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## Intellectual Capital and Business Model Innovation: Boosting Brand Equity through SME Food Outlets' Entrepreneurial Efforts

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### ABSTRACT

The online food delivery industry in Malaysia has been gaining traction among the local community. The adoption process has been accelerated by the Covid-19 pandemic as the government has imposed movement restrictions throughout the country. This has increased the importance of efficient food delivery services to residential areas through a seamless ordering process. This industry operates within the larger umbrella of the sharing economy, along with ride hailing services, co-working space, and other markets. The research surrounding these industries have been steadily increasing to include the viability of these business models and consumer acceptance of this disruption towards existing business models. However, there is little research from the perspective of the service providers such as the food outlet operators in this case. This paper will use Malaysian SME food outlets as a unit of analysis, which were selected from the lists of local merchants operating with Grabfood and Food panda, the two largest food delivery aggregators in the country. The first research objective is to understand the impact of intellectual capital components on business model innovation. Intellectual capital comprises of three elements. This includes structural capital, relational capital, and human capital. The second objective is to investigate the impacts that business model innovation activities have on a firm's brand equity. Finally, the study will examine if business model innovation activities have a mediating effect between intellectual capital components and brand equity. The results of the study indicate that intellectual capital has a significant impact on the success of business model innovation activities, which also impact brand equity significantly. Furthermore, a mediating effect was also present in this study. The result of this study will contribute to the rapidly growing industry, which is also listed as a key economic growth area (KEGA) under the Shared Prosperity Vision 2030 in Malaysia.

## 1. Introduction

The Malaysian food and groceries retail market has been experiencing steady growth throughout the past few years and is expected to continue this trajectory. The industry has seen a compounded

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annual growth rate of 9.4% from 2014 to 2018 and achieved almost \$50 billion in 2018 alone [1]. This market is set to grow at the same rate as it moves towards 2022 [2]. Malaysia is a gateway to Southeast Asian and Asian countries because of its good location, connectivity, and strong relationships with other countries within trade links. This allows the country to be in a good position for foreign investments and product imports. Some of the reported market opportunities in this industry include convenience food products, restaurants, food and beverage retail chains, and also Halal products [3]. One of the growing industries in the country is the online food delivery industry. The expected growth rate doubles that of the food and groceries retail market, projected at 17.9% annually. This amounts to over \$370 million within the next four years (2025) [4]. The growth was also accelerated due to the change of lifestyle following the Covid-19 pandemic, where many people spend more time at home, transitioning many activities online, including food delivery. The movement restriction order has increased customer awareness of the benefits of online food delivery services, and many has accepted the service after experiencing it first-hand [5].

However, the online food delivery service has had its share of downsides in the recent years. From the perspective of the retail food outlets, the forced move to deliveries and takeaways are far lower compared to their revenue through dine-in services. Besides, only a portion of the items on the menu are suitable for food delivery services. In addition, food delivery aggregators such as Grabfood and Foodpanda charge merchants up to 30% of the order value, forcing merchants to markup their prices or take little to no profits [6]. Although many food outlets have offered such services mainly due to the pandemic, this trend is projected to continue when the pandemic is over. Given the above challenges, food outlets have little guidance on whether this service offering benefits the business. There has been research done from the perspective of aggregators operating in the sharing economy such as Uber and Grabfood, and research on consumer trends and behaviour, but little have studied the industry from the perspective of retail food outlets. This study will investigate the impact of implementing online food delivery services on food outlets' brand equity. This will be done by examining the effects of a firm's intellectual capital (relational capital, structural capital, human capital) on business model innovation activities (food delivery service implementation), and ultimately its impact on brand equity. The study will focus on SME food outlets in Malaysia that are offering online food delivery services. The detailed methodology is elaborated in Section 3.

## **2. Literature Review**

### ***2.1 Intellectual Capital***

Intellectual capital can be defined as the information, knowledge, experience, and intellectual property that can be put together to generate wealth for the organization [7]. Simply, it can be defined as the stock of knowledge within an organization [8]. One of the reasons why it is recognized as a valuable asset within an organization is because of the difficulty to teach or pass on these assets through training and educational activities [9]. Intellectual capital can be split into several categories, namely structural capital (SC), human capital (HC), and relational capital (RC) [10]. The collection of these assets allows organizations to be valued at a higher valuation relative to their balance sheets as investors are willing to pay a premium because of it [11].

