ASSESSING PERCEIVED BUSINESS SUCCESS AS A REFLECTIVE-FORMATIVE (TYPE II) SECOND-ORDER CONSTRUCT USING PLS-SEM APPROACH

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Abstract: This paper describes the process of validating "business success"as a reflective-formative construct using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) approach. This second-order latent variable has been operationalized with four dimensions, namely perceived financial performance, perceived non-financial performance, perceived business growth and perceived performance relative to competitors. These dimensions do not share a common theme and are distinctly different. Moreover, business success is a phenomenon that occurs with the presence of these constructs. In other words, it is formed by these constructs, thus, it should be measured as a Type II reflective-formative second-order construct. This paper has established the reflective-formative relationship among first-order and second-order constructs. We recommend considering and measuring business success as a reflective-formative second-order latent variable because the misspecification at second-order construct could cause drastic changes in R^2 values and in the values of path coefficients.

Keywords: Business success, reflective-formative Type II, second-order construct, small- and medium-scale enterprises, PLS-SEM.

Introduction

Existing literature has widely acknowledged that entrepreneurship is one of the mechanisms for developing communities and social mobility. Therefore, it is important to understand the concept of business success (Rahman *et al.,* 2013). Entrepreneurship refers to the process of identifying and availing to viable business opportunities, or developing new services or products to add value to existing ones (Barringer & Ireland, 2019). Small and medium-sized enterprises (SMEs) have received much attention because of their vital contributions towards their countries' economy. Researchers argued that only successful SMEs played the most significant role in the development of any nation (Ahmad, 2007; Tehseen & Ramayah, 2015). However, Bocken (2015) regarded

"sustainability" as an opportunity for business. Only sustainable businesses can transform the firms' operations, generate revenue for stakeholders, uplift customers' wellbeing, and protect natural resources to mitigate environmental concerns.

Currently, businesses are increasingly employing sustainable practices to safeguard the environment and reduce social problems, while maintaining and enhancing profitability, which is a major constraint impeding progress in sustainability (Upward & Jones, 2016). To become a successful, sustainable firm is theoretically and practically complex, so it should be expected that modeling such real-world phenomenon would require the combination and integration of knowledge from multiple disciplines (Schaltegger *et al.,* 2012;

Upward & Jones, 2016). Dyllick and Muff (2016) have clarified the concept of business sustainability by reviewing the established approaches and developing a business sustainability typology, with focus on effective contributions. In coalescing the social, economic and environmental values, a "sustainable business" can be defined as meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

Businesses may operationalize the concept of sustainable development by putting equal importance on economic, social and environmental value creation (Weissbrod & Bocken, 2017), termed the "triple bottom line" value creation (Elkington, 1994). The common business indicators for operationalizing sustainable development include increase in sales, cost savings, pre-emptying regulation, long-term competitiveness, staff satisfaction and increased customer retention (Schaltegger *et al.,* 2012). Furthermore, sustainable entrepreneurs seek to manage the "triple bottom line" values by balancing economic health (economy), social equity (people) and environmental resilience (planet) through their entrepreneurial behaviours (Bocken, 2015).

Businesses may consider sustainability as a continual process, cumulating their energies and stimulating themselves to do more over time. Implementation of successful sustainable business practices require commitment from all parties, including entrepreneurs, employees and customers, who hold the capacity to implement a fruitful and comprehensive sustainability plan. Firms that embrace sustainability as a significant segment of their business model will reap environmental and financial benefits in the long-term.

Thus, the concept of "sustainability" indicates the achievement of a firm's social, economic and environmental objectives (Wagner & Schaltegger, 2010). A firm's success will be considered sustainable only when it is able to build itself on the triple bottom line values (Hall *et al.,* 2010). However, the unique characteristics

of SMEs require a revision of their sustainability models based on specific context (Darcy *et al.,* 2014). Therefore, it is essential to understand the accurate measurement of business success in SMEs.

SMEs are generally defined on the basis of their annual sales' turnover and number of employees. In the Malaysian context, under the manufacturing sector, small enterprises can bedefined as businesses with a sales turnover of between RM300,000 and RM15 million, or with employees numbering between 5 and 75. Where as medium-sized businesses are those with sales turnover of between RM15 million and RM50 million, or employees ranging from 75 to 200. On the other hand, small businesses in the service sector are defined as those with a sales turnover of between RM300,000 and RM3 million, or having 5 to 30 employees. Medium-sized entities are businesses with sales turnover of between RM3 million and RM20 million, or having between 30 and 75 employees (SME Corp, 2015).

Entrepreneurs are accountable for the success and failure of their own businesses (Johara *et al., 2017)*. Their decision-making skill will significantly impact the growth of their company'spotential and activities (Rwigema *et al.,* 2008). However, no single definition of business success exists due to the multifaceted nature of this construct (Rogoff *et al.,* 2004). Moreover, in the developing countries' context, it is unusual to assess the activities of successful businesses (Rodriguez & Santos, 2009). Davidsson *et al.* (2009) mentioned that a firm's growth determined the overall success of businesses that indeed required the essential entrepreneurs' capabilities to further develop their existing businesses (Abdul *et al.,* 2012). In addition, business success is demarcated in different ways under different contexts (Agbenyegah, 2018). For instance, in terms of accounting, business success is measured by profitability (Xu & Van der Heijden, 2005).

The terms "business success" and "firm performance" are interchangeably used in management studies (Alam *et al.,* 2011; Rahman

et al., 2013). Nevertheless, performance is considered a multidimensional variable, and therefore, it is expedient to incorporate its diverse dimensions (Rahman *et al.,* 2013). Furthermore, researchers have argued that business success of any firm can be assessed only after the three years of its establishment (Taormina & Kin-Mei Lao, 2007; Van Praag, 2003). This is because the failure rate of SMEs is very high in the early years due to greater variability in cost functions (Jovanovic, 1982; Robb, & Watson, 2012; Arasti *et al.,* 2014). Therefore, to understand the phenomenon of business success, researchers will usually survey only firms that are found to be in existence for a minimum of two years (Ahmad, 2007; Ahmad *et al.,* 2010).

The success of any business depends on the capability of its entrepreneur, besides managerial training, competency, favourable conditions and essential market knowledge (Dyllick & Hockerts, 2002; Benzing *et al.,* 2009). In general, business success is also determined by growth (Mead & Liedholm, 1998; Bigsten & Gebreeyesus, 2007). Indicators, such as increased number of employees, business image expansion and a bigger customer base have been used to assess perceived business success (Agbenyegah, 2018).

Several studies have highlighted research gaps in the concept of business success. For instance, Sethibe and Steyn (2016) suggested that researchers have to clearly define the aspects of a firm's performance that they intend to investigate. Moreover, Murphy *et al.* (1996) proposed for accurate measurements in evaluating an SMEs' critical success factors. Vijand Bedi (2016) suggested using subjective measures when facing difficulties in obtaining information regarding the firms' performance. The difficulties may be related to inappropriate performance reporting or reluctance to share sensitive data by the management.

