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Managing menu innovation in a saturated market: An empirical evidence from the Chain restaurants in Malaysia

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Abstract
This paper presents the empirical results of a recently concluded research study about managing menu innovation in a consumer market that has reached to its saturation level. Such market condition resulting in increased competition and, therefore, a need for increased innovation is essential. In this study, an investigation was carried in substantiating the effect of market saturation toward the relationship between innovation orientations and new menu innovation process. The region of Klang Valley was chosen as the study setting for its dynamic and matured consumer foodservice market. In this investigation, the theoretical conceptualization and the empirical validation of the proposed menu innovation process as a second-order hierarchical model along with the moderating variable of market saturation as first-order constructs were first advanced using both Statistical Package for Social Science (SPSS version 19) and partial least squares. Empirically, the measurement and structural models of this study confirmed adequate estimations based on partial least squares path modeling parameters. In line with the strength of partial least squares to explain complex relationships, the use of path modeling has made it possible to advance the theoretical contribution to this study. The results show that the moderating effect of market saturation on the link between the exogenous and endogenous variables found to have a medium effect size ($f^2 = 0.289$) and significant at $\rho < 0.05$). The findings point to managerial challenges in shaping competition as evidence of radical innovations is still being pursued, although slightly weaken. This study, apart from its contribution to the model development of menu innovation process, has meaningful implications for restaurateurs to stay afloat in such a market condition.

Keywords
Menu innovation process, new product development, product innovation orientations, partial least squares, Klang valley, Malaysia

Introduction

In recent years, the vibrant transformation of the Malaysian consumer foodservice market has brought a diverse range of food services that presents challenges for restaurateurs to gain market shares. A recent global survey indicated that urban dwellers in major cities in Malaysia are increasingly dynamic and known to be affluent in a palate point of view, where 67% reported to eat out of home as least once a week (Nielson, 2011). Correspondingly, there has been a phenomenal growth rate of restaurants and food services in Malaysia arisen from 82,325 in 2001 to 145,320 in 2012 (Euromonitor International, 2012).

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Unfortunately, according to this report, much of the congregation of food service business remains at large in region of Klang Valley, Kuala Lumpur, Penang, and Johor Bahru that are already known for its saturated markets (Euromonitor International, 2012). Evidently, although these encouraging growth factors illustrate irresistible response from the industry's practitioners, in a life cycle theory, continuous unit growth in a saturated market is likely to have an adverse effect on business sales values and operational transactions (Hashimoto, 2003). According to this theory, when a diffusion of similar product orientations has reached a point of saturation in the marketplace, further growth can only be achieved through new product innovation, and if the new product is developed in line with the consumers' market trends, market share gains can be enlarged (Cobbenhagen, 2000; Drucker, 1985; Porter, 1985). Therefore, as the global consumer, foodservice markets are constantly evolving and many have been known to reach to its pinnacle point, this study seeks to ascertain chain restaurateurs strategy of adopting innovation orientations when engaging into menu innovation in the region of Klang Valley.

Research background

To date, the seeds of the nation's Vision 2020 that was tabled in the Sixth Malaysian Plan in 1991 to become an industrialized nation have sown fruitful socioeconomic developments, but mainly ripened in selected cities. Corresponding to this and along with rapid changing global conditions amid the financial crisis 2007–2010, in 2009, new economic reforms were forwarded and the National Economic Advisory Council of Malaysia appointed to review the roadmaps of the Vision 2020. While such revisions are still in its infancy, earlier implementations of the National Economic Policy saw cities of Kuala Lumpur, Johor Bahru, Penang, and the region of Klang Valley continue to leap further as catalysts in socioeconomic developments. To a large extent, this has made the above-mentioned cities and the region of Klang Valley become the center of business attractions due to their vibrant society and high numbers of visiting tourists receipt as opposed to most other cities/towns that are rather lackluster in socioeconomic developments. In light of this disparity of socioeconomic developments, congregation of foodservice businesses continues to flourish in a phenomenal rate to tap the largely affluent consumers' market of Kuala Lumpur, Johor Bahru, and Penang, and around the region of Klang Valley (Euromonitor International, 2012).

However, this trend of food services foothold that concentrates heavily at the above-mentioned geographical locations has turned its marketplace to a state of saturation (Euromonitor International, 2012). A closer review in the hospitality literature indicates that "me-too" product development is far too common in the foodservice industry (Jones and Wan, 1992). Hence, this makes the life cycles of the products become even shorter as fierce competition builds up in the marketplace (Cobbenhagen, 2000; Feltenstein, 1986; Mcllveen, 1994), particularly, due to low barrier to business entries (Davis et al., 2012). It is relatively unknown if these foodservice operators are actually aware of the threat of trading business in such a market condition. Such threat, that in theory can affect business sales due to shrinking market shares as the number of food service outlets continues to rise rapidly (Feltenstein, 1986; Hashimoto, 2003).