HC represents one of the core elements of intellectual capital as the members of the organization possess their respective set of experiences, education, genetic inheritance, attitudes, and beliefs [12]. HC can be the main source of innovation with regards to brainstorming new ideas or developing new strategies [10]. Nobel Prize winner Theodore W. Schultz emphasized the importance of investments

in HC to improve population quality, knowledge advancements, and ultimately improving poverty levels [13].

SC can be defined as the mechanism within an organization to support the employees in their quest to achieve better overall performance. Highly intellectual individuals operating within poor and dysfunctional systems will not be able to achieve their full potential [10]. With regards to innovation, good SC allows individuals to explore and try new things without the fear of penalization due to failure [14]. SC also consists of other functional elements such as transaction times, efficiency, procedural innovativeness, cost minimization, and profit maximization [10]. These elements are embedded into the routine processes of the organization to achieve their respective goals and objectives.

RC can be defined as all the relationships possessed by the organization and members of the organization, such as business partners, suppliers, customers, strategic partners, government bodies, competitors, the surrounding community, and other components and stakeholders within the supply chain [15,16]. Throughout these relationships, the organization develops a reputation that can represent a source of competitive advantage as a good reputation can lead to other benefits such as lower transaction costs and access to valuable information beyond the boundaries of the organization [17]. Besides the valuable external relationships, internal relationship between members and functions of the organization is another form of RC. A strong internal relationship can lead to good synergy, accountability, and timely information sharing [18].

## *2.2 Business Model Innovation*

Under the Dynamic Capabilities theory, organizations should alter the resources they have by acquiring and shedding resources, integrate or recombine them, in an effort to generate new strategies that can create more value [19]. Similarly, retail food outlets can find ways to improve their business via innovative activities. Within the retail food industry, there are various available types of innovation including product innovation (food products), process innovation (food preparation methods, payment methods), and business model innovation (BMI). A business model involves the methods used by an organization to provide their products and services to their customers [20]. BMI generally do not require major changes in terms of technological assets or target markets but focus on changing internal culture and the existing organizational structure [21]. This type of innovation can be used to reflect changes that have taken place within the marketplace, so that the business can maintain or improve their market position among the consumers [22]. Depending on the degree of change required, top management may need to be involved as they are directly responsible for deciding corporate direction and how the firm reacts to market changes [23]. Whereas other changes to the business model can be executed on the operational level as well, such as improving cost controls, process efficiencies, and other enhancements when the need arises.

One of the main reasons to conduct BMI activities when the need arises is due to the dynamic business environment. The urgency increases if the products and services in the industry are easily imitated [24]. The retail food industry fits this description as food products, packaging, and other service offerings can be easily imitated by competitors, eliminating the competitive advantage of product innovation. In addition, the low barriers to entry in this industry adds to the competition levels. Given the importance and advantages of BMI, this activity also has its inherent risks. Many such attempts have been unsuccessful due to the risk averse nature of managers, premature innovation, and lack of thorough understanding by the team members [25]. The BMI activity that this study will focus on is the implementation of online food delivery services within existing SME retail food outlets in Malaysia.

According to past literature, there are significant relationships between intellectual capital components and business model innovation. Human capital in the firm is responsible for altering the firm's value proposition and future direction [26]. Structural capital is essential as it supports human capital in performing various functions in achieving business model innovation [27]. Finally, relationships with other stakeholders can accelerate the development of business model innovation [28].

### **2.3 Brand Equity**

Brand equity can be defined as the perception of a brand name in the minds of the consumers, such as being identifiable and having a good reputation. This can be done by creating good experiences with the customers. Brand equity is important to an organization as it can help to improve return on investment where good branding can obtain the same level of revenue with less expenditure relative to organizations that do not have as good a branding [29]. Good brand equity allows organizations to charge a premium on their products and services, spread the positive image to other product lines and new products in the future, and ultimately increase market share and profitability [30]. Brand equity typically develops from awareness of the brand through advertising, recognition of the brand as it becomes more familiar, trying out the products and services of the company, evolves into a preferred choice of brand if the previous experience was favourable, and ultimately brand loyalty develops after a series of good experiences [31].

