation.	IC1	Hult et al. (2004), Subramanian (1996), Atuahene-Gima and Ko (2001), Calantone et al. (2002); Naman and Slevin (1993)
	Our management encourages staff to have a breakthrough and innovative mindset.	IC2	
	Our managers highly value unique and innovative ideas.	IC3	
	Our hotel is prepared to embrace risks.	IC4	
	Our hotel persists in converting ideas into reality.	IC5	
	Our hotel possesses the ability to identify growth opportunities.	IC6	
	Our hotel aims to create multiple innovations annually.	IC7	
	Our hotel has introduced innovative concepts to the market.	IC8	
	Our hotel frequently implements multiple innovations simultaneously.	IC9	
	Our hotel is among the pioneers in the city to introduce innovations.	IC10	
	Our hotel employs innovative strategies to address the needs of diverse stakeholders, including customers, suppliers, and third-party entities etc.	IC11	
Level of BMI (LEV)	How does your hotel innovate its BM? (Level of BMI is measured by 9 BMC elements that are innovated, including customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure)	LEV	Based on Osterwalder and Pigneur (2010)
Short-term outcomes of BMI (OC)	Our hotel has made improvements in key business processes.	OC1	Ross et al. (2006), Pucihar et al. (2019)
	Our hotel has implemented modern information technology in managing its operations.	OC2	
	The control of operational processes has become more systematic.	OC3	
	The operational process has been standardized following the implementation of a new BM.	OC4	
	The operational process is closely interlinked.	OC5	

	The workforce has been strengthened and the level of expertise has been elevated.	OC6	
	The hotel's information technology and communication platform have been upgraded and utilized effectively.	OC7	
	Our hotel extensively utilizes social media platforms to promote and engage with customers.	OC8	
	Our hotel's organizational structure has undergone improvements.	OC9	
Business performance (BP)	The revenue has increased.	BP1	Cucculelli and Bettinelli (2015)
	The profit has increased.	BP2	
	The market share is greater.	BP3	
	The level of customer loyalty has increased.	BP4	
	The level of customer satisfaction has increased.	BP5	

Source: Compiled by authors.

The degree of agreement with statements was gauged using a five-point Likert type scale (1 - totally disagree, 5 - totally agree).

3.2. Sample and data collection

Primary and secondary data were both collected by the research team. There are two primary parts in the data gathering procedure, which spans six weeks in Vietnam from March to the end of April 2022. Phase 1 is an initial data-gathering project. The study team first emailed questionnaires to the first 20 individuals and then used their feedback to modify the survey. The official data-gathering investigation is phase two. After conducting a random online survey, the study team collected 355 online replies from survey participants. 350 out of these respondents are legitimate responses, yielding a 98% response rate.

4. Results

4.1. Descriptive statistics

The quantitative research section encompasses a primary research sample of 350 participants. These individuals are respondents employed in 3 to 5-star hotels across Vietnam, occupying diverse positions and roles within the establishments. The research aims to evaluate the BMI from the viewpoint of enterprise operators, who possess educational qualifications ranging from vocational college level to higher education, and hold positions ranging from directors to employees. Predominantly, the survey participants are affiliated with 3-star and 4-star hotels in five key cities: Hanoi, Ho Chi Minh City, Hai Phong, Da Nang, and Quang Ninh. Notably, more than 70% of the survey samples originate from hotels in Hanoi. Detailed characteristics of the sample are presented in Table 2.

4.2. Validity and reliability

Six factors have been identified that satisfy the properties of distinctiveness and convergence, with factor loadings greater than 0.5. Accordingly, these factors are suitable for conducting an Exploratory Factor Analysis (EFA) and meet the necessary conditions for further analyses.

Table 2: Fornell and Larcker Table

	AVE	MSV	IC	OC	BP	CV	BE	TE
IC	0.658	0.181	0.811					
OC	0.568	0.420	0.426***	0.754				
BP	0.537	0.420	0.283***	0.648***	0.733			
CV	0.643	0.248	0.137*	0.498***	0.399***	0.802		
BE	0.630	0.142	0.084	0.377***	0.315***	0.059	0.794	
TE	0.801	0.063	0.101†	0.171**	0.250***	-0.004	0.093	0.895

Source: Collected from AMOS by the author.

All variables' CR and AVE values are greater than 0.5, and Cronbach's Alpha coefficients are greater than 0.6 (Hair et al., 1995; Nunnally, 1978).

The correlations for each pair of variables do not equal 1, and the Fornell-Larcker standard is satisfied because the square root of AVE is greater than all the absolute values of the correlation coefficients between it and other factors. Hence, these factors are discriminant from each other.

4.3. Structural model analysis and hypotheses testing

H1, H2, H4, H5 and H6, with p-values < 0.01, indicate statistically significant

relationships. H1, H2, and H4 are accepted, demonstrating that Business Environment (BE), COVID-19 Pandemic (CV), and Innovation Culture (IC) have a positive impact on the level of BMI (LEV). Hypothesis 5 is accepted, indicating that the BMI (LEV) level positively influences the direct outcomes of BMI (OC). Finally, H6 is accepted, showing that the direct outcomes of BMI (OC) positively impact Business Performance (BP). H3, with a p-value of 0.951 > 0.05, is not statistically significant. Therefore, H3 is rejected. The results demonstrate that Technology (TE) does not influence the BMI (LEV) level.