Theoretically, when a supply of products reaches the maximum level in the marketplace to a point called saturation, additional augmentation can only be attained through new product innovation, market share gains, or a sudden increase in consumers' demands (Cobbenhagen, 2000; Hashimoto, 2003). Hence, if there is no sudden rise in overall consumer demand, the strategy for expanding business units in such a market condition is deemed logically unfeasible as this will only lead to decline in sales growth. In light of this, Feltenstein (1986) argues that for restaurateurs to be able to increase their market share gains and/or to resurrect sales growth, new menu innovation has to be introduced by either developing new ones or improving existing menus.

Literature review

Managing menu innovation has been long sought in hospitality literature (Feltenstein, 1986; Jones, 1996; Jones and Wan, 1992; Mifli, 2004; Mooney, 1994; Ottenbacher and Harrington, 2007, 2008). Ironically, despite the importance of food in daily consumption for every living society, studies of menu innovation in the foodservice industry are quite a new proposition compared to earlier studies of innovation management in engineering and manufacturing industries (Booz, Allan, & Hamilton, 1968; Cooper, 1979; Schumpeter, 1934). A close review of the literature reveals that menu innovation is managed through a systematic process (Feltenstein, 1986; Jones, 1996; Mifli, 2004; Ottenbacher and Harrington, 2007, 2008), akin to the traditional PIP in the engineering industry called "sequential product development process" (Iansiti, 1995). Mooney (1994: 46) advocates that this structured approach is a "type of disciplined approach" and widely adopted by foodservice management in many sectors of the industry.

In a broader perspective, PIP is generally commissioned in a sequential process. This stage-by-stage approach that is also commonly referred to as the traditional method is divided into two main stages: concept development and implementation (Iansiti, 1995; See Figure 1). In this two-stage approach of PIP, all the activities of innovation generations are executed at the first stage in a prescribed concept lead time. Once it reaches the concept freeze point, the so-called window of opportunity is closed and generation of new ideas is generally not permitted as the next implementation stage begins (Cunha and Gomez, 2004). Nevertheless, the activities at each stage are not explicitly detailed out in Iansiti's (1995) study. Yet, a reasonable argument is that such stages are likely similar to the earlier work of Booz, Allan, and Hamilton's (1968) new product development (NPD) process model, which then became the catalyst to the development of subsequently models (e.g., Booz, Allan, & Hamilton, 1982; Fuller, 1994; Graf and Saguy, 1991; Kotler and Armstrong, 1991; MacFie, 1994; Urban and Houser, 1993). In these earlier models, the stage approach to NPD comes in various stages, but predominantly included these four main stages: formulation, concept development, concept design, and testing and evaluation.

While this methodical disciplined approach to NPD sheds insight into the management of product innovation, a recent argument with a notion of constantly evolving environment changes, knowledge information, and technological advancements requires a flexible innovation management strategy as opposed to rigid process of product innovation (Cunha and Gomez, 2004). Cunha and Gomez (2004) argue that in today's dynamic environments, management of product innovation should incorporate the elements of flexibility along the first stage of the NPD process. Therefore, they argue that the "window of opportunity" should be prolonged so that inputs of new information pertaining to external environmental factors can be incorporated accordingly and changes can be made along the concept lead time.

Logically, the argument by Cunha and Gomez (2004) sheds some valid points. Yet, other scholars argue that such flexibility occurring in PIP may ultimately lead to delays in launching products (Cooper and Edgett, 2003). Cooper and Edgett (2003) argue that the key to product innovation is not only to develop new products that can be sustained in the marketplace for longer period but also be quickly and timely launched. This is because in a competitive and constantly changing business landscape, development of a new product in a timely manner is equally critical in order to be first introduced in the marketplace ahead of competitors (Abernathy and Clark, 1985; Cooper and Edgett, 2003). In light of this, Cunha and Gomez (2004) propose new NPD process models called concurrent and integrative, which allow overlapping and integrated activities. Hence, inclusion of new information can still be addressed and incorporated even after the concept freeze point, and therefore, the original schedule of product launching is not jeopardized.