Furthermore, several studies have reported a high positive correlation between subjective and objective measurements (Vij & Bedi, 2016). The subjective measurements are commonly used in existing studies, especially for making cross-

industry comparisons (Vij & Bedi, 2016). Wall *et al.* (2004) provided evidence on the validity of subjective measurements by identifying the degree of equivalence that occurred between objective and subjective data. In addition, subjective performances are commonly used in management research (Adomako *et al.,* 2016).

This study also used subjective performance measurement because firms in developing nations are hesitant to disclose their objective accounting data (Malik & Kotabe, 2009). Additionally, some researchers have argued that the entrepreneur's perception of a small firm's failure or success may has a strong motivational impact on his managerial choices (Dess & Robinson, 1984; Powell, 1992).

Business success is a complex construct which has been operationalised at a higher level of abstraction. In this study, business success has been operationalized using four dimensions — perceived financial performance, perceived non-financial performance, perceived business growth, and perceived performance relative to competitors.

This complex construct is known as the Hierarchical Order Model or Hierarchical Component Model (HCM). It involves the testing of higher-order structures which constitute two layers of constructs. HCMs are recommended for use in Partial Least Squares (PLS) path models due to three main reasons. Firstly, by including them, we can easily minimize the relationship number in the structural model and can make the PLS path model more parsimonious. Secondly, HCMs are important if there is high correlation among the Lower-Order Constructs (LOC). This is because the high correlation among the LOCs may bias the estimations of the structural model's relationships due to collinearity issues, due to which discriminant validity could surface. Thus, the HCMs can reduce collinearity issues and solve discriminant validity problems. Furthermore, they are beneficial if high levels of collinearity exist among formative indicators. Then the researcher can split the set of indicators to establish the separate first-order constructs

that jointly form a higher-order structure (Hair *et al.,* 2017).

Thus, the main motive of this paper is to validate the subjective types of reflective-formative measures of the second-order construct of business success to give accurate results. This is because model misspecification may occur due to wrong modeling of a formative model as reflective, and vice versa. Roy *et al.* (2012) have acknowledged that mostly only reflective models have been widely used instead of formative models due to lack of proper software for testing formative models with appropriate testing guidelines. Likewise, Duarte and Amaro (2018) also observed that most of the existing studies have used reflective measurements for second-order constructs and limited research deals with formative second-order constructs.

Many measurement models in entrepreneurship literature are formative due to their underlying concepts or domains. Therefore, the misspecification error would occur by modeling the formative models as reflective ones (Diamantopolous & Winklhofer, 2001; Roy *et al.,* 2012). Secondly, the measurement model's misspecification also effects the structural paths going out or coming in of the construct, which leads to fallacious paths in coefficient values (Jarvis *et al.,* 2003). Therefore, it is essential to understand and accurately measure the formative models to avoid misspecification. This study argues that the perceived business success of firms, which is measured subjectively to reflect the perception of respondents regarding different aspects of their firm's performances, should be treated as a reflective-formative second-order latent variable to avoid the misspecification and achieve accurate results.

In Partial Least Squares Structural Equation Modeling (PLS-SEM), the evaluation of convergent validity is the main requirement for formative measurement models. The convergent validity indicates the relationship between the construct and its diverse measures representing the same phenomenon (Cheah *et al.,* 2018). The use of a single global item to capture the essence of business success is more beneficial compared to multiple reflective measures in assessing the convergent validity of business success because, by including a set of other reflective measures, the length of survey instrument would increase, leading to low responses (Cheah *et al.,* 2018). Additionally, researchers have observed that constructing single items generally needed less effort compared to designing multi-item scales (Gardner *et al.,* 1998; Cheah *et al.,* 2018).

Drolet and Morrison (2001) mentioned that by using single items, the required cognitive demands of respondents could be reduced, and that will enhance response rates. Single items are helpful in minimizing suspicious response patterns that can be observed through straight-lining (Fuchs & Diamantopoulos, 2009). Lastly, single-item measures provide flexible adjustment in the context and situations of new research (Nagy, 2002). Although, they provide various practical benefits, the use of single items normally is lagging compared with multi-items (Diamantopoulos *et al.,* 2012; Sarstedt *et al.,* 2016; Cheah *et al.,* 2018; Ali *et al.,* 2018). Thus, this study will be using single-item measurements.

Many studies have acknowledged the importance of SMEs in the development of their countries' economy (Musa *et al.,* 2016; Khin *et al.,* 2016; Amin *et al.,* 2016; Surin *et al.,* 2017). Some have surveyed company performance in the Malaysian context (Tehseen, & Ramayah, 2015; Sajilan & Tehseen, 2015; Tehseen *et al.,* 2018; Falahat *et al.,* 2018), while others recommended to continue searching for more accurate measures of an SME business success (Jalali *et al.,* 2014; Hossain *et al.,* 2016). This shows that this study is relevant and timely in getting a deeper understanding on the concept of business success in SMEs.

Business success has been well studied, with most researchers using either only one of its dimensions as their dependent variable (Wagner, 2015; Przychodzen & Przychodzen, 2015; Qiu *et al.,* 2016), or various variables on any two dimensions (Fairoz *et al.,* 2010; Islam *et al.,* 2015).

On the other hand, very few studies have studied this construct from a multidimensional point (Ahmad, 2007; Ahmad *et al.,* 2011; Zakaria *et al.,* 2016; Falahat *et al.,* 2018). However, researchers have mostly considered business success as a reflective-formative second-order construct in their studies (Ahmad, 2007). In this paper, we argue that since the four business success dimensions are unique first-order constructs, they do not necessarily have high correlation among them (Hair *et al.,* 2017). Additionally, as these four variables are different, thus, deleting any one of them will change the conceptual meaning of the entire construct. Thus, business success should be treated as a reflective-formative Type II second-order latent variable. Before presenting the methodology part, it is important to highlight the conceptual meanings of these four dimensions. Thus, the next section is a review on these dimensions of company performances.

Concept of Perceived Business Success

Studies of SME business success can be categorised into two comprehensive groups, in which the first focuses on the internal phases of SMEs, like the firms' variables and entrepreneur characteristics. The second focuses on external factors in assessing business success (Ahmad *et al.,* 2010). A small number of scholars considered the impact of various internal factors, including competencies and capabilities, on business success (Shane & Venkataraman, 2000; Ahmad *et al.,* 2010; Mitchelmore & Rowley, 2010). Researchers have used different measures to assess the success or performance of a business (Rahman *et al.,* 2013; Rahman *et al.,* 2015). Existing studies have considered business success as a multidimensional construct, measured by perceived financial and perceived non-financial performances (Wiklund & Shepherd, 2005; Ahmad *et al.,* 2010; Rahman *et al.,* 2013; Rahman *et al.,* 2015).

The common measures of perceived financial performance constitute the entrepreneurs' satisfaction with growth of sales, return on investment and profitability (Ahmad *et al.,* 2010). Conversely, perceived non-financial performance indicates the intangible values as perceived by entrepreneurs of business firms (Rahman *et al.,* 2013). The measures of perceived non-financial performance, including self-satisfaction with employees and customer retention, as well as with work life balance and good relationships in workplace, have been commonly used in comprehensive studies worldwide (Ahmad & Seet, 2009; Ahmad *et al.,* 2011; Rahman *et al.,* 2013, Rahman *et al.,* 2015). These existing studies also proved that perceived financial and perceived non-financial performances of small businesses are used to measure the success of any entrepreneurial business (Rahman *et al.,* 2015).

