

THE INFLUENCE OF INNOVATION PRACTICES ON THE PRODUCTIVITY AND SURVIVAL OF MICRO-BUSINESS RESTAURANTS DURING POST-PANDEMIC COVID-19

Dalili Diyanah Mohd Zamani¹, Norhadilah Abdul Hamid^{1*}, Md Fauzi Ahmad¹, and Ahmad Nur Aizat Ahmad¹

¹ Faculty of Technology Management, Universiti Tun Hussein Onn Malaysia, 86400 Batu Pahat, Johor, Malaysia

ABSTRACT – The Covid-19 crisis has affected many industries since 2020 as the virus forced businesses across the country including small businesses such as restaurants to close. There is growing pressure on the number of business misfortunes as they battle to see through the fierce period to survive, especially when the government's Movement Control Order (MCO) was commenced. Hence, this study aims to find out whether innovation practices among restaurants owner can significantly affect the restaurant's productivity and survival during the national recovery phases. The objectives of this research are to determine the level of innovation practices of the restaurant businesses in Johor Bahru during post-pandemic Covid-19 as well as to determine the effect of innovation practices on productivity and survival. In this study, 180 restaurant owners in Johor Bahru were selected by using convenience sampling. The result revealed that a positive and significant association was found between the practice of innovation on the productivity and survivability of the restaurants. This study is significant because it provides evidence in the Malaysian context that could stimulate a better understanding of the importance of innovation practice in boosting productivity and extending the sustainability of restaurants, particularly micro-business restaurants, from the insights of owners or customers.

ARTICLE HISTORY

Received: 1-8-2022

Revised: 10-10-2022

Accepted: 16-11-2022

KEYWORDS

Innovation Practices

Productivity

Survival

COVID-19

INTRODUCTION

Moving forward to 2021, Covid-19 has altered the future of business in ways that will last long even after the pandemic is over. Since the commencement of the Movement Control Order (MCO) in March 2019, businesses in all industries are restricted to close in a long run for the prevention of coronavirus outbreaks. Any open premises and manufacturers that breach or disobey the standard operating procedures (SOPs) will get a penalty of up to RM50,000 while the individuals will be compounded from RM1,000 to RM10,000 (TheStar, 2021). When reviewing this situation, the Emergency (Prevention and Control of Infectious Diseases) (Amendment) Ordinance 2021 still has many deficiencies in certain aspects. There is no denying that this updated ordinance is an excellent proactive action to combat the coronavirus but from the small entrepreneur perspective, it burdens them as they were already struggling to survive in the market (Yusof et al., 2021). The ordinance is unreasonable for certain reasons. Firstly, many people try to survive in pandemic by opening small businesses (self-employed) and the majority of them try to venture into the food business because it can be a home-based business as a starter pack.

There are SOPs made by the Malaysian government for cafes and restaurants to operate during MCO such as one-meter table distancing, body temperature scanning, outlet disinfection three times a day, and operating hours from 6 am to 12 am daily. However, not all these conditions revert things to normal again due to the changes in consumer behavior. These guidelines seem hard to follow, forcing all restaurants to adapt to food delivery service technology. By that, the sellers can run their business like usual because the food delivery service provides contactless ordering, and contactless payment, and practice the social distancing procedure by doing delivery or takeaway instead of dine-in the restaurant. In response to Covid-19, people tend to use online delivery services such as Grab Food, Food Panda, and other delivery service platform to fulfil their needs and requirements. Based on the statistics on food delivery services in Malaysia, this sector is expected to reach \$281 million in 2021 (Hirschmann, 2021).

The demand for using the food delivery system is raising tremendously as this system is one of the conventional systems for people to use to avoid the risk of infection with the virus. This increases the chances for entrepreneurs of making more earnings during this period, allowing the company to survive. Many businesses see the food delivery system as an opportunity for them to continue their business amid the pandemic crisis as this system provides the connection between the seller and customer easily with the help of internet accessibility. However, sometimes the food delivery service has trouble in some aspects such as bad food packaging, missing items, miscommunication between both parties, and the rider behavior itself. Therefore, this situation would lead to low customer satisfaction.

Hence, the restaurant should come out with good packaging to secure the food and counter this issue. As a result, many restaurants will change their traditional operations to a new operation that induce technology and innovation in it to enhance their businesses' performance during this endemic phase. Thus, the introduction of innovation for the business strategies will provide long-term business survival which enhances their business potential and productivity. The government came up with the decision to open the economy after 90% of adult citizens get vaccinated (Kumar, 2021). Besides, Malaysia is currently moving to the endemic phases. At the same time, the strategy to reopen the industries is the golden chance for businesses to regenerate their resume business activities. In this unprecedented situation, government support is a crucial factor in the development of the restaurant business. Therefore, based on the above statement, this study aims to address the following research questions: Do innovation practices influence the micro business restaurant's productivity and survival during unpredictable situations?

LITERATURE REVIEW

Productivity

The Covid-19 pandemic has changed how business is conducted across many industries including the food industry specifically in food service restaurants and cafes. It can be seen as a disruption or an opportunity to grow by riding the new trends and capturing the digital-savvy consumers. Even before the Covid-19 pandemic hit our country, the food industry has been provided with many initiatives to support its business development. Those initiatives were given by the government to alleviate the burden, especially for the new business. There is a financial crisis that exist in the year 2013 but the Malaysian economy are slightly affected which means the crisis was still under the government's control. However, in the fourth quarter of 2019, the Malaysian economy pointed out that the 5 main industries: agriculture, mining, quarrying, manufacturing, construction, and services are struggling in facing the Covid-19 crisis. This can be proven through the statistics released by the Malaysian Productivity Centre (MPC) for 2020/2021.