Indeed, the development of these models of PIP enriches the body of knowledge in product innovation management. Nevertheless, even though there has been considerable progress in developing the framework of PIP that explain differing competitive success at any given point in time (Booz, Allan, & Hamilton, 1982; Fuller, 1994; Graf and Saguy, 1991; Kotler and Armstrong, 1991; MacFie, 1994; Rodolf, 1995; Rudder, 2003; Suwannaporn and Speece, 2000; Urban and Houser, 1993), the understanding of the dynamic processes by which menu planners adopt and ultimately attain superior market positions is far less comprehended in the context of foodservice industry. Past study indicated that there are four types of approaches to menu innovation in the foodservice industry, namely "original product which is totally original," incremental product development that is adapted from inside firm, "modified product which is adapted from outside firm," and "*me too* product which is purely adopted from outside firm" (Jones and Wan, 1992). In a broader perspective, after carefully reviewing the literature (Abernathy and Clark, 1985; Booz, Allan, & Hamilton, 1982; Schumpeter, 1942; Tushman and Adersen, 1986), these four types of product innovations defined by Jones and Wan (1992) are in fact resembled to the paradigms of innovation orientations that suggests NPD is shaped either being radically or incrementally driven. Incremental orientation is defined as "a result of redefining prevailing knowledge," whereas radical orientation arises because "prevailing knowledge get transformed" (Tushman and Adersen, 1986). Historically, almost all NPDs are incrementally oriented as opposed to radical orientation (Booz, Allan, & Hamilton, 1982; Dacko, 2000; Fuller, 1994; Hanna et al., 1995; Rudder, 2003). Therefore, it is reasonable to assert that development of product "newness" is rarely adopted despite claimed by others of its competitive advantage in market share gains (Miller and Friesen, 1982; Salavou and Lioukas, 2003; Saleh and Wong, 1993; Schumpeter, 1942).

Innovation orientations

The prevailing question of should NPD be based on radical or incremental has been long addressed (Abernathy and Clark, 1985; Schumpeter, 1942; Tushman and Adersen, 1986). Yet, due to the paucity

of empirical study in the hospitality industry, little is known the realism of innovation orientations adoption in this industry (Jones and Wan, 1992). Hence, in light of this scarcity, most of the literature review presented in this section come from other industries, but equally critical in understanding the evolution of innovation management with particular reference to the orientation of NPD.

The infamous work of Schumpeter's "creative destruction," which has been the vehicle to the growth of radical innovation, shed a new dimension of how new technical breakthrough can uplift a firm's competitive advantage in the marketplace with the expense of "killing" the old method of doing. Indeed, the revolution of Schumpeter's theory of innovation saw many occurrences of "creative destruction," such as the vanishing of the computer mainframe that was once the hallmark of innovation achievement. While much of today's innovation management is credited to Schumpeter's theory of innovation, Abernathy and Clark's (1985) transilience map of innovations is equally accredited as they discreetly challenged Schumpeter's theory of innovation as a unified phenomenon. In Abernathy and Clark's work, the four categorizations of innovations are placed in a quadruplet matrix where vertical and horizontal lines across each other to form the dimensions of market and technology transilience scales, which they called it "transilience map." Each of these innovations, namely niche creation, architectural, regular, and revolutionary plays distinctive roles in shaping the desire innovation outcomes. According to them, the "creative destruction" theory that promotes innovation as a unified phenomenon seems questionable as they found out that not all innovations lead to disruption, destroy, or a completely obsolete of past practice. In the second study of Booz, Allan, and Hamilton (1982) on NPD in the US manufacturing firms, 90% of NPD found not purely innovative or absolutely new to the marketplace, but rather incremental in nature. Similar studies on product innovation have also shown that trends of product incremental orientation appeared to be the strategy used in NPD (Dacko, 2000; Fuller, 1994; Hanna et al., 1995; Rudder, 2003; Samli and Webber, 2000).

The insight of this development appeared to suggest that most NPD are based on incremental innovation. Therefore, given the nature of incremental innovations is to reinforce prevailing market structure and conserve existing competencies (Abernathy and Clark, 1985), it is reasonable to conclude product newness is rather rare and, therefore, radical innovation, which is to reinforce prevailing new knowledge replacing the old one, is less likely the preferred strategic choice. Another school of thought suggests that strategy to innovation in NPD also reflects the degree of competitiveness and impact in the marketplace (Balachandra and Friar, 1997; Cooper and Kleinschmidt, 2000; Ettlie and Subramaniam, 2004).

Theoretical development

In line with the objective of this study to ascertain the adoption of innovation orientation used by restaurant chains in shaping the new menu development amid facing market saturation, dimension of market saturation is developed in this study in seeking its moderation effect on the relationship between innovation orientations and concept development, the first stage of NPD process. The inclusion of this market saturation, as moderator, between the links of innovation orientations and concept development is expected to unveil actual adoption of innovation orientation by restaurant chains. Such relationships proposed in this study's research model are deemed practical in order to ascertain how far does market saturation played a part in moderating menu planners' innovation orientation in shaping their new menu development process, which as far as it is known never been attempted in empirical research.