Perceived Financial Performance

In general, financial performance objectives have been widely used to determine business success (Karaye *et al.,* 2014; Gi *et al.,* 2015). According to Harter *et al.* (2002), there are two types of financial data, namely revenue or business-unit sales, and percentage of profit margin. However, there is no distinctive set of tools to measure organizational financial performance, but the most frequently used set of tools are firm profits, earnings per share, sales growth, cost reduction and return of assets (Ibrahim & Lloyd, 2011).

Palagollaa and Wickramasinghe (2016) highlighted that financial performance reflects the firm's economic status, including profitability, return on assets and growth potential. However, researchers have argued that business success cannot be assessed solely by financial performance measures (Ağca *et al.,* 2012). Therefore, multiple indicators have been suggested (Lumpkin & Dess, 1996; Atkinson *et al.,* 1997; Dess & Lumpkin, 2001; Zahra & El-hagrassey, 2002). The financial performance indicators constitute profitability, sales' growth and return on assets (Aktan & Bulut, 2008; De Campos & Santos, 2013; Karaye *et al.,* 2014; Shaverdi *et al.,* 2014; Gi *et al.,* 2015; Iddagoda & Gunawardana, 2017). Moreover, financial performances can be easily indicated by utilising

the firm's assets to describe how good it is in making profits (Gi *et al.*, 2015).

The return of assets and equity, net profit margin and return on investment have been used to measure financial performance (Lee *et al.*, 2013; Lu *et al.*, 2014; Wan *et al.*, 2014; Saeidi *et al.*, 2015). Lu *et al.* (2014) mentioned that financial performance can be based on accounting-based measures, market-based measures and perceptual measures. The accounting-based measures represent the objective type of data relevant to asset returns and turnover. These measures represent the growth of firms through assets and profitability. The market-based measures indicate price per share, share price appreciation and market returns. Ultimately, perceptual measures are subjective measures that describe the assumptions of individuals that can be either the business owner/entrepreneur or any other individual who deals with the firm (Lu *et al.*, 2014). For instance, how individuals regard the achievement of financial objectives relative to competitors and use of company assets in an appropriate way.

Perceptual measures are observations that are reported subjectively, while market-based measures are reported in objective and subjective ways. On the other hand, accounting-based measures are always reported in the objective way and represent the financial data related to performance of the business (Lu *et al.*, 2014).

All these measures are essential to indicate the overall business success because it is possible that the activities of entrepreneurs may positively impact any one of performance measures, but negatively impact others (Lumpkin & Dess, 1996). Thus, researchers have suggested that firm performance be better estimated by including measurements of different functions and activities, including marketing, research and development, operation, production, human resources, accounting, and finance, public relations and innovation (Kaplan & Norton, 1996; Atkinson *et al.*, 1997;). There are several examples related to these types of success measurements, namely sales growth, market share, productivity, employee satisfaction and commitment, profitability, number of improved or new products per year, business reputation, customer satisfaction and retention (Ağca *et al.*, 2012).

Aktan and Bulut (2008) pointed out that to measure the qualitative and quantitative financial performance of a corporation, managers are required to consider the success of the firm compared to other similar businesses with regard to various financial performance criteria. Such performance is known as perceived financial performance (Alpkan *et al.*, 2005). The perceived financial performance reflects the owner or entrepreneur's perception/satisfaction regarding the firm's economic status (Palagollaa & Wickramasinghe, 2016). Therefore, perceived financial performance indicators provide important information about the status and condition of a business in financial terms (Zigan & Zeglat, 2010).

Perceived Non-financial Performance

Since several financial measures have been utilised in studies to determine business success (Murphy *et al.*, 1996; Rauch *et al.*, 2009). However, the over-reliance on financial measures only for making business decisions without considering other performance measures may bring negative implications in the long term (Gijsel, 2012; Maduekwe & Kamala, 2016). Furthermore, it is neither a comprehensive sign of the SMEs performance nor does it ensure the accuracy, impartiality and significance of these measures in a vigorous business environment.

Several drivers of non-financial performance have been highlighted by researchers, but some of them are integrated systems that do not emphasize adequately on other resources, namely knowledge, social competence, motivation and relationships (internal and external) (Usoff *et al.*, 2002). Zigan and Zeglat (2010) claimed that measures of financial performance generally fail to reflect the business' corporate strategy and may provide wrong guidelines to managers in maximising short-term performance at the expense of long-term competitiveness and effectiveness.

However, multidimensional measures of business success, including financial and non-financial measures, are essential to depict the entire business' success. Thus, researchers are aware of using several measures along with financial measures to assess business success (Zigan & Zeglat, 2010). Therefore, measures of non-financial performance are also used for imminent financial performance (Gallani *et al.,* 2015).

Maduekwe and Kamala (2016) reported that non-financial measures can bridge the gap between financial results and business activities by providing deeper information on performance. For example, the performance measure relevant to customer satisfaction provides an assessment regarding future cash flow. Many researchers assert that measures indicating non-financial performance can provide useful insight in predicting the future performance and suggest improvements to company operations (Crabtree & DeBusk, 2008). The simplicity of using non-financial performance measures is a significant topic of research (Ittner & Larcker, 1998). Said *et al.* (2003) stated that measures of non-financial performance may disclose valuable information in positioning the firm's strategy to achieve its vision. Furthermore, several areas of performance, including market share, return on investment, sales turnover and profitability are directly relevant to customer satisfaction and retention (Ağca *et al.,* 2012). Thus, it is essential for firms to use non-financial performance measures to determine their intangible advantages, including client satisfaction, employee satisfaction, innovation ability and internal business process efficiency (Kaplan & Norton, 2001).

Psomas and Kafetzopoulos (2014) identified several measures of non-financial performance, such as innovativeness, product quality, human resource management, on-time delivery and leadership. The literature also shows that non-financial performance measures are positively associated to financial performance (Islam *et al.,* 2015), and that paying attention to non-financial performance will result in overall improved business performance (Said *et al.,* 2003).

Business Growth

Studies are evident that the entrepreneurs' effective strategies and other internal resources do nurture the growth of businesses (Mitchelmore & Rowley, 2013; Bravo-Biosca *et al.,* 2016). Entrepreneurs have to use their resources effectively to innovate products andservices, thus generating opportunities for employment and wealth (Low & MacMillan, 1988; Alpkan *et al.,* 2010; Chilton & Bloodgood, 2010; Andersén, 2011; Castaño *et al.,* 2016). Several researchers have identified business growth as the change in annual turnover and have considered it as a more reliable measure of business success (Weinzimmer *et al.,* 1998; Hirvonen *et al.,* 2016).