Malaysia's productivity growth decreased enormously from 2.3% in 2019 to -5.5% in 2020 (MPC, 2021). That was the worst drop compared to the past 20 years. After a very challenging period, Malaysia finally changed to the endemic phase where many businesses including restaurants are finally back in full swing. Despite that, who will survive and thrive in the future, depends on how quickly they can adapt to this uncertain situation. Current literature explains the innovation and productivity relationship. The study in Slovenia by Maleti (2021) explains that sustainability innovation has provided direct and indirect effects on the overall economic performance through non-financial performance, which includes innovation performance, environmental performance, and social performance as the mediator.

According to a previous study in Spain, the effectiveness of innovation is the main reason for success in business productivity and performance as the competitive forces act as an inhibitor (Hernández- Espallardo & Delgado-Ballester, 2009). Based on the previous study in Taiwan, the ability to configure innovation has a significant relationship with discerning innovation conditions (Su et al., 2018). A case study in Riyadh, Saudi Arabia also shows that innovation and business productivity have a positive relationship when external support such as government, business advisors, and non-government organizations lend a helping hand to support small and medium enterprises (SMEs). A previous study from Vietnam that investigate the traditional way of Vietnam enterprise has provided three fundamental aids and key factors of competitive advantage for the small and medium enterprise to upgrade their overall business style (Lang et al., 2012). The investment capabilities act as the mediator before implementing the technology innovation. This study used survey questionnaires and targeted the CEOs and related managers from different departments to answer the surveys. The next previous study stated that many of the SMEs in Mexico face problems in the business model. The strategy of innovation for small and medium enterprises should be aligned with the new normality to boost the recovery phase (Caballero-Morales, 2021).

Another research conducted in Spain proposed that the CDM model, which is the process innovation inside the service company, has successfully increased labor productivity in the workplace (García-Pozo et al., 2018). The study in China indicated that the introduction of innovative practices inside big firm help the companies enhance their export rate (Guan & Ma, 2003). There is a positive relationship between process innovation and the export performance of a company. There are six components of the literature that seek to discover the drivers of company failure which are bankruptcy quantification, enterprise productivity, business metrics, organizational environment, social influences, and self-employment analysis (Barbosa, 2016). This research shows that the higher the profit, the higher the labor productivity of a business which indicates prolonged business survival. The study in Australia also found a similar result. This study focused on the tourism industry. During this post-pandemic Covid-19 phase, all businesses in the tourism industry face the struggle to stay resilient even though development to recover back is persistently slow (Nguyen et al., 2021). The result of this study shows the significant and positive effect of the implementation of marketing innovation and the introduction of technology on the productivity of SMEs in the tourism industry. A study in the USA by Cho and Bonn (2021) explains restaurants are a business that is dominated by small and medium enterprises (SMEs). In particular, restaurants undergo a 60% failure rate within the first year of their opening. This situation causes the difficult issue of properly identifying and implementing those salient aspects required to nurture the survivability of the restaurant. Companies with good talent management, efficient resource management, effective brand management, and innovative corporate cultures are likely to form and maintain restaurant competitive productivity (RCP).

Business Survival

Barasa et al. (2018) stated that business survival refers to the ability of a business or enterprise to withstand shocks and transform in face of challenges. Business survival has a similar meaning to business sustainability and business resilience. At this point, business survival is the corporate catchphrase on everyone's lips. Apart from the top manager, other parties such as employees, customers, and suppliers are the group of people that also get benefits from the business's survivability (Carnahan et al., 2010). It saves many individuals from job layoffs and disconnection from the supply chain. However, there is still research that proves the weak relationship between innovation and business survival. According to Naidoo (2010), he stated that product innovation does not support customer orientation, which places under the market orientation. The previous research explains the adoption of customer orientation only leads to product imitations, not innovation. Thus, when the innovation is not applied, the business survivability will remain the same, which can cause them to have a short period of existence in the market. This study obtained 184 responses from textile SMEs.

Numerous studies have demonstrated the association between innovation practices and business survival. Previous research by Adam and Alarifi (2021) has shown that the adoption of any type of innovation practices inside the firm gave a positive impact on business productivity and performance even though the Covid-19 pandemic put a little struggle on all types of business in many industries. The article strongly mentioned external support as the mediator to reach business survival after the pandemic Covid-19 hit the world. This research was conducted randomly on 259 SMEs in Saudi Arabia. The survey questionnaires were the instrument to conduct this quantitative research. The same research in Indonesia also stated that government aid, under the context of external support is crucial in helping small and medium size restaurants to implement innovation inside the business that indirectly increases the productivity of the whole business structure (Najib et al., 2021). After the government gives the green light for opening and operating the premises, the business owner is concerned about how to tell people that their business is still going on, what type of delivery they used, the unique demand and request of the customer, and many other related questions that are usually asked by the customers. A sample of 120 restaurant owners and managers participated based on the purposive method.