Brand equity can be defined as a set of assets, liabilities, symbol, and name of an organization that can add or subtract value through the products and services being provided to the consumers. This construct can be broken down into five distinct elements, namely brand awareness, loyalty, association, perceived quality, and any other proprietary assets belonging to the brand [32]. On the other hand, the main elements of brand equity can also include perceived value, trustworthiness, perceived quality, commitment, and brand image [33]. Based on the different views being presented by different authors, this study will use a combination of the two to better suit the current research topic. This study will measure brand equity with five elements, namely brand loyalty, brand image, brand awareness, trustworthiness, and perceived quality. This is because these elements are more appropriate to the online food delivery market.

Based on the discussion above, the following hypothesis statements have been developed:

- i. Human capital has a positive impact on business model innovation.
- ii. Structural capital has a positive impact on business model innovation.
- iii. Relational capital has a positive impact on business model innovation.
- iv. Business model innovation has a positive impact on brand equity.
- v. Business model innovation has a mediating effect on the relationship between intellectual capital and brand equity.

### **3. Methodology**

This study uses quantitative research methods to investigate the relationships between intellectual capital (structural capital, human capital, relational capital), business model innovation, and brand equity. The unit of analysis of this study involve owners or managers of Malaysian SME food outlets that are offering online food delivery services through aggregators such as Grabfood and Foodpanda. The number of aggregators were limited to these two companies as there might be unaccounted factors that may affect the perception of the users. The respondents were selected

from Grabfood and Foodpanda's lists of local food outlets that participated in their #supportlokal and 'Local Heroes' campaigns. This allowed the researchers to confirm that the selected outlets were local SMEs. From this list, the convenience sampling method was used to collect the data. The respondents were required to respond to a web-based questionnaire that was developed using Google Forms. A total of 150 valid questionnaires were collected during the data collection phase. During this phase, data collectors needed to screen the respondents by ensuring that they are the owner or manager of the outlet to confirm their eligibility and ability to answer the questionnaire items to the best of their knowledge. The data collectors also assured the anonymity of this exercise before proceeding with data collection.

A cover letter was attached at the front page of the questionnaire to include details of the survey. The questionnaire then begins with a few questions to understand the demographics and nature of the food outlets. The following five sections included questionnaire items regarding HC, SC, RC, BMI, and BE. These questions were designed using a 5-point Likert scale. The scale ranges from 1 = 'Strongly Disagree' to 5 = 'Strongly Agree'. The questionnaire items have been extracted and adapted from past studies [34-37,39,40] according to the suitability to the current study. Upon adapting the questionnaire items into the current study, the list of items was sent to five subject experts to perform a content validity test to ensure that the items were able to adequately measure the constructs.

From the 150 respondents, most of them were operating casual dining outlets (38.7%), followed by cafes (24.7%) and fast-food outlets (23.3%). The remaining outlets were from fine dining outlets and hawker stalls. 47.3% of the outlets have been operating for more than 3 years, 37.3% have been operating between 1-3 years, and the remaining outlets were new outlets that have been operating for less than one year. 46.7% of the outlets identified themselves as being in the growth stage, 31.3% identified themselves to be in the mature stage, followed by outlets in the start-up stage (17.3%) and in the decline stage (4.7%). The final profiling question was regarding their annual revenue. Almost half of the outlets were earning less than RM500,000 annually (48%), followed by RM500,001 to RM999,999 (34.7%), and the remaining outlets were earning more than RM1 million (17.3%).

#### **4. Analysis and Results**

After the data collection phase, the dataset was first entered into SPSS version 26 to understand the profiling of the respondents with regards to the type of business, years in operation, business cycle, and annual revenue. Subsequently, this data was converted and entered into SmartPLS version 3 to evaluate the relationships between the five constructs (HC, SC, RC, BMI, BE). The reasons for selecting structural equation modelling are because the software allows for datasets that are not normally distributed, and it is also able to examine the relationships simultaneously [41]. This is suitable for the current study as datasets in social sciences are often not normally distributed. The constructs in this study are all reflective constructs. Therefore, a two-step approach based on the guidelines by Hair *et al.*, will be used. This includes assessing the measurement model followed by the structural model assessment. Following which, the mediating effect of BMI on the relationship between each intellectual capital components (HC, SC, RC) and brand equity was examined [41].

##### *4.1 Common Method Variance*

To examine common method variance, this study utilizes the Harman's single factor test to confirm that there is no variance that stemmed from the measurement model [42]. The first factor

accounts for only 39.48% of the variance. According to the <50% benchmark, common method variance is not an issue in the current study.