Theoretically, almost all new products would undergo some form of development process either through a structured or unstructured approach. Conceptually, although both approaches are managed differently, they in fact share a common goal. A goal that is to innovate a new product that is sustainably competitive in the marketplace and subsequently able to gain market shares. Understanding these approaches rests on the underlying theory of the firm's strategic direction and the associated theory of innovation orientation, which in turn correspond to the development of the new menu. The theory of firm's strategic direction is closely linked to strategic management orientations within the firm that commonly decreed by top management personals (Miller, 1987). Notably, there are several terminologies used to denote strategic management orientations, such as proactive, reactive, reaction, rationality, assertiveness, and bounded rationality, and each of them is theorized differently (Cyert and March, 1963; Miller and Friesen, 1982; Porter, 1980, 1985; Wood and Robertson, 1997). Similarly, Miles and Snow's (1978) typology of strategic types, four archetypes—prospectors, analyzers, defenders, and reactors—has been long advocated in the literature and known to be closely related to firm orientations and/or individual decision-making behaviors toward product–market development.

In this study, the two-stage approach to product innovation and NPD models existed in literature is

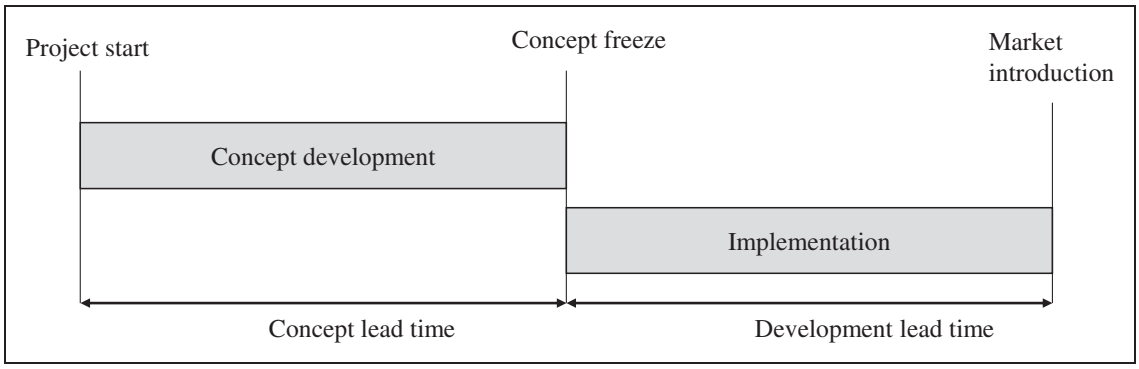

Figure 1. The two-stage approach of product innovation process. *Source*: Iansiti (1995).