Some researchers have analysed the effect of various factors on business success. For instance, Castaño *et al.* (2016) highlighted that the potential competition may have positive and direct influence on product innovation, and may indirectly influence on the internationalization of entrepreneurial businesses. All these positively contribute to the business growth. Moreover, Roig-Tierno *et al.* (2015) also observed a positive relationship between the usage of infrastructure like technology centres, incubators and university expertise, and growth in the context of young innovative firms. Likewise, branding plays a vital role in the growth of any business. For instance, Hirvonen *et al.* (2016) found a positive influence of brand orientation on business growth.

Performance Relative to Competitors

Competitors or business rivals are a threat tothe survivability of any company. There are three types of rivals, comprising direct, indirect and future rivals. Direct rivals provide similar types of products and services. On the other hand, indirect rivals offer substitutes while future rivals are rising companies that have potential to compete in future (Barringer & Ireland, 2019). Only a few studies have assessed the business performances through comparison with rivals. Mostly, researchers comparedthe financial performance of businesses among direct

competitors, but not many studies compared their non-financial performances with other financial performances measures (Madueno *et al.,* 2016).

From both research and practice, Hirvonen *et al.* (2016) found that many SMEs are interested in attaining information regarding their customers and competitors to differentiate their offerings and positioning of their products. The distinctive performance of competitors gives corresponding information on the firm's performance (Ahmad, 2007). In many studies, researchers asked business owners to subjectively compare their firms' performance relative to other firms in the industry that were in the same developmental stage and age (Ahmad, 2007; Dess & Robinson, 1984).

Mostly, firms are well aware on the activities of their rivals (Porter, 1996). Equally, Brush, and Vanderwerf (1992) observed that rival firms remained aware regarding the performance of new firms rising in their industries. Therefore, Chandler and Hanks (1993) suggested that if such predictions are accurate, then performance relative to competitors could also be considered a relevant concept to business success. Moreover, Ahmad *et al.* (2011) delivered the representative indication in the context of Malaysia that performance relative to competitors is also a key dimension of SMEs' business success. Similarly, in Thai SMEs, Thongpoon *et al.* (2011) used the similar measure as a key dimension of business success. In a recent study, Zakaria *et al.* (2016) used four dimensions of business success identified by Ahmad *et al.* (2011), namely perceived non-financial performance perceived business growth perceived financial performance, and perceived performance relative to competitors, to measure the perceived business success of Malaysian SMEs in the manufacturing sector.

In summary, current literature recommends that the measures of a firm's performance should cover the four dimensions of business success to gauge the performance of SMEs in the Malaysian context. Thus, this study assessed the perceived business success by using these four dimensions as well.

Methodology

Measures

The present study adopted the scale from Ahmad *et al.* (2011), who used the same items to measure four dimensions of SME business success in the Malaysian context. These four dimensions included perceived financial performance, perceived non-financial performance, perceived business growth and perceived performance relative to competitors (where these firm's performances were measured in terms of satisfaction of respondents with their relevant indicators).

The aim of this study was to validate business success as a reflective-formative Type II second-order construct. Therefore, initially, all the items in the four dimensions were adopted from Ahmad *et al.* (2011). However, the researchers considered the business success as a reflective-reflective Type I second-order construct without considering the global measure of business success to assess its convergent validity. Therefore, this study aimed to validate business success as a reflective-formative Type II second order construct using latest PLS-SEM approach.

Many researchers had also observed that formative types of hierarchical constructs' models were highly useful and predominant in PLS-SEM related studies. However, clear guidelines regarding their usage were lacking in existing literature (Shin & Kim, 2011; Becker *et al.,* 2012).

The items in the dimensions of business success are shown in Table 1, along with their reliabilities and convergent validity as determined by Ahmad *et al.* (2011).

After adopting all the items of business success' dimensions, the content validity was then determined through pre-testing among 10 entrepreneurs from wholesale and retail SMEs to choose only the most relevant items for target

Table 1: Adopted measures and their convergent validity and reliabilities

		AVE	CR	Cronbach Alpha
1.	**Satisfaction with Financial Performance**	0.78	0.92	0.95
FP1.	Profitability			
FP2.	Sales turnover			
FP3.	Sales growth			
FP4.	Return on investment			
FP5.	Market share			
2.	**Satisfaction with Non-Financial Performance**	0.68	0.89	0.93
NFP1.	Your self-satisfaction			
NFP2.	Your career progress			
NFP3.	Customer satisfaction			
NFP4.	Customer retention			
NFP5.	Employee satisfaction			
NFP6.	Relationship with Suppliers			
NFP7.	Business image			
NFP8.	Workplace industrial Relations			
NFP9.	Your work and life Balance			
3.	**Business Growth**	0.90	0.88	0.75
BG1.	Sales			
BG2.	Market share			
BG3.	Cashflow			
4.	**Performance Relative to Competitors**	0.82	0.93	0.96
CP1.	Returns on sale			
CP2.	Cashflow			
CP3.	Net profits			
CP4.	Growth in market share			
CP5.	Return on investment			

SMEs. Thus, based on recommendations of the industry experts, who were the entrepreneurs of wholesale and retail SMEs, only the selected items of understudy variables that were relevant to study's context were included in the final questionnaire.

Moreover, based on the suggestions of entrepreneurs, one item of BG4 "Annual employment growth" had been included in the final questionnaire. This suggested item of business growth was previously used by Brinckman (2008) as well. Moreover, one global single item of business success "The extent you feel overall satisfaction from your business success" was also pretested and included in the questionnaire. The selected items for final survey questionnaire are shown in Table 2.

Sample Design and Data Collection

The wholesale and retail SME entrepreneurs were selected as respondents because their industry covered more than 50 % of the service sector in Malaysia and play a pivotal role in contributing to the country's gross domestic product and employment opportunities (Putit *et al.,* 2017; SME Corp., 2015). Therefore, this study argued that it was utmost important to validate the accurate measures of SMEs' business success in the context of Malaysian wholesale and retail SMEs because of their vital contributions towards the country's economy.

A standard survey was conducted, and convenience sampling was utilised to choose the respondents. The convenience sampling has been used by other researchers to collect data from Malaysian entrepreneurships and SMEs (Chong, 2012; Fontaine & Richardson, 2005; Budin *et al.,* 2013).The data were collected with the help of enumerators, who are postgraduate students of the same race as the respondents, to ensure clear communication if the mother tongue was spoken during the survey.

Table 2: Measures included in final survey questionnaire

1.

Perceived financial performance

FP1: Satisfaction with profitability
FP2: Satisfaction with sales' turnover
FP3: Satisfaction with return on investment
FP4: Satisfaction with market share

2. Perceived non-financial performance

NFP1: Satisfaction with customer retention
NFP2: Satisfaction with customer satisfaction
NFP3: Satisfaction with your work and life balance

3. Perceived business growth

BG1: Satisfaction with growth in sales
BG2: Satisfaction with growth in market share
BG3: Satisfaction with growth in cash flow
BG4: Satisfaction with annual employment growth

4. Perceived performance relative to competitors

CP1: Satisfaction with sales growth relative to competitors
CP2: Satisfaction with net profits relative to competitors.
CP3: Satisfaction with growth in market share relative to competitor.
CP4: Satisfaction with return on investment relative to competitors.