#### 4.2 Measurement Model Assessment

Since SmartPLS 3 allows the simultaneous execution of various assessments, the results for the following assessments were generated together and in no specific order. First, Cronbach’s alpha and composite reliability were used to confirm the internal consistency reliability within this test. The rule of thumb is that the values should be within the range of 0.70 to 0.95 to ensure that they are not too high as to measure the same things, and not too low that it lacks the adequate internal consistency reliability [43]. As seen in Table 1., all the values fall within the accepted range and hence, internal consistency reliability was achieved.

**Table 1**

Internal Consistency Reliability

	Cronbach’s Alpha	Composite Reliability	Average Variance Extracted
HC	0.932	0.948	0.784
SC	0.884	0.916	0.686
RC	0.882	0.911	0.631
BMI	0.854	0.892	0.579
BE	0.871	0.903	0.611

Subsequently, the researcher examined the outer loadings of the results. Then, the average variance extracted (AVE) was also examined to confirm convergent validity. This assessment is to make sure that the indicators within each construct are positively correlated to one another. The general rule of thumb for outer loadings is that the values should exceed 0.708 [41]. According to Table 2, the lowest values for the outer loadings were 0.694 and 0.696. These indicators were kept as they were very close to 0.708. Furthermore, Table 1. indicated that the AVE values for each construct were above the benchmark of >0.50. Hence, these two assessments have confirmed that convergent validity has been achieved.

**Table 2**

Outer Loadings

	HC	SC	RC	BMI	BE
IND1	0.818	0.696	0.793	0.846	0.887
IND2	0.696	0.777	0.808	0.871	0.903
IND3	0.797	0.869	0.792	0.860	0.875
IND4	0.842	0.845	0.697	0.705	0.876
IND5	0.850	0.792	0.722	0.846	0.887
IND6	0.751	0.694	0.746		

The third measurement model assessment before assessing the structural model is to confirm discriminant validity. The assessment tool used was the Fornell-Larcker criterion, which is generally perceived as being more conservative than assessing cross loadings [41]. This method uses the AVE values from Table 1. and square root each value. The square root values of the AVEs of each construct need to be of a higher value compared to the highest correlation with the values of other constructs. The assessment showed that the Fornell-Larcker criterion has been met and hence, discriminant validity was achieved in this study.

### 4.3 Structural Model Assessment

Since the three measurement model assessments have been achieved, the subsequent step is the structural model assessment. This assessment was also carried out in SmartPLS to determine the relationships between the various constructs. The first step is to examine the hypothesized relationships between the constructs, namely the path coefficient. The path coefficient of this model is shown in Figure 1. The closer the value is to +1, the stronger the positive relationship, and vice versa for -1 [31].