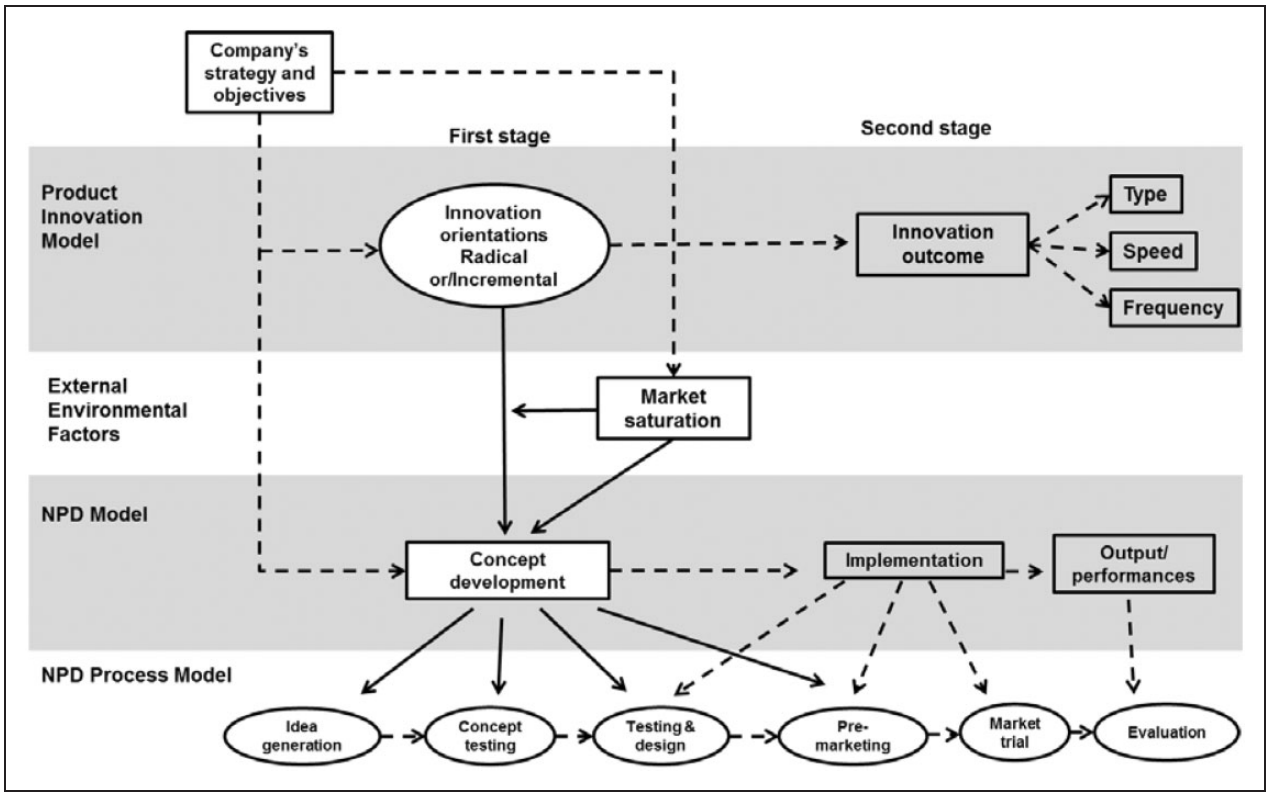

Figure 2. Structural theory.
Note: Solid lines represent the relationships that are examined in this study.

synthesized. Although, a three-stage model of product innovation has been documented in literature (Utterback, 1971), the two-stage model is considered to possess theoretical parsimony and widely cited in innovation literature (Frambach and Schillewaert, 2002; Henderson and Clark, 1990; Knight, 1967; Rogers, 1995; Van de Ven, 1986; Zaltman et al., 1973). Furthermore, the application of this two-stage model of product innovation is conceptually similar to NPD model of which the first stage, known as concept development, involves the activities of innovation idea generations whilst, the later stage focuses on the implementation of selected ideas that have undergone in several process stages.

As presented in Figure 2, both models of product innovation and NPD are placed parallel along with the NPD process model, which involves various stages. Nonetheless, the number of stages in NPD process models advocated in the literature is rather unstandardized (e.g., Booz, Allan, & Hamilton, 1982; Feltenstein, 1986; Fuller, 1994; Graf and Saguy, 1991; Jones, 1996; Kotler and Armstrong, 1991; MacFie, 1994; Mifli, 2004; Ottenbacher and Harrington, 2007, 2008; Urban and Houser, 1993).

This is because most firms, if not all, face-varying degrees of environmental competitiveness that are conceived differently due to varying styles of managerial orientations, and therefore, variations in stage approaches to the NPD process are inevitable. We then present the structural theory in Figure 2 by linking market saturation, as a moderator, on the relationship between innovation orientations and concept development.

Hypotheses development

Generally, the success (or failure) of organizations operating in a competitive business landscapes has frequently been linked to the concept of strategic management orientations in both marketing and management literature (Miles and Snow, 1978; Porter, 1980). Evidently, strategic management orientation is widely viewed to have significant impact on both management expectation and organizational performances (Kohli and Jaworski, 1990; Miller, 1987; Mintzberg, 1994).

However, studies related to strategic management orientations on product innovation in the foodservice industry, as far as it is known, receive little attention in empirical testing (Jones and Wan, 1992). By large, most previous studies centered heavily on the assessment of PIP across different restaurant sectors (Feltenstein, 1986; Jones, 1996; Mifli, 2004; Ottenbacher and Harrington, 2007, 2008). Chakravarthy (1997) argues that identification and capitalization for emerging market and business opportunities rest upon managerial adaptability of "know how," which in turn, implies changes to the direction of the organizational strategic postures (Oktemgil and Greenley, 1997). In a similar note, strategic management orientation has been noted to influence the degree to which strategies within an organization are coherent, stable, and assertive (Ansoff, 1965; Steiner, 1969). Given this consideration, a research question is forwarded to ascertain which strategic innovation orientations played a part in shaping concept development, the first stage of the NPD process. This study would then forward the following hypothesis:

Hypothesis 1a: Radical innovation orientation has a significant impact on concept development.

Hypothesis 1b: Incremental innovation orientation has a significant impact on concept development.

Indeed, the fundamental perspective of the direct linkage between strategic innovation orientations and organizational performance is well explored in management and marketing literatures. Yet, others argue that, as most industries face different environmental competitiveness, the adoption of strategic management orientations may also vary across and within industries (Montoya-Wess and Calantone, 1994). Furthermore, the fundamental assertion of strategic management orientations can be embraced as a range of domain characteristics of managerial preferences, namely risk taking, entrepreneurship, objectivity, assertiveness, and information use (Wood and Robertson, 1997). In addition, because there are inherent effects from the surrounding business landscapes (market saturation as in this case), which may be conceived in different levels of attention by the decision makers, this inevitably lead to variation in NPD strategies (Porter, 1980). Therefore, the next research question is to find out to what extent does market saturation moderate menu planners' innovation orientation on concept development. Hence, the final hypothesis of this study is forwarded as follows:

Hypothesis 2: Market saturation moderates the relationship between innovation orientations and concept development.