5. Overall perceived business success

Business success global: The extent you feel overall satisfaction from your business success

The two feedback collection strategies, namely face-to-face meetings and drop-off/pick-ups, were considered sufficient to get maximum response and avoid non-response bias. Additionally, the face-to-face meeting strategy was considered more effective as it ensured the complete answering of the questionnaire, with the respondents fully understanding its contents with explanation from the enumerators. The researcher and enumerators meet the ethnic entrepreneurs at their offices and homes. In the drop-off/pick-up method, the questionnaires were hand delivered to respondents and retrieved at a later time. This approach also provided an opportunity for the researcher and enumerators for face-to-face interaction, and was also useful to get maximum responses (Allred & Ross-Davis, 2011). The face-to-face meetings were useful in determining the respondents' eligibility (business ownership, sales turnover and the number of employees) (Allred & Ross-Davis, 2011). A five-point Likert Scale ranging from 1 (very dissatisfied) to 5 (very satisfied) was used to measure responses to the questionnaire's statements. There were 450 respondents comprising 150 Malay, 150 Chinese and 150 Indian entrepreneurs. Of the total, 42 % were males while 58 % were females. Moreover, 50.2 % were aged between 41 and 50, and 63.6 % were university graduates.

Data Analysis

The PLS-SEM was utilised for the validity of the model because it analyses both reflective and formative constructs simultaneously (Gefen & Straub, 2005; Ali *et al.,* 2016). This technique is popular because it was a robust approach for data analysis (Simkin & McLeod, 2010). In addition, PLS-SEM required a suitable sample size of 10 times more than the highest number of model construct items (Peng & Lai, 2012). On the other hand, Hair *et al.* (2017) had suggested the G*power statistical software to calculate the minimum sample size. Thus, the G*Power 3 software was used to calculate the sample size (Faul *et al.,* 2007). Since the PLS model in this study involved four constructs, thus, to achieve a

power of 0.80, a minimum sample size of 55 was needed with the medium effect size of f^2 (Hair *et al.*, 2017). Since data were collected from 450 entrepreneurs that could create a power of 0.99 for the current PLS model, thus, the number of respondents was more than the minimum size.

In addition, the inferential analysis was done by utilizing the Smart PLS software Version 3.2.7 (Ringle *et al.,* 2015), and the bootstrapping's technique was also applied to assess the significance of items' loadings and path coefficients. Moreover, the two-step approach as recommended by Anderson and Gerbing (1988) was also adopted. Therefore, firstly, the measurement model's evaluation was done by analyzing its reliability and validity for all items, followed by assessment of the structural model, which constituted the paths' estimation among the latent variables determining the relationships' significance.

Common Method Bias Test

Since similar respondents (i.e, the owners of SMEs) were used in this study, the Common Method Variance (CMV) may become a serious issue. Recently, numerous researchers had tried to address common method bias when data was collected from a same group of respondents (Rahman *et al.,* 2015; Fuller *et al.,* 2016; Palmatier, 2016; Malhotra *et al.,* 2017; Tehseen *et al.,* 2017). Therefore, the issue of CMV was also immensely addressed in this study. The CMV issue was assessed using two statistical remedies, namely Harman's single-factor test and the correlation matrix procedure. These assessments were carried out prior to data analysis to evaluate the effects of CMV.

Harman's Single-Factor Test

Harman's single-factor test was utilised according to Podsakoff *et al.* (2003). The outcome showed that the first factor represented only 38.466 % of the variance in the data. Furthermore, no single factor was developed, and the first factor could not produce much variance that was revealed in Table 3. Thus, CMV was not an issue in this study.

Correlation Matrix Procedure

This study also used correlation matrix procedure to identify the CMV issue. Based on this method as suggested by Bagozzi *et al.* (1991), a correlation of more than 0.9 among the main constructs indicated the presence of CMV. As shown in Table 4, the correlation among principal constructs was not more than 0.9. Therefore, the data could be further analysed safely.

Conceptual Background of HCM

The terms second-order constructs, hierarchical latent variable models, HCM or higher-order constructs were used interchangeably, which represented the multidimensional latent variables that took place at the abstraction's higher level, and were associated with other latent variables at the same abstraction level (Chin, 1998; Becker *et al.,* 2012). HCMs minimised the relationship

number in the structural model and made a parsimonious PLS path model (Hair *et al.,* 2018). Becker *et al.* (2012) designated the second-order constructs as the ordinary concept that could be either signified as formative or reflective by their sub-dimensions that were also known as first-order constructs. In a reflective-formative Type II second-order construct, the first-order latent variables were always reflectively measured and highly correlated. Meanwhile, each dimension of business success designated a separate concept, and therefore, these domains were not conceptually combined and did not share a common cause. Thus, business success could be considered a reflective-formative Type II second-order construct.

Repeated Indicator Approach for Assessment of HOC

By means of the approach of repeated indicator, the higher-order construct could be pulled

Table 3: Total variance explained

Component	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of	Cumulative %	Total	% of	Cumulative %
1	5.770	38.466	38.466	5.770	38.466	38.466
2	1.387	9.247	47.713	1.387	9.247	47.713
3	1.235	8.231	55.944	1.235	8.231	55.944
4	1.212	8.080	64.024	1.212	8.080	64.024
5	0.916	6.104	70.128			
6	0.798	5.321	75.449			
7	0.696	4.641	80.090			
8	0.517	3.449	83.539			
9	0.475	3.166	86.704			
10	0.425	2.832	89.536			
11	0.387	2.578	92.114			
12	0.373	2.489	94.603			
13	0.313	2.085	96.688			
14	0.297	1.979	98.667			
15	0.200	1.333	100.00			

Note: Extraction Method: Principal Component analysis

Table 4: Latent variable correlation

	BG	CP	FP	NFP
BG	1			
CP	0.523	1		
FP	0.558	0.510	1	
NFP	0.596	0.509	0.474	1

Table 5: Indicators of constructs

Business success (First-order constructs)	Manifest variables of first-order constructs	Number of manifests Variables
Financial performance	FP1, FP2,FP3,FP4	4
Non-financial performance	NFP1, NFP2,NFP3	3
Business growth	BG1,BG2,BG3,BG4	4
Performance relative to competitors	CP1,CP2,CP3,CP4	4

together by stipulating a latent variable that designated all the items of the underlying first-order construct (Lohmoller, 1989; Becker *et al.,* 2012). Thus, business success was a second-order construct structured with four dimensions (perceived financial performance, perceived non-financial performance, perceived business growth, and perceived performance relative to competitors) as underlying lower-order constructs, each with their particular manifest variables as presented in Table 5.

Therefore, business success as a second-order latent variable could be detailed using all (15) manifest variables of the underlying domains that were taken as lower-order constructs. As the consequence, the manifest variables had to be used twice: (i) for the first-order latent variables, where they showed primary loadings; and, (ii) for the second-order latent variable, where they signified the secondary loadings. Thus, the outer model was identified in this way.