A study in Bangladesh stated that the critical strategic solution for an organization to overcome the crisis is through the efforts of strategic innovation that came from the leadership of upper management (Islam et al., 2021). The study has analyzed and reviewed over 360 articles and conducted semi-structured interviews session with the SME director and manager as the measurement support. Leadership spirituality gives a positive impact on the innovation action by the leader inside the company. When innovation practices are implemented, it indirectly leads to an emerging level of business survival. Next, a conceptual paper by Islam and Wahab (2020) also summarized that shifting the focus scope from performance to a more holistic approach can help strategic innovation-focused sustainable growth to give a great impact on SME survival. This study that has been conducted in Malaysia also detected that innovation practice in terms of exploitation and exploration is a mediator between business structure and SMEs' growth. In an article by Salunkhe and Rajan (2021), it was shown that innovation capability can avoid the organization from exiting the industry and toughen its survival amidst the global crisis. This study conducted during the pandemic phase uses a triangulation methodology that analyses three different factors which are past research, managerial insight, and popular press article. The qualitative method was used to get in-depth information. Therefore, seven telephone interviews and 41 online interviews were conducted which involved 48 managers from different companies around the world.

Another previous study based in Yogyakarta explained that innovation capabilities positively influenced SMEs' performance (Utomo, 2020). The findings revealed that the Muslim religion and creative skills in terms of service and product innovation based on the market demand had a substantial impact on business survival. The influence of company survival on innovative capabilities was dramatically diminished by environmental unpredictability. Environmental uncertainty, on the other hand, had a negligible impact on the influence of the Muslim religion on company survival. These findings highlight the significance of religious development for small business owners in this period of distress. During the Covid-19 epidemic, innovation is also vital in boosting the firm survival of small businesses. To boost economic zeal, the government should give religious help to small businesses both during regular times and during times of crisis. The government should make information more accessible to small business owners so that they may implement marketing innovations and have access to a larger market.

According to Purnomo et al. (2021), more comprehensive business plans spur innovation by identifying undiscovered potential for value creation and establishing new relationships between business model aspects. This study was conducted on small and medium enterprises excluding micro-businesses in five different industries and also claimed that to obtain the opportunities that arise from the crisis, expansion-oriented SMEs must develop a competitive attitude that includes flexibility, rapidity, innovation, and leadership effectiveness. Therefore, the result proved that process innovation has a significant relation to business survivability. This is because the small organization tends to have a fast reaction to changing markets as well as the flexibility to create innovation in the changing situation.

A study in a family-based company in Finland by Leppäaho and Ritala (2021) also indicated that innovation is one of the strategies to stay resilient in which the crisis is the catalyst to implement innovation practices inside the company. This is because organizational transformation is not enough to overcome the crisis. The Finnboat company was the targeted sample due to the year of the firm's operation being more than 30 years which indicates that it has dealt with three financial crises. The interview was conducted with all the upper positions based on the organizational structure of the company. Based on a recent study in Taiwan by Sheng and Margaret (2021), the exploitation and exploration of knowledge gave different effects on business survival strategies. However, the result shows a significant relationship

between knowledge management and the level of business survival. The study was conducted on 207 companies that have small, medium, or large profits based.

Innovation Practices

Innovation is a vital element of organization continuity (Ortiz-Villajos, 2014). According to Ming et al. (2021), innovation is the fundamental element behind the continuance and survival of a business as it promotes the company's future growth, as well as its long-term success. Omar and Morales (2021) specifically identified some of the manifestations of this type of innovation, which include product innovation, process innovation, and service innovation. All these innovations are important in business. Product innovation involves the launching of new or better-improved products while process innovation is all about finding better, improved, and more efficient ways of the processes that are involved in delivering products or delivering services (Adam & Alarafi, 2021). During the pandemic, many restaurants closed their operations when the government mandated lockdown. Since that, the economy witnessed many businesses start to apply technology to communicate with customers, suppliers etc. After the government announced the reopening of the economic sector in Malaysia, many innovations exist to combat the spreading virus and meet the strict SOPs guidelines. For example, the restaurant owner serves the food to the customers using robotic waiters. Other than protecting the customer and workers' health, it also speeds up the serving food process, especially during peak hours. This pandemic changed the consumption pattern of customers. Dine-in at the premises is not favorable anymore during post-pandemic because customers choose to stay safe from the virus. Thus, the existence of many service deliveries can be classified as service innovation. Delivery services such as Food Panda, Grab Food, Lalamove, and so on became popular services used by restaurants and customers to get their desired foods and stuff.

Therefore, innovation is a critical mechanism that will provide any restaurant with the needed competitive advantage in facing the uncertainty of business scenarios that occur in this post-pandemic (Islam et al., 2021). If innovation cannot be practiced, as Ming et al. (2018) claimed, this problem will expand and create barriers to enhancing the speed, accuracy, and efficiency of the products which can be expressed with the help of advanced technologies and expertise of a certain field. Hence, this will negatively affect the performance of the business due to the unchangeable design and features of a product, such as appearance, quality, price, and service. In fact, the study conducted by Bin et al. (2021) revealed that the outcomes of unpractically applied innovation not only negatively affect business performance but also increase the possibility for the food business to vanish from the industry due to its irrelevant fit into the market.