Methods

In this study, a newly designed questionnaire for market saturation and concept development constructs was developed. In Table 1, existing literature deemed relevant to the focus of inquiry was synthesized and the characteristics of variables suspected to be closely related to represent the respective constructs under investigation were put forward. A new set of questionnaires were designed to measure the impact of market saturation on the stages along the concept development lead time and demographic variables. To ensure complete clarity and readiness, a pretest was conducted by selected panels of experts who reviewed and revised the draft version of these questionnaires several times, which concurrently enhanced its content validity. As for innovation orientations construct, a bipolar semantic differential measurement scale of Salavou and Lioukas' (2003) findings was adapted where minimal adjustment was made for the purpose of this study. This type of instrument scale was deemed appropriated and has been advocated in a previous empirical study on product innovation orientation (Abernathy and Clark, 1985), where the characteristics of both incremental and radical orientations were paired side by side, using a 7-point scale.

The research instrument was then piloted, adopting a judgment sampling technique that was deemed appropriated to obtain information from the

Table 1. Total of scale items used from various relevant sources.

Constructs	Characteristics	No. of items	Sources
Innovation orientations[a]	**Original source**	9 items	Single source
Market saturation[b]	• Complex and dynamic market • Volatile market conditions with sharp discontinues in demand and growth rates • Competitive advantages that are continually created in the market • Low barriers to entry/exit that continuously change the competitive structure of the market • Drastic changes in customers' food preferences/demand • Changes in customers' price acceptances • Rapid changes in the composition of competitors • Technological advances accelerate the rate of changes in the marketplace	7 items	Multiple[c] sources
Concept development[b]	**Idea generations** • Culinary magazine • Cooking books • Competitors • Personal experiences • In-house market research • Customer comments/suggestions • Interdepartmental/group meetings	7 items	Multiple[d] sources
	Concept testing • Customer survey • Focus group • Pretesting in selected markets	3 items	
	Business analysis • Recent competition actions among rival competitors • Changes in economic conditions • New legislation • Changing demographic patterns • Past and current restaurants' success and failure	5 items	
	Product testing and design • To convert the concept into an operational entity, testing and redesign are required • Testing and design of new products are performed by in-house specialists' team • If in-house specialists are lacking, new ones will be hired or outside consultant is sought • By introducing new products, design of new production process is required • By introducing new products, installing new equipment is required	5 items	
	Preliminary marketing • In-house panel • Focus group • Market survey • Food testing	4 items	
	Market trials • Place card on dining table • Blackboard menu • Promotional campaigns-flyers, trade magazine, etc • Predetermined market areas	4 items	
	Customer feedback	5 items	

(continued)

Table 1. Continued.

Constructs	Characteristics	No. of items	Sources
	• Quality • Price • Value perception • Intent to repurchase • Regularity of patronage		

[a]Questionnaires were adapted from existing measures in the literature (Salavou and Lioukas, 2003).
[b]Newly developed variables adopted/extracted from various sources and subjected to appropriate measures of purifications.
[c]Montoya-Weiss and Calantone (1994), Iansiti (1995), Calantone et al. (2003), Dess and Beard (1984), Miller (1987), Glaser and Weiss (1993), Chakravarthy (1997).
[d]Feltenstein (1986), Mooney (1994), Jones (1996), Ottenbacher and Harrington (2007, 2008).

"expert" personnel (Sekaran, 2000). A total of 205 established foodservice companies were identified and arrangements for a survey interviewer-completed method were made to interview the expert personnel directly involved in managing the company's NPD. Fifty companies agreed to participate but only 33 companies were successfully interviewed and rest were simply not interested along the process. The piloted data then underwent purification, using SPSS Version 19, to enhance and determine its reliability and structural factor of these newly developed 5-point measurement scales (Hair et al., 2010). Purification of each of the multi-item scales measuring variables was factor analyzed in order to assess their factorial validity, which is also a form of construct validity (Allen and Yen, 1979).

In Table 2, the results of the exploratory factor analysis (EFA) that considered significant with the value of Kaiser–Meyer–Okin statistic at 6.0, and based on factor loadings of the variables at or greater than 0.5 and anti-image correlation matrix cutoff value of 0.5, were retained (Comrey and Lee, 1992; Kline, 2005; Malhotra, 1996; Nunnally, 1978; Tabachnick and Fidell, 2001). In addition, raw scores of individual items pertaining to factors extracted, using principle component analysis (PCA) method, were summed in each dimension to arrive at overall measure along with the minimum acceptable Cronbach's alpha value at 0.60 (Nunnally, 1978).