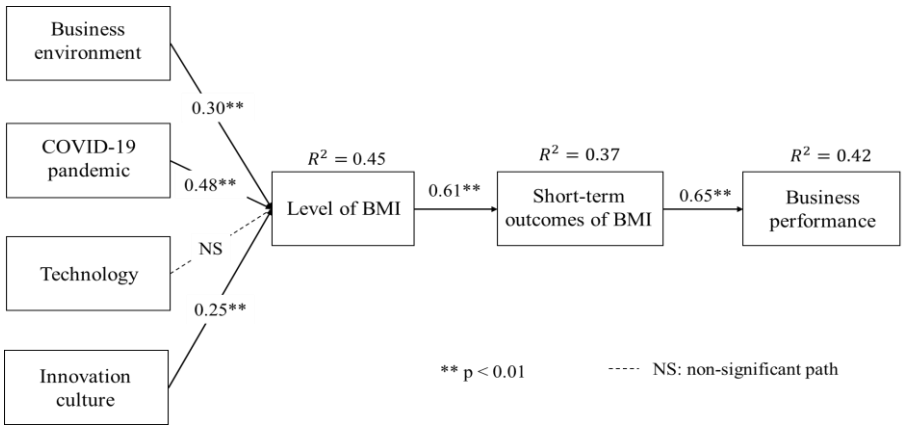

Figure 1: Empirical results
Source: Collected from AMOS by the author

5. Discussion

The experimental results of the study indicate that the COVID-19 pandemic is the most influential factor on the BMI of hotels in Vietnam among the four researched drivers. This finding can be thoroughly explained by the severe impact of the COVID-19 pandemic on the global economy (Gursoy & Chi, 2020). Various measures, such as social distancing and travel restrictions, have been implemented by governments worldwide to cope with the rapid spread of the Coronavirus (Davahli et al., 2020). In the study conducted by Le et al. (2020), several policies implemented by the Vietnamese government in 2020 were outlined, including school closures, border closures, and localized lockdowns. Another external driver that positively impacts the BMI of hotels in Vietnam is the business environment. It significantly influences enterprises across industries. Pucihar et al. (2019) also found a positive correlation between the business environment and BMI. Unlike their study, this article examines the business environment with distinct factors: government policies, business competition, and customer demands. As hotels depend heavily on customer satisfaction due to their service-oriented nature, customer preferences and demands are crucial in driving hotel innovation to meet customer needs. Particularly, in the current pandemic context, hotel managers prioritize government policies to curb the virus spread while devising their business strategies.

The study examined various external factors, and it was found that technology does not directly impact the BMI of hotels. While online reservation services have been widely adopted recently, other hotel services such as check-in and check-out procedures, luggage handling, and food service continue to be performed through traditional methods. Overall, the application of technology in the hotel industry has not seen significant breakthroughs.

The study also revealed that the sole internal factor examined, namely innovation culture, directly affects the level of BMI in hotels. The innovation culture of a business reflects its ability to introduce new processes, products, or services (Hult et al., 2004). In this research, innovation culture is characterized by a work environment that encourages creative innovation, a willingness to take risks, the ability to seize opportunities, and the company's overall commitment to innovation. Strong internal motivation arising from the innovation culture paves the way for extensive and profound innovation activities within the business. This perspective is supported by prior research by Pucihar (2019) and Bouwman (2018).

Furthermore, the study demonstrated that the level of BMI directly influences specific outcomes, including business process operations, information technology, human resources, and the organizational structure of hotels. Greater innovation leads to broader impacts on the business. This finding is consistent with previous research by Pucihar and colleagues in 2009.

The study also established a direct link between the outcomes of BMI and the overall business performance of hotels. In other words, the greater the extent of BMI and its impact on BMI, the more positive the business performance results. This finding aligns with previous research by Zott and Amit (2007), Aspara et al. (2010), Cucculelli & Bettinelli (2015), and Volberda et al. (2017).

7. Conclusion

The study provides empirical evidence of how the COVID-19 pandemic, business environment, and innovation culture impact the level of BMI in Vietnamese hotels. It highlights the pandemic as the most significant driver of BMI, offering a unique perspective on how external crises shape strategic responses in the hospitality sector. The research also highlights the importance of innovation culture within hotel organizations. A culture that supports creativity and flexibility enables hotels to adapt to rapidly changing market conditions, thus enhancing their ability to innovate their business models. This study establishes a clear link between BMI and improved short-term outcomes (e.g., higher occupancy rates, better customer satisfaction) and long-term performance (e.g., enhanced operational efficiency, increased competitiveness). It contributes to the literature by demonstrating how BMI is a proactive tool for improving business performance. The research offers a broad range of perspectives from within the industry, making its findings valuable for both hotel managers and policymakers. It emphasizes the need for hotels to develop adaptive strategies, foster innovation cultures, and embrace digital transformation to thrive in the post-pandemic era. It also provides insights into how hotels in Vietnam can leverage innovation to recover from the crisis. It underscores the importance of fostering a resilient and flexible business model, recommending that hotel firms invest in innovation as a core strategy for future growth.

Apart from the aforementioned contributions, the present study also exhibits several limitations. Firstly, future investigations should endeavor to conduct more extensive and geographically diverse surveys across the country, ensuring a more equitable response rate in urban areas to improve the study's representativeness. Secondly, certain performance indicators of the hotel industry after implementing BMI cannot be effectively captured solely through questionnaires. Future research should employ more robust survey instruments and methodologies to gather valuable data and indices. Thirdly, this research provides a limited understanding of the broad research domain surrounding BMs and BMI. Therefore, it is recommended that forthcoming studies prioritize a comprehensive examination of distinct incentives and methodologies related to BMI, with a specific focus on its resulting effects. Given current trends, future research should also prioritize investigating the impact of BMI in the Triple Bottom Line framework, which seeks to balance social responsibility, profitability, and environmental sustainability.

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