Besides, leadership that promotes no innovation initiatives is a recurring problem for many restaurant businesses because their inability to confront the crisis will negatively affect the business productivity during the period (Islam et al., 2020). Hence, in this context, this research aims to determine the influence of innovation practices among restaurants to enhance their business's performance and survival during post-pandemic Covid-19. At the same time, this research aims to explore the brainstorming of ideas that these restaurants do to stitch this industry and communities back together better than they ever were before. There is an immense amount of opportunity for collective innovation and collaboration as the country moves through this phase and into the recovery phase. This proposed thesis also aims to determine the level of business productivity and identify the likelihood of the restaurant's survival during this endemic phase of Covid-19. The researcher explained that there is a need to determine the level of productivity and performance of the food business because understanding the difficulties that they have encountered will put the researcher in the best position to offer some alternatives to the problem. In the case of the micro-business restaurant in Johor Bahru, which is struggling to reopen back the business, investigating their lived experiences as well as identifying the factors that caused them to survive the business journey are the very first steps in addressing the problem.

Hypotheses Development

Previous studies showed much evidence that innovation practices are significant factors in predicting restaurant productivity and survival (Adam, & Alarifi, 2021; Naidoo, 2010; Maleti 2021). The more the restaurants apply innovation practices in their daily business basis, the more likely their business is to stay relevant in the market and be productive (Hernández-Espallardo & Delgado- Ballester, 2009). Additionally, Maleti (2021) found that it is vital for any business to innovate, create new goods, redesign old items, and invest in research and development (R&D). The demand for innovation is emerging the need for product customization. According to the above relationships, the researcher conducted the hypothesis; *H1: There is a significant relationship between innovation practices and restaurant productivity.*

Regarding innovation practices, SMEs' survival is put at risk during times of crisis. A business can thrive and survive if it can adapt to the circumstances and its surroundings (Schulze et al., 2014; Sompong et al., 2014). SMEs have a shorter lifespan than large enterprises. They are more profitable and are heavily influenced by external environmental factors. Several studies indicate that survival is an objective determinant of firm success (Hemert & Nijkamp, 2013). One of the vital elements of the survivability and continuity of SMEs restaurant is innovation. Innovation is vital for the survival and progression of any enterprise because it is the driving force behind the business's future growth, as well as the enterprise's future success. Previous research suggested that innovation practices are applied to deal with the business drawback and obstacles to the success and survival of food SMEs in the industry. Few other researchers have addressed this relationship by focusing on concepts that are valid for both innovation and enterprise survival. For example, small enterprises are unable to survive and continue to operate unless they are innovative (Maarse & Bogers, 2012). As a result, this study aims to prove that the new and innovative business efforts made by SMEs to overcome the negative impacts of the COVID-19 pandemic can yield positive results for these businesses. As a result, the second hypothesis of this study is stated; *H2: There is a significant relationship between innovation practices and restaurant survival.*

METHODOLOGY

This study employed a quantitative research design, and a survey questionnaire was used to collect the data. The innovation dimensions established by Maleti (2021) were adapted to measure the independent variable, which is sustainable innovation practices of the restaurant business. There are seven items all together to be given to the respondents. The highest score among the indicators determines the strategy used by restaurant owners in the food industry. The dependent variables contain two variables. The first dependent variable, which is restaurant productivity, was evaluated using five items by adapting Cho and Bonn's (2021) study. The second dependent variable, which is restaurant survival, was adopted from Islamet al. (2021) and Naidoo (2010) and it has eight items under it. The measurement for variables in this study was the five-point Likert Scale. It was one of the scaling methods most commonly used in the research on social attitudes (Kothari, 2004). This is because Likert scales consist of chosen items which can clearly show positive or negative attitudes.

The sample for this study was drawn from the list of SMEs from Majlis Bandaraya Johor Bahru (MBJB). Firstly, this study was focusing on service innovation, therefore, SME microbusiness restaurants were chosen. Second, the micro-business restaurants that were using the online delivery service were selected. Thus, the restaurants that did not use the online delivery service (ODS) were excluded. A power analysis using the G Power software statistical program with a power of 0.80, $p < 0.05$, and an expected medium effect size of 0.15 was selected to determine the desired sample size target for this research. This 80% power is the bare minimum required for social science studies (Gefen et al., 2011). The G power analysis was calculated on the basis number of latent variable predictors, which in this study was two. As a result of the power analysis, the lowest sample size required was 68 respondents. This finding showed that 68 respondents were sufficient to demonstrate the study's power of the effect size. Following data gathering, the overall sample size for this research was 180, far exceeding the recommended minimum number. Data were gathered from all micro-business restaurants in the Johor Bahru area and focused on the business owner. The data collection was conducted by using mail, online survey, and physical distribution of questionnaires.

RESULTS

Demographic Analysis

The demographic data obtained from 180 restaurant owners were summarized in Table 1. The majority of the owner of the restaurants was female, 56.1%. The majority of them are aged between 31-42 years old and have been operating for less than five years with a number of employees of less than five people.

Table 1. Demographic Results

Demographic	Description	Frequency	Percentage (%)
Gender	Male	79	43.9
	Female	101	56.1
Age	31-40 years old	62	34.4
	41-50 years old	56	31.1
	51-60 years old	33	18.3
	61 and above	6	3.3
Year of Establishment	Less than 5 years	134	74.4
	5-10 years	35	19.4
	11-15 years	8	4.4
	More than 15 years	3	1.8
Number of Employees	1-5 employees	153	85
	6-10 employees	22	12.2
	More than 10 employees	5	2.8

Reliability Analysis

Table 2 shows the summarized reliability test results for the independent variable of this study. The total measured items are equivalent to 20 items: 7 items of innovation practices (IP), 5 items of restaurant productivity, and 8 items of restaurant survival. The Cronbach's Alpha for IP, LRP, and LRS is 0.710, 0.651, and 0.715 respectively. The reported values are considered reliable and acceptable. Lastly, the excellent overall reliability result concluded that this instrument used is acceptable and appropriate to ensure the validity and reliability of the study.