The final research instrument comprised of five parts. First, the original version of Salavou and Lioukas' (2003) bipolar semantic differential 7-point scale was adopted with minimal adjustment to denote respondents' product innovation orientations. Second, the characteristics of market saturation that have a link to moderate respondents' decision-making process when engaged in managing menu innovation was measured using a 5-point Likert-type scale ranging from "greatly influenced" to "hardly any influenced" and "greatly influenced" to "not at all," respectively. Finally, the hierarchical construct of concept development was measured using a 5-point Likert-type scale ranging from "very often" to "never" for the dimensions of idea generation and premarketing, and "very important" to "not at all important" and "strongly agree" to "strongly disagree" were used for the dimensions of product concept testing and product testing and design, respectively. Finally, the demographic variables of the subjects, such as gender, age groups, education levels, and business information, such as business tenure, restaurant type were measured.

Specifying concept development as a higher order construct

A higher order construct (HOC), which is also called a hierarchical construct, refers to a construct that has more than one dimension, where each dimension captures some portion of the overall latent variable (Edwards, 2001; Jarvis et al., 2003; Wetzels et al., 2009). Partial least square (PLS) path modeling (or component-based structural equation modeling [SEM]), using Smart-PLS Version 2.0 M3, was used to estimate the HOC of concept development by adopting repeated use of manifest variables (Ringle et al., 2005). The scores of lower order latent variables of idea generation, concept testing, product testing, and design and premarketing determinate in PLS path analysis were subsequently used as manifest variables for the HOC of concept development, which are illustrated in Figure 3. This method allows for estimating the hierarchical model to achieve more theoretical parsimony and reduce model complexity (Chin, 2010; MacKenzie et al., 2011).

Population and data collection

During the period of final data collection, there were nearly 4000 chain outlets in operation across major cities in Malaysia by 112 local and international

Table 2. Results of preliminary statistical purifications.

Dimension 1: Market saturation	
Factor 1	Loading
Competitive advantage that are continually created	.921
Low barriers to entry that are continually created	.566
Drastic changes in customers' food preferences	.668
Changes in customers' price acceptances	.754
Rapid changes in the composition of competitors	.733
Percentage of total variance explained	54.43
Coefficient alpha	.78
Number of items	5

Extraction method: Principle component analysis (PCA).

Dimension 2: Concept development	Pattern Matrix[a]			
(Coefficient alpha for scale: 0.69)	F1	F2	F3	F4
Factor 1: Idea generation				
Culinary magazines	.653			
Cooking books	.751			
Meeting to discuss market trends	.870			
Value perception	.693			
Factor 2: Concept testing				
Competitors		.903		
Testing and design are performed by in-house specialist team		.772		
Food testing		.677		
Regular customer		.747		
Factor 3: Product testing and design				
To convert the concept into operational entity, testing and design are required			.868	
By introducing new product, design of new production process is required			.901	
Factor 4: Premarketing				
Customer survey				.873
In-house panel				.641
Place card on dining table				.723
Percentage of total variance explained	29.99	15.09	15.00	12.38
Cumulative variance (%)	29.99	45.07	60.10	72.45
Coefficient alpha	.76	.78	.90	.62
Number of items	4	4	2	3

Extraction method: Principle component analysis (PCA).
Rotation method: Promax with Kaiser Normalization.
[a]Rotation converged in eight iterations.

chain companies (Euromonitor International, 2010). Notably, most of these chained outlets, particularly in the fast-food sector, are international brand ownerships that are made possible through franchising agreements. In terms of brand names and numbers of outlets, the full-service restaurant (FSR) sector dominated the most with 86 brands and more than 1200 outlets (86/1200+), followed by fast-food (21/1000+), cafés/bars (7/160), street stalls/kiosks (2/108), and 100% home delivery/takeaway (1/19). Out of these 112 chained companies, a total of 71 data was successfully collected that took almost a year to complete.

Analysis and results

Smart-PLS was used to assess the hierarchical model of concept development in order to estimate the parameters in the outer and inner structural theories