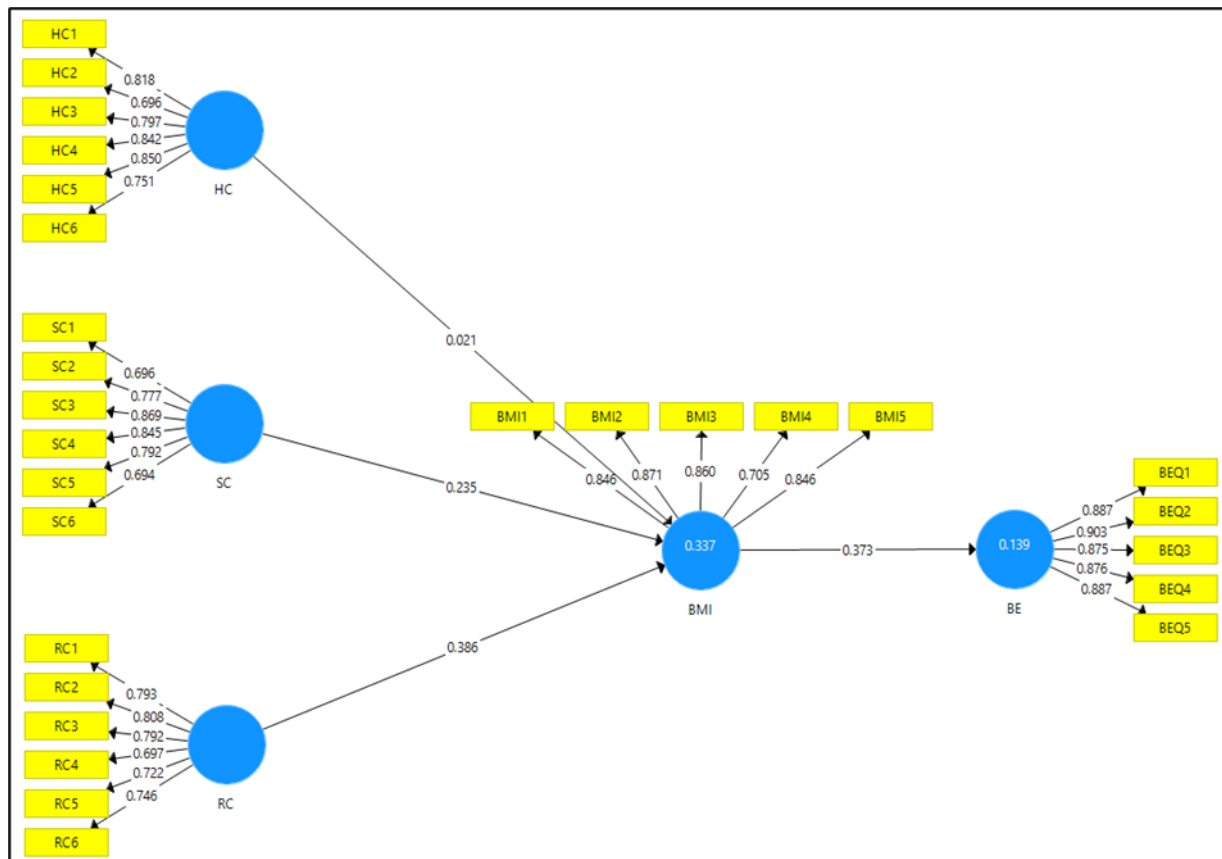


Fig. 1. Structural Model

The next step is to evaluate the R<sup>2</sup> values, which indicate the predictive accuracy of the variables. As shown in Table 3., the three intellectual capital components collectively accounted for 33.7% of variance in the BMI activity. Whereas the BMI activity accounted for 13.9% of the variance in the food outlet’s brand equity. Next, the effect size of each relationship was examined, this indicates the change in R<sup>2</sup> values when each construct is removed from the model. As shown in Table IV., the effect size (f<sup>2</sup>) of HC on BMI is very low, followed by the f<sup>2</sup> of RC on BMI at 0.03, while SC had the highest f<sup>2</sup> among the three components at 0.127. The f<sup>2</sup> of BMI on BE had a value of 0.161. According to Cohen, an f<sup>2</sup> value of 0.02 is small, 0.15 is medium, and 0.35 represents a large effect size [44].

**Table 3**  
R<sup>2</sup> Values

	R <sup>2</sup> Values	Adjusted R <sup>2</sup> Values
BMI	0.337	0.323
BE	0.139	0.133

Based on this guideline, the interpretation for the  $f^2$  values has been indicated in Table 4.

**Table 4**  
 $f^2$  Values

	BMI	BE	BMI
HC	0		Very Low
SC	0.127		Medium
RC	0.033		Small
BMI		0.161	Medium

Subsequently, the bootstrapping feature on SmartPLS was utilized to examine the significance of the above coefficient values and determine if BMI exhibits a mediating effect. As shown in Table 5., SC and RC exhibit a positive and significant effect on BMI, whereas HC does not exhibit similar results.

**Table 5**  
 Direct Effects

	Original Sample	Sample Mean	Standard Deviation	T	$p$
HC->BMI	0.021	0.024	0.1	0.214	0.831
SC->BMI	0.386	0.392	0.102	3.784	0**
RC->BMI	0.235	0.239	0.113	2.084	0.037*
BMI->BE	0.373	0.381	0.077	4.81	0**

\*\* $p < 0.01$ ( $t > 2.33$ ), \* $p < 0.05$  ( $t > 1.65$ )

In addition, the effect of BMI on BE is positive and significant as well. The bootstrapping results also provided the data shown in Table 5, indicating that the indirect effects for RC to BE was significant, while the others were not. According to the guidelines by [45] and [46], the significant indirect effect shows that BMI mediates RC and BE. Whereas BMI does not mediate HC and BE, and SC and BE. Try to design illustrations that make good use of the available space—avoid unnecessarily large amounts of white space within the graphic;