Table 2. Reliability Test Results

Variables	Cronbach's Alpha (a)	N of Items
Innovation Practices	0.710	7
Restaurant Productivity	0.647	5
Survival	0.713	8
Overall variables	0.832	20

Descriptive Analysis

The mean and standard deviation of the items included in Table 3 shows the result of the descriptive analysis for deeper insight. The mean value indicates the average response for each item (Krejcie & Morgan, 1970), while the standard deviation value shows the dispersion of the data around the average value. The central tendency of each variable item is evaluated based on the level of mean measurement (Chua, 2006). The mean score for the items of the level of innovation practices is considered high with an average mean value of 4.26. The average of standard deviation values for these variable items is 0.561 which interprets the data were not overly dispersed around the mean score. Next, the average mean range for items of the level of restaurants' productivity is also high which is 4.20. Meanwhile, the average standard deviation of restaurant productivity items shows the data is clustered close to the mean values which are 0.579. Besides, the items for level of the restaurant's survival items show an average mean score of 4.34 which indicates high mean scores. It is evident that many respondents chose to agree and strongly agree with all the variables' items.

Table 3. Reliability Test Results

Variables	Average Mean	Average Standard Deviations
Innovation Practices	4.26	0.561
Restaurant Productivity	4.20	0.579
Survival	4.34	0.539

Significance Statistics Test

Kolmogorov-Smirnov tests were used to examine the assumption that sample data in a study were derived from a normally distributed population (Rose, Spinks, & Canhoto, 2014). Since the Kolmogorov-Smirnov test was designed for large sample sizes, it was preferred due to the total 180 of the datasets. As all variables had a P-value of 0.000 (less than 0.05), the data distribution was not normal. According to the results obtained from the normality test of this study, the research result indicates that all variable data distribution was assumed as not normal.

Therefore, Spearman's correlation analysis was used to identify the relationship between innovation practices (IP), level of restaurant productivity (LRP), and level of restaurant survival (LRS). The range for Spearman's correlation coefficient is varied between -1 to +1 (Schober, Boer, & Schwarte, 2018). In this case, the higher the coefficient value, the greater the relation between the correlation of the variable that has been studied.

The first analysis was to determine whether there is a significant relationship between the influence of innovation practices and restaurant productivity in Johor Bahru during post-pandemic Covid-19. The null and alternative hypotheses were as above. According to Table 4, Spearman's rho correlation coefficient between the influence of innovation practices and restaurant productivity is 0.299 with a significant value of 0.000. There was a weak positive correlation between the influence of innovation practices and the level of restaurant productivity in Johor Bahru during post-pandemic Covid-19. Therefore, this research accepted the alternative hypothesis for H1.

The second analysis was to determine whether there is a significant relationship between the influence of innovation practices and restaurant survival in Johor Bahru during post-pandemic Covid-

The null and alternative hypotheses were as above. According to Table 4.20, Spearman's rho correlation coefficient between the influence of innovation practices and restaurant survival is 0.222 with a significant value of 0.003. There was a weak positive correlation between the influence of innovation practices and the level of restaurant productivity in Johor Bahru during post-pandemic Covid-19. Therefore, this research accepted the alternative hypothesis for H₁ and rejected H₀. Indeed, the study findings revealed that innovative practices had a positive impact on SME survival indicators.

Table 4. Spearman's rho correlation analysis

Hypotheses	Relationship	R-value	Decision
H1	Innovation Practices → Productivity	0.299	Supported
H2	Innovation Practices → Business Survival	0.222	Supported