In addition, the inner model accounts for HCM and the path coefficients between the first-order and second-order constructs point out the second-order construct weights. This was because the dimensions of business success had been taken as formative indicators for the second-order latent variable. The main advantage of a

repeated indicator approach was that it took all constructs into consideration simultaneously, instead of measuring the second-order and first-order constructs independently.

Assessment of Measurement Model

The measurement model was analysed for the convergent validity which was assessed through composite reliability (CR), factor loadings, as well as average variance extracted (AVE) (Hair *et al.,* 2014; Hair *et al.,* 2017; Ramayah *et al.,* 2018). CR signified the internal consistency of latent variables that were anticipated by Hoffmann and Birnbrich (2012). Herath and Rao (2009) suggested 0.70 as the minimum acceptable value for CR, and all constructs involved were found to have exceeded the minimum value.

Furthermore, the constructs' convergent validity was studied by analysing the factor loadings and the average variance extracted (AVE). Hair *et al.* (2017) specified that the factor loading values were acceptable between 0.6-0.7 for social science research. Similarly, the AVE value higher than 0.5 had been recommended as an acceptable value of convergent validity (Bagozzi & Yi, 1988; Hair *et al.,* 2017). All the constructs had their AVE values and factor

loadings above the suggested values. Table 6 shows the results of CR, factor loadings, Cronbach's alpha, AVE and rho_A for all latent variables. Furthermore, Figure 1 shows the path coefficients and factor loadings attained from the PLS-Algorithm.

Table 6: Assessment of factor loadings, Cronbach's Alpha, Rho_A, CR and AVE

| Constructs	Items	Factor Loadings	Cronbach's Alpha	rho_A	Composite reliability (CR)	AVE
Financial Performance (FP)	FP1: Satisfaction with profitability	0.723	0.738	0.740	0.835	0.558
	FP2: Satisfaction with sales turnover	0.768				
	FP3: Satisfaction with return on investment	0.784				
	FP4: Satisfaction with market share	0.712				
Non-financial performance (FP)	NFP1: Satisfaction with customer retention	0.807	0.783	0.785	0.873	0.697
	NFP2: Satisfaction with customer satisfaction	0.846				
	NFP3: Satisfaction with your work life balance	0.852				
Business growth (BG)	BG1: Satisfaction with growth in sales	0.664	0.722	0.727	0.827	0.546
	BG2: Satisfaction with growth in market share	0.742				
	BG3: Satisfaction with growth in cashflow	0.790				
	BG4: Satisfaction with annual employment growth	0.754				
Performance relative to competitors (CP)	CP1: Satisfaction with sales growth relative to competitors	0.761	0.791	0.793	0.865	0.616
	CP2: Satisfaction with net profits relative to competitors	0.741				
	CP3: Satisfactionwith growthin marketshare relative tocompetitors	0.819				
	CP4: Satisfaction with return on investment relative to competitors	0.810				
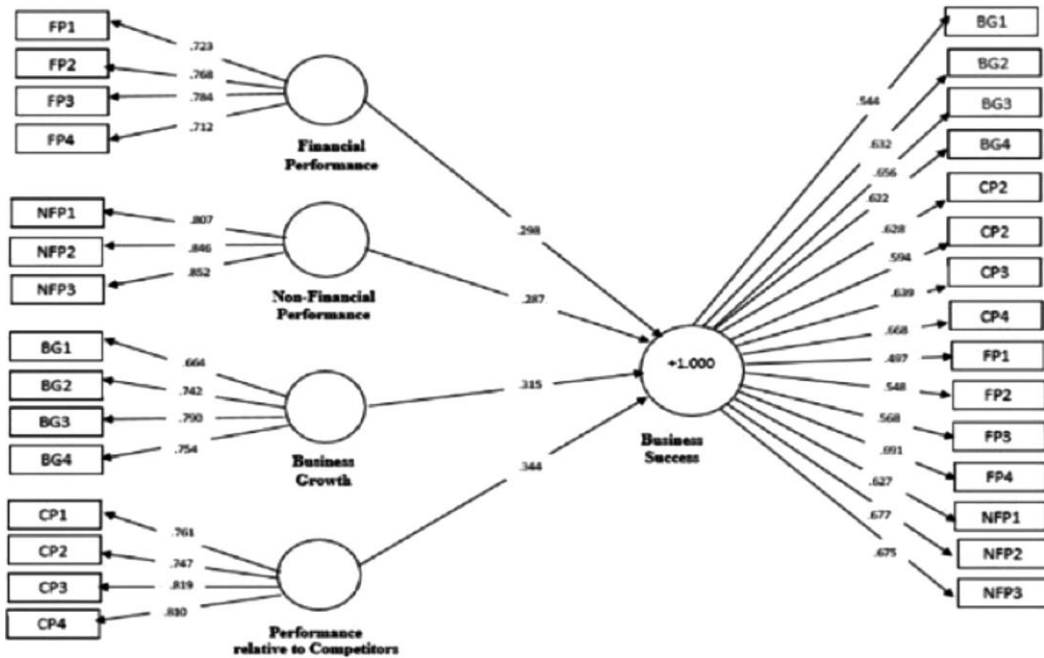
Figure 1: Path coefficients and factor loadings attained from PLS-algorithm

Hair *et al.* (2017) recommended examining the discriminant validity using three criteria, such as HTMT, Forner-Lacker criterion and cross-loadings. In evaluating the cross-loadings, the item's outer loading should be higher on its respective construct than its cross-loadings on other constructs. Table 7 shows that the outer loading of each item was greater on its related construct than its cross-loadings on any other construct.

Fornell-Larcker criterion was the second method used to study discriminant validity, where the square root of AVE of each of the constructs should be greater than its correlation with other constructs. The result of this second approach discovered that square root of AVE of each construct was more than its correlation with other constructs as shown in Table 8.

Henseler *et al.* (2015) endorsed measuring the correlation heterotrait-monotraitratio (HTMT) to evaluate discriminant validity. This latest approach discloses the estimation of the true correlation between two constructs. A value of 0.90 is the threshold recommended for HTMT (Henseler *et al.,* 2015). Any value higher than 0.90 would indicate a lack of discriminant validity. Moreover, the confidence interval of HTMT should not include 1. Table 9 proved that the HTMT criterion had been fulfilled for this study's PLS model.

Goodness-of-fit index

Tenenhaus *et al.* (2005) acclaimed a goodness-of-fit index (GoF) to validate the PLS model. On the other hand, Hair *et al.* (2017) estimated the efficiency of standardized root mean square residuals (SRMR). The SRMR specified that the root mean square discrepancy between the model-implied and observed correlations (Hair *et al.,* 2017). Furthermore, the SRMR exposed the measure of absolute fit, where a value of zero represented a perfect fit. Hu and Bentler (1998) recommended the value of less than 0.08 to indicate a good fit while applying SRMR in the CB-SEM context. A SRMR of 0.079 was found to signify a good fit.