## 5. Discussion

The first research objective is to understand the effects that intellectual capital components have on BMI activities. Based on the results above, SC and RC have a significant impact on the success of BMI activities, supporting H2 and H3. The SC construct includes transaction time, information flow, support given for innovation, R&D, and new idea implementation [36]. Whereas the RC construct includes interdepartmental relationships, supply chain relationships, information sharing, relationships between employees, relationships with governmental agencies, and a positive reputation [37]. This empirical study has showed that these factors are important to the success of BMI activities. This supports the existing literature in saying that the success of innovation within a company requires an internal system and structure that allow employees to implement innovative ideas and to make changes according to the changes in the market [38]. It also requires the establishment of good relationships between various stakeholders in the supply chain. The study also showed that HC does not have a significant impact on BMI, not supporting H1. This can be because the contribution of HC is dependent on the availability of a good system for members of the firm to perform well [10]. This can also be attributed to the job scope within the retail food industry where most employees aside from the managers and owners are not responsible for making decisions and implementing changes, but merely execute daily routine tasks [47].



The second research objective studies the impact of BMI activities on BE. The results show that BMI has a significant impact on BE, supporting H4. This supports the existing literature in Section II. The results show that BMI activities account for 13.9% of a firm's brand equity improvements. Such an improvement makes engaging in online food delivery aggregator services worth trying. Offering delivery services through these aggregators do not require significant capital investments or marketing expenditure. This presents a low-risk strategy with the potential of improving brand equity among the SME food outlets operating in an increasingly competitive market. Theoretically, an improvement in brand equity should lead to increased profit margins, even though it may not be immediate [48].

The final research objective aims to identify the mediating effect of BMI on the relationship between intellectual capital components and BE. The data analysis results indicate that BMI has a mediating effect between RC and BE, but not the other two IC components. Therefore, H5 is partially supported. The presence of a mediating effect supports past literature indicating that intellectual capital components are static assets that need an active management strategy to generate value from the asset [49]. The online food delivery industry requires the active collaboration of the aggregator, food outlets, delivery riders, payment providers, and the consumers themselves. The establishment of good RC is essential in the success of this network, but RC by itself may not be able to generate value for BE without the participation in the food delivery network. Similarly, one of the reasons that there is no mediating effect between SC and BE is that SC by itself may be able to generate value towards the improvement of BE.

## **6. Limitations and Future Research**

Firstly, it is the degree to which the results of the study can be applied to current business practices. The Covid-19 pandemic has accelerated the adoption by both consumers and food outlets. A portion of the service providers are being forced into this business model only because they are not allowed to serve dine-in consumers amidst the pandemic. This phenomenon makes it unclear as to whether this adoption rate will continue post-pandemic. When consumers are allowed to go back to the physical food outlets, the results of this study may not be able to accurately reflect the industry anymore. For instance, the impact of adopting this business model may be more or less than the study results depending on the new direction of the market. The Covid-19 pandemic may have inflated the benefits of the online food delivery service towards SME food outlets as more consumers are gravitated towards the service during the movement restriction in the country. This may have caused the impacts on BE to be higher than it would have been pre-pandemic.

On the other hand, if the pandemic prolongs further, more food outlets will continue to adopt this business model and online food delivery will eventually become the norm in the industry. The spike of competition will saturate the existing market, diminishing the positive impacts that BMI brings to the food outlets. This will cause the results of this study to be inaccurate as well.

Furthermore, this study was limited to the two major online food delivery aggregators, Grabfood and Foodpanda. This limits the heterogeneity of the study but may fail to consider other up and coming players in the industry such as Beepit or AirAsia Fresh. Other service providers may have better or different services that can influence the perception of the SME food outlets, possibly causing the study to have a different set of results that can better reflect the industry.

Future research may include further empirical studies to confirm the phenomenon post-pandemic. This may be important as the growing industry continues its growth trajectory and into the maturity phase, and as the service becomes a norm within the community, especially urban areas. Future research may also include different aggregators that may offer different value-added services.

The sub-40% R2 value of BMI shows that there are other underlying factors that can influence the construct. Future research should identify such factors so that SME food outlets can improve their intellectual capital, BMI success, brand equity, and ultimately improve business performance. Lastly, the difference in firm size may lead to different results. As this study focuses on SME food outlets, future research should replicate this study to understand the industry further with regards to larger food companies such as restaurant chains, franchises, and multinational companies. This industry is still in its growth stage with much room to grow and evolve. More research can definitely support its growth and benefit the stakeholders.

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