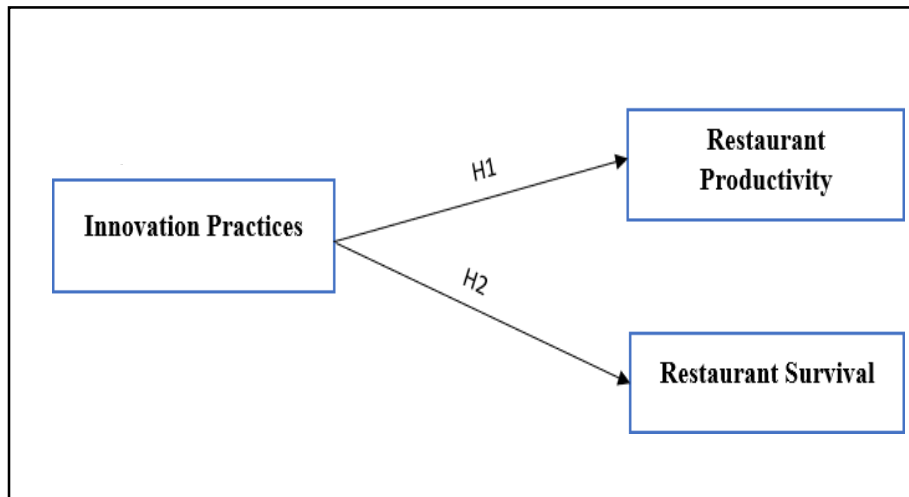


Figure 1. Research Framework

DISCUSSION

The innovation level of micro-business restaurants in the post-Covid-19

When Covid-19 struck, it affected all corners of the economy. However, the restaurant industry was hit especially hard. Despite the great shock caused by the Covid-19 crisis, technological involvement is an innovation that can stitch this industry and the communities back together. The first objective of this study was to determine the level of innovation practices of a micro-business restaurant during post-pandemic Covid-19. Firstly, the respondents' perception concerning the influence of innovation implementation reflected a high level in which most respondents rated 4 and 5 for all seven items of the innovation section. Therefore, the result of this research signifies that a high level of innovation could help micro-business restaurants during the economic crisis. These results agreed with the findings of the previous author (Platero Jaime et al., 2013) that mentioned both small and large firms induce innovation during a crisis. However, the innovation intensity is depending on the size of the firm. It can be concluded that small business behavior is typically similar to the owner's behavior (Platero Jaime et al., 2013). Next, the profile of the entrepreneur also could affect the innovation level of micro-business. In this sense, Aubert et al., (2006) argue that there is a negative relationship between the age of the entrepreneur and innovation. It is not as easy as the older you get, the more innovative your business is because the innovation propensity would decline when the business is unable to adapt to the changing market and the absence of technological skills.

Nonetheless, the age of a business could affect the higher presence of innovation development over time. A firm that has been established for a long time would likely develop an innovative capacity compared to the new start-up firm. This statement agreed with the finding of the previous author which explains the old established company has reached the maturity of the business within the industry (Hernandez, 2010). As a result, the age of the organization is often a criterion of the need to innovate. Hence, an entrepreneur or business that has been in operation for a long period in a mature industrial sector will be more likely to innovate. On the other hand, companies, or entrepreneurs with few years of expertise in new sectors will have goals other than innovation to solidify their place in the industry. Covid-19 has caused a severe challenge not just to the restaurant sector, but to all sectors, including education, manufacturing, service, and others. Therefore, more study is needed to enhance enterprise resilience during this period.

Service innovation is a powerful marketing strategy for restaurant owners to enhance their brand awareness to new and existing customers. This study found that businesses implemented online service delivery starting before the pandemic crisis began. However, the delivery fee is quite demanding and expensive. In avoiding the risk of business collapse, innovation is pointed out as the solution to business recovery during the post-pandemic season (Caballero-Morales, 2021). Innovations led restaurants on changing the way they serve their customers. The study found the majority of the respondent agreed that they continuously improve business processes to make resources efficient. Many restaurants nowadays rely on third-party services to deliver food but the more they rely on them, the more they pay in delivery fees. Even though the restaurant could survive with the help of the order delivery applications (service support), the restaurant's sales declined as the delivery fee is increasingly demanding.

The second objective of this study is to evaluate how the productivity and survival of restaurants can be affected by the presence of innovative practices. One main hypothesis was developed to assist in the achievement of this objective. The finding indicates there is a significant and weak positive influence of innovation on productivity and survival, $p < 0.05$. The respondents' perception of the relationship between productivity and survival reflected a high level in which most of the results were rated 4. The average mean score for productivity and survival was 4.20 and 4.34 respectively. Therefore, the result reflects that the respondents were agreeable to the variables. It is consistent with Huang and Sharif (2009), who discovered a significant positive relationship between Hong Kong-owned firms' survival in Guangdong province.

Moreover, this finding is in line with García-Pozo et al. (2018) which indicates that technological innovation led to the enhancement of 11% in the productivity of a service company. In this research, the result has shown that 85% of respondents established their restaurants not more than 5 years. Besides, the majority of them (75%) hired one to five permanent employees for handling the restaurant activities. As they are considered new in the restaurant sector, investment in innovation such as implementing order delivery services (ODS) is a good step to keep the restaurants sustained in the market and meet the changing demand of the market during a crisis.

However, this contradicts prior research by Hyytinen et al. (2015) which argues that during the early stages of firm development, practicing innovations is negatively related to survival, especially for the first three years. A potential explanation for this contradicted finding is that an innovative startup faces the surplus financial responsibility of novelty and smallness, which reduces its chances of survival in comparison to its non-innovative rivals. The innovativeness of startups could therefore restrict their access to credit facilities due to inadequate collateral and adjust their overall risk profiles by making sources of income more variable and skewed, as well as delaying them in time (Hyytinen et al., 2015). On the other side, Colombelli et al. (2016) proposed that innovative startups survive their non-innovative competitors. However, this result is only approved when the firms apply process innovation rather than product innovation.

Furthermore, the result of this study is consistent with the result of the studies by Utomo (2020), Goya et al. (2016), and Polder et al. (2009). According to those past studies, innovation significantly and positively influences the productivity of SMEs as innovation creates company competitiveness, performance, and firm survival (Utomo, 2020). Organizational innovation gave a greater influence on the firm's productivity (Polder et al., 2009; Goya et al., 2016). The significance of internalization focusing on output is the component that led to the greatest influence of marketing innovation on productivity (Peter et al., 2014). However, the firm's survival rate hangs on very much to the innovation type. The majority of the study found that during crisis technology and process innovation are associated with greater firm survival compared to product innovation.