Table 7: Cross loadings

	BG	CP	FP	NFP
BG1	**0.664**	0.376	0.376	0.325
BG2	**0.742**	0.390	0.398	0.510
BG3	**0.790**	0.424	0.423	0.470
BG4	**0.754**	0.357	0.452	0.443
CP1	0.460	**0.761**	0.405	0.351
CP2	0.358	**0.747**	0.364	0.403
CP3	0.386	**0.819**	0.389	0.418
CP4	0.435	**0.810**	0.440	0.424
FP1	0.34	0.285	**0.723**	0.269
FP2	0.372	0.317	**0.768**	0.327
FP3	0.330	0.388	**0.784**	0.338
FP4	0.576	0.493	**0.712**	0.448
NFP1	0.483	0.395	0.362	**0.807**
NFP2	0.504	0.451	0.405	**0.846**
NFP3	0.506	0.428	0.419	**0.852**

Table 8: Fornell-Larcker criterion

	BG	CP	FP	NFP
BG	**0.739**			
CP	0.523	**0.785**		
FP	0.558	0.510	**0.747**	
NFP	0.596	0.509	0.474	**0.835**

Table 9: HTMT criterion

	BG	CP	FP	NFP
BG				
CP	0.693			
	(0.576, 0.791)			
FP	0.740	0.647		
	(0.642, 0.805)	(0.548, 0.748)		
NFP	0.788	0.646	0.606	
	(0.692, 0.807)	(0.533, 0.734)	(0.505, 0.697)	

Assessments of Second-Order Construct

The formative items might be negatively, positively or even not correlatedamong themselves (Wong, 2013). Consequently, the consistency reliability, internal indicators' reliability and discriminant validity would not be useful in evaluating formative constructs. This was because outer loadings, CR and AVE would become meaningless for any latent variable that involved uncorrelated measures (Wong, 2013). Additionally, two main criteria had been extensively used to investigate the formative measurement model that included significance and relevance of indicator weights, as well as collinearity (Hair *et al.,* 2011). However, Ramayah *et al.* (2018) and Hair *et al.* (2017) suggested three steps to assess the formative measurement model: (i) examining the convergent validity; (ii) assessing the collinearity issues; (iii) and, analysing the significance and relevance of formative items. Therefore, according to the guidelines by Hair *et al.* (2017), the business success would be examined in the following method.

Evaluation of Reflective-Formative Measurement Model

Assessment of Convergent Validity

Hair *et al.* (2017) specified two methods to study the formative construct convergent validity. The first was to consider the correlation between the formative construct and its reflective items. The magnitude of path coefficient should be a minimum of 0.70 between two latent variables and R^2 value should be at least 0.50 for an endogenous latent variable (Ramayah *et al.,* 2018; Hair *et al.,* 2017). To avoid the respondent fatigue and maximize the response rate, the study used the second method, in which the researcher applied a global item to evaluate the validity of reflective-formative latent variable (Hair *et al.,* 2017; Ramayah *et al.,* 2018). The global item of business success condensed the essence of this construct. The analysis observed a magnitude of 0.752 for path coefficients between latent variables while the R^2 value for the dependent latent variable was 0.565 (Figure 2).
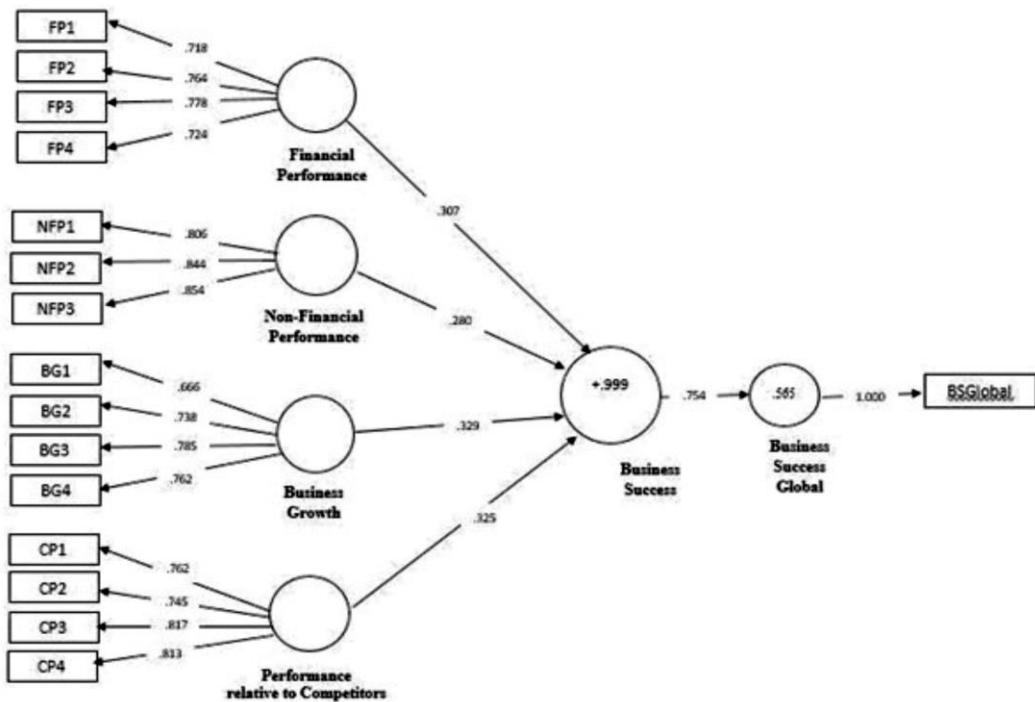

Figure 2: Assessment of convergent validity of second-order construct

Assessment of Indicators' Collinearity

Strong correlations were less likely to be anticipated among the items of formative measurement models. In addition, the strong correlation among formative items specifies collinearity that would be problematic (Ramayah *et al.,* 2018; Hair *et al.,* 2017; 2014). The researchers observed the collinearity among the formative indicators of the latent variables by determining the Variance Inflation Factor (VIF). Since the study deals with a reflective-formative Type II second-order latent variable, therefore, the inner VIF values were considered to evaluate the issues of collinearity. Hair *et al.* (2017) revealed that the threshold value of VIF should be less than five. Table 10 depicts the values of VIF for all the predictor latent variables that were less than five, thus, collinearity was not problematic among the latent variables' formative items (Hair *et al.,* 2011).

Table 10: VIF values

Items	VIF
FP1	1.467
FP2	1.535
FP3	1.653
FP4	1.198
NFP1	1.525
NFP2	1.679
NFP3	1.723
BG1	1.285
BG2	1.876
BG3	1.521
BG4	1.403
CP1	1.532
CP2	1.511
CP3	1.761
CP4	1.657

Evaluation of Significance and Relevance of Indicator Weights

The bootstrapping procedure was used to evaluate the indicators' weight significance, which also expressed their relative importance through loadings (Hair *et al.*, 2011). Smart PLS was employed to evaluate the items' weight significance and relevance. The bootstrapping procedure for 1000 resamples (Chin, 2010; Ramayah *et al.,* 2018) was used to evaluate the formative indicators' weight significance. Lohmöller (1989) recommended that weight of >0.1 expressed significance for an indicator. The outcome showed that all weights were above the suggested value of 0.1. Table 11 and Figure 3 illustrate significant t-values in all the weight of formative indicators that delivered empirical support to keep all indicators (Hair *et al.,* 2017; Hair *et al.,* 2011).

Assessment of Predictive Relevance (Q^2)

Q^2 was accomplished through the procedure of cross-validated redundancy as recommended by Chin (2010). According to Hair *et al.* (2017), the model showed predictive relevance when Q^2 was more than 0. On the other hand, the model did not reveal the predictive relevance when Q^2 was less than 0. Furthermore, the guiding principle for evaluating Q^2 value display was that values of 0.35, 0.02, 0.15 designated large, small, and medium relevance, respectively, for a certain dependent construct (Hair *et al.,* 2017). Table 12 locates that 0.358 was the Q^2 value for business success, which displayed the large relevance for the dependent latent variable (i.e, perceived business success).

Conclusion

This paper described the measurement of business success as reflective-formative measurement model (second-order construct) in SEM research context. Additionally, existing studies on the specific dimensions of business success were mentioned and theoretical differences between reflective and formative measurement models were also highlighted.

Table 11: Testing of significance of weights

Relationships	Std. Beta	Std. Deviation	t-value	p-value
FP -> BS	0.298	0.017	17.57	0.000
NFP -> BS	0.287	0.013	21.664	0.000
BG -> BS	0.315	0.013	24.255	0.000
CP -> BS	0.344	0.015	22.347	0.000

Note: * p<0.1, **p<0.05, ***p<0.01
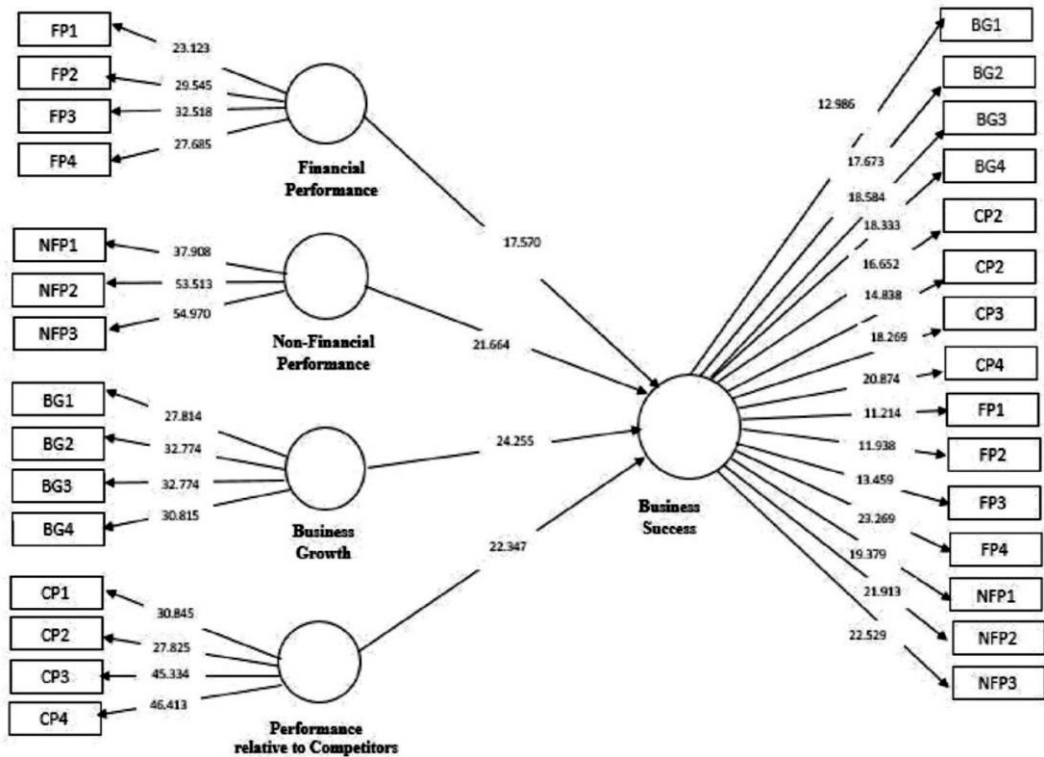
Figure 3: Assessment of significance and relevance of indicator weights

Table 12: Q^2 of the business success

Construct	SSO	SSE	Q^2 (=1-SSE/SSO)
FP	1,800.00	1,800.00	
NFP	1,350.00	1,350.00	
BG	1,800.00	1,800.00	
CP	1,800.00	1,800.00	
BS	6,750.00	4,336.48	0.358

Several studies revealed the specific dimensions for business success in the Malaysian context, namely perceived financial performance, perceived non-financial performance, perceived business growth and perceived performance relative to competitors. Therefore, some of the relevant studies on the four dimensions were also reviewed. Additionally, the construct of business success had been treated as reflective-formative second-order latent variable by using the PLS-SEM approach.

Misspecification in the measurement model's scale recommended a formative formulation for the construct of perceived business success. Future research should consider measuring perceived business success as a reflective-formative second-order construct to avoid misspecification of parameters. Thus, researchers would need to determine their construct formatively and select the context specific dimensions. This is because the dimensions or indicators selected for measuring perceived business success (formative construct) should cover the complete construct's scope (Bollen & Lennox, 1991).

Additionally, all the dimensions of business success in this study were identified as the specific dimensions in the Malaysian context as earlier mentioned by Ahmad (2007), and later on verified by Ahmad *et al.* (2011). Therefore, scholars from other countries should first determine their context specific dimensions from the existing literature. Then they need to take all specific dimensions as the formative items for the second-order latent variable of perceived business success.

This was because every dimension defined and determined the unique characteristic of the latent variable, and any changes in the value of the item could be expected to incur changes in the conceptual meaning of the construct. Furthermore, scholars who need to do reflective-formative modeling are suggested to use the PLS-based modeling instead of CB-SEM, which is the covariance-based structural equation modeling. PLS approach was the most suitable to model the formative latent variable due to two

facts. First, it enabled the researcher to test the formative latent variable in isolation. Second, it worked well for small samples, residual distributions and non-normal data (Roy *et al.,* 2012; Chin *et al.,* 2003).

There were some limitations in this study. First, data were collected only from selected entrepreneurs of Malaysian wholesale and retail SMEs using non-probability sampling techniques. Therefore, the findings could not be generalised over other Malaysian SMEs. Second, due to cross sectional design, the variation of responses over time could not be assessed. Third, since the data were collected from the same respondents, therefore, strong biases could influence the results. Although, only two statistical remedies, namely the Harmon Factor and correlation matrix approach were used to detect CMV, other effective statistical remedies, including Construct Level Control (CLC) and Item Level Control (ILC) proposed by Chin *et al.* (2013) were not used to control any influence of CMV in this study.

However, the main implication was it had highlighted useful guidelines to assist researchers in measuring business success as a reflective-formative Type II second-order latent variable. Thus, by measuring the concept of business success in the right way, researchers could report accurate results regarding the relationships between the variables of business success. It had also introduced a global measure of business success that could be used by future researchers to assess convergent validity of a second-order construct. Lastly, this study had proposed useful guidelines for modeling business success construct.

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