CONCLUSION & RECOMMENDATION

By the end of this study, both research objectives and hypotheses were successfully achieved and addressed. The study's main results indicate that the impact of innovation practices in micro-business restaurants has a strong influence on their productivity. Furthermore, the study findings confirmed that there is a significant relationship between the influence of innovation practices during the pandemic crisis on productivity and the survival of micro-business restaurants. Many previous studies found that the innovative practices that are applied to a business are key factors or determinants of business success. Results indicated that innovation practices have a positive significant correlation with productivity and survival. The study also found that the level of innovation practices among the restaurants in Johor Bahru is high. Hence, this study is among the first piece that studies on this topic in Malaysia that measured the level of innovation practices and plot them to the productivity and survival outcomes.

Additionally, there are a few recommendations for future research. This study can be continued with in-depth research for those who are interested in this field for future endeavours. The first recommendation is future research may use a mixed method data collection to collect more important knowledge about the research matters. Researchers are advised to use qualitative methods such as interviews or focus groups for data collection, and together with quantitative approaches such as survey questionnaires. Furthermore, the second recommendation is the scales used in this study should be diversified to interpret deeper and more complex issues concerning the potential of restaurant productivity drivers. The future researcher should expand the business characteristics and market environment and compare them to other scholarly studies on SMEs, especially between normal and crisis conditions.

REFERENCES

- Adam, N. A., & Alarifi, G. (2021). Innovation practices for survival of small and medium enterprises (SMEs) in the COVID-19 times: the role of external support. *Journal of innovation and entrepreneurship*, 10(1), 1-22.
- Aubert, J. E. (2006). Innovation systems in emerging and developing economies. *Measuring innovation in OECD and non-OECD countries*, 21-42.
- Barasa, E., Mbau, R., & Gilson, L. (2018). What is resilience and how can it be nurtured? A systematic review of empirical literature on organizational resilience. *International journal of health policy and management*, 7(6), 491-503.
- Barbosa, E. (2016). Determinants of small business survival: The case of very small enterprises of the traditional manufacturing sectors in Brazil. Available at SSRN 2802706.
- Bin, L., Zhong, Y., Zhang, T., & Hua, N. (2021). Transcending the COVID-19 crisis: Business resilience and innovation of the restaurant industry in China. *Journal of Hospitality and Tourism Management*, 49(2021), 44-53.
- Cho, M., & Bonn, M. A. (2021). What drives restaurant competitive productivity (CP): a comprehensive examination at meso-micro levels. 33(9), 3065-3090.
- Chua, Y. P. (2006). *Methods and Statistics Research: Book 1 Research Methods*. Kuala Lumpur: McGraw Hill.

- Caballero-Morales, S. O. (2021). Innovation as a recovery strategy for SMEs in emerging economies during the COVID-19 pandemic. *Research in International Business and Finance*, 57, 101396.
- Carnahan, S., Agarwal, R., & Campbell, B. (2010). The Effect of Firm Compensation Structures on the Mobility and Entrepreneurship of Extreme Performers. *Business*, 79, 1–43.
- García-Pozo, A., Marchante-Mera, A. J., & Campos-Soria, J. A. (2018). Innovation, environment, and productivity in the Spanish service sector: An implementation of a CDM structural model. *Journal of Cleaner Production*, 171, 1049–1057.
- Gefen, D., Rigdon, E. E., & Straub, D. (2011). An Update and Extension to SEM Guidelines for Administrative and Social Science Research. *MIS Quarterly*, 35(2), 3-14.
- Guan, J., & Ma, N. (2003). Innovative capability and export performance of Chinese firms. *Technovation*, 23(9), 737–747.
- Goya, E., Vayá, E., & Suriñach, J. (2016). Innovation spillovers and firm performance: Micro evidence from Spain (2004–2009). *Journal of Productivity Analysis*, 45(1), 1-22.
- Hernández-Espallardo, M., & Delgado-Ballester, E. (2009). Product innovation in small manufacturers, market orientation and the industry's five competitive forces. *European Journal of Innovation Management*, 12(4), 470–491.
- Hernández, S. B. (2010). study on decision making in a two micro-entreprises integration process to a network of business cooperation: Application of game theory. *Cuadernos de Estudios Empresariales*, 20, 55-68.
- Hemert, P. Van, & Nijkamp, P. (2013). From innovation to commercialization through networks and agglomerations : analysis of sources of innovation , innovation capabilities and performance of Dutch SMEs, 425–452.
- Hirschmann, R. (2021, November 30). Malaysia: Favorite Food Delivery Apps 2021. Statista. Retrieved June 22, 2022, from <https://www.statista.com/statistics/1149404/malaysia-favorite-food-delivery-apps/>
- Huang, C., & Sharif, N. (2009). Manufacturing dynamics and spillovers: the case of Guangdong Province and Hong Kong, Macau, and Taiwan (HKMT). *Research Policy*, 38(5), 813-828.
- Hyytinen, A., Pajarinen, M., & Rouvinen, P. (2015). Does innovativeness reduce startup survival rates? *Journal of Business Venturing*, 30(4), 564–581.
- Islam, A., & Wahab, S. A. (2020). The intervention of strategic innovation practices in between regulations and sustainable business growth: a holistic perspective for Malaysian SMEs. *World Journal of Entrepreneurship, Management, and Sustainable Development*, 17(3), 396-421.
- Islam, A., Zawawi, N. F., & Wahab, S. A. (2021). Rethinking survival, renewal, and growth strategies of SMEs in Bangladesh: the role of spiritual leadership in crisis. *PSU Research Review Emerald Publishing Limited*. 2399-1747.
- Kothari. (2004). *Research Methodology Methods and Techniques (Second Edi)*. New Age International (P) Limited.
- Krejcie, R.V., & Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.
- Lang, T. M., Lin, S. H., & Vy, T. N. T. (2012). Mediate effect of technology innovation capabilities investment capability and firm performance in Vietnam. *Procedia - Social and Behavioral Sciences*, 40, 817–829.
- Leppäaho, T., & Ritala, P. (2022). Surviving the coronavirus pandemic and beyond: Unlocking family firms' innovation potential across crises. *Journal of Family Business Strategy*, 13(1), 100440.
- Maleti, M. (2021). The missing link : sustainability innovation practices , non- financial performance outcomes and economic performance. 44(11), 1457–1477.
- Maarse, J. H., & Bogers, M. (2012). An Integrative Model for Technology-Driven Innovation and External Technology Commercialization, 59–78.
- Ming, F. S., Shao, H. C., & Der, F. C. (2018). Innovation capability configuration and its influence on the relationship between perceived innovation requirement and organizational performance Evidence from IT manufacturing companies. *Journal of Manufacturing Technology Management*. 29(8), 1316-1331.
- Naidoo, V. (2010). Firm survival through a crisis: The influence of market orientation, marketing innovation and business strategy. *Industrial Marketing Management*, 39(8), 1311–1320.
- Najib, M. (2021). Business Survival of Small and Medium-Sized through a Crisis: The Role of Government Support and Innovation. *Sustainability*, 13(10535), 1–16.
- Nguyen, V. K., Natoli, R., & Divisekera, S. (2021). Innovation and productivity in tourism small and medium enterprises: A longitudinal study. *Tourism Management Perspectives*, 38, 100804.
- Omar, S., & Morales, C. (2021). Innovation as a recovery strategy for SMEs in emerging Economies during the COVID-19 pandemic. *Research in International Business and Finance*, 57(101396), 1-9.

- Ortiz-Villajos, J. M. (2014). Patents, what for? The case of Crossley Brothers and the introduction of the gas engine into Spain, c. 1870-1914. *Business History*, 56(4), 650–676.
- Peter, A., Laud, B. F., Anthony, F. H., Lord, O. A. A., & Micheal, O. (2014). Using Information and Communication Technology (ICT) to predict teachers productivity. *International Journal of Innovation and Scientific Research*, 2(2), 348-355.
- Platero Jaime, M., Benito Hernández, S., & Rodríguez Duarte, A. (2013). Differences between innovative and non-innovative microenterprises: internal factors. 31. http://oa.upm.es/29640/1/INVE_MEM_2013_170623.pdf
- Purnomo, B. R., Adiguna, R., Widodo, W., Suyatna, H., & Nusantoro, B. P. (2021). Entrepreneurial resilience during the Covid-19 pandemic: navigating survival, continuity and growth. *Journal of Entrepreneurship in Emerging Economies*, 13(4), 497–524.
- Polder, M., Van Leeuwen, G., Mohnen, P. and Raymond, W. (2009). Productivity effects of innovation modes. *Economics of Innovation and New Technology*. 22(3), 300-328.
- Rose, S, Spinks, N, and Canhoto, A. I., (2014). *Management research: Applying the principles*. Routledge.
- Salunkhe, U., & Rajan, B. (2021). Understanding firm survival in a global crisis. <https://doi.org/10.1108/IMR-05-2021-0175>
- Schulze, A., Brojerdi, G., & von Krogh, G. (2014). Those Who Know, Do. Those Who Understand, Teach. *Disseminative Capability and Knowledge Transfer in the Automotive Industry*. *Journal of Product Innovation Management*, 31(1), 79–97.
- Sheng, Margaret, L. (2021). supply chain survivability in crisis times through a viable system perspective: Big data, knowledge ambidexterity, and the mediating role of virtual enterprise. *Journal of Business Research*, 137, 567–578.
- Sompong, K., Igel, B., & Lawton, H. (2014). Strategic alliance motivation for technology commercialization and product development. *Management Research Review*, 37(6), 518–537.
- Su, M. F., Cheng, K. C., Chung, S. H., & Chen, D. F. (2018). Innovation capability configuration and its influence on the relationship between perceived innovation requirement and organizational performance: Evidence from IT manufacturing companies. *Journal of Manufacturing Technology Management*, 29(8), 1316–1331.
- Utomo, H. S. (2020). The Effect of Muslim Religiosity and Innovation Capability on Firm Survival: A Study on Small Enterprises During the Covid-19 Pandemic. *Iqtishadia*, 13(2), 179-187.
- Yusof, T. A., & Krishnan, D. B. (2021, February 27). SOP: New penalties spark calls for clarity. *New Straits Times*. Retrieved from: <https://www.nst.com.my/news/nation/2021/02/669450/sop-new- penalties- spark-calls-clarity>

CONFLICT OF INTEREST

The author(s), as noted, certify that they have NO affiliations with or involvement in any organisation or agency with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, jobs, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, expertise or beliefs) in the subject matter or materials addressed in this manuscript.