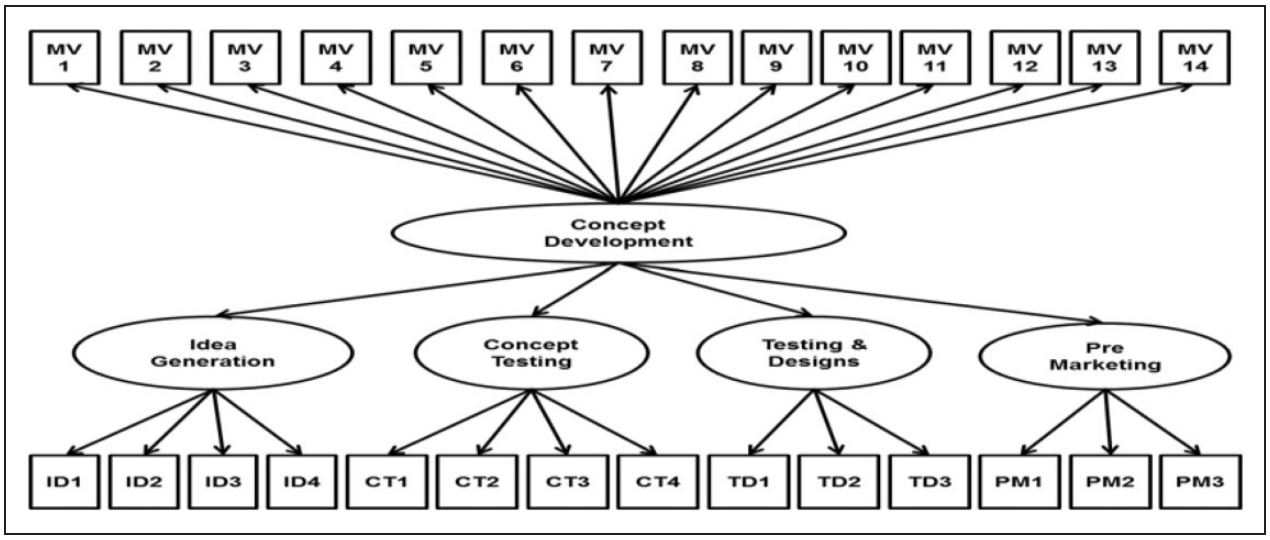

Figure 3. Concept development as a hierarchical model. Adapted from Chin (2010).

(Ringle et al., 2005). The application of nonparametric bootstrapping (Chin, 1988; Tenenhaus et al., 2005; Wetzels et al., 2009) was then applied with 5000 replications (Hair et al., 2014) to obtain the τ value and standard errors (*SEs*).

Measurement outer model results

In assessing the structural outer model, all the structural links among constructs were drawn and path-weighting scheme was set in the PLS algorithm settings (Chin, 2010). The preliminary evaluation of the reflective outer models is shown in Table 3. Subsequently, the structural outer model was reassessed of its goodness of measures. Loadings and cross loadings of the respective outer models were compared and all the items measuring each of the respective constructs and latent variables loaded highly and loaded lower on the opposite thus confirming construct validity. Additionally, the structural outer model was also assessed of its convergent validity and discriminant validity.

The results, which are shown in Table 4, saw the measures of the constructs/latent variables were theoretically related where most items loading values were higher than the cutoff value of 0.7 (Hair et al., 2012; Hulland, 1999) and significant at $\rho < 0.01$. In addition, the average variance extracted (AVE) and composite reliability (CR) values for all the constructs and latent variables of concept development were also found to exceed the threshold values of 0.5 and 0.7, respectively (Bagozzi and Yi, 1988; Hair et al., 2010), thus confirming strong evidence of convergent validity. In Table 5, comparison between the AVE values and the squared correlations among constructs/latent variables was also used to measure the constructs discriminant validity and found each of the constructs was highly related to its own measures than with others. With these results, the structural outer models, therefore, can be validly and reliably confirmed of its theoretical relationships.

Assessment of the second-order construct of concept development

The second-order construct of concept development was measured by modeling each of the latent variables' (i.e., idea generations, concept testing, product testing, and design and premarketing) coefficients to the second-order construct (concept development) (Chin, 2010). Accordingly, these latent variables, representing 11 ($3 \times 4 \times 2 \times 2$) indicators (manifest variables) were pulled together as the reflective measure of concept development in Smart-PLS for statistical model and the results can be seen in Table 6.

As can be seen in Table 6, all the standardized path coefficients (β) were found to be significant at $\rho < 0.01$. In terms of coefficient of determination (R^2), a measure commonly used in model predictive accuracy (Hair et al., 2014), latent variables of idea generations, concept testing and product testing, and designs was found to be at 61.2%, 62%, and 67.1%, respectively, which is nearly at 70% of the threshold value of high predictive accuracy. Whereas, premarketing was found to be at moderate level with 37.9% explained variance based on Hair et al. (2014) assessment of R^2 values of 0.20 (weak), 0.50 (moderate), and 0.75 (substantial).

Table 3. Results of preliminary evaluation of the reflective outer models.

Constructs/latent variables	Original items			Label items	Loadings	Deleted items
Innovation orientations	Less new product	1–7	More new products	IO1	0.598	
	Changes in menu products have been mostly of minor nature	1–7	Changes in menu products have usually been radical	IO2	0.371	Deleted
	There is a strong emphasis on marketing of true and tried menu products	1–7	There exists a very strong emphasis on the development of new and innovative products	IO3	0.419	
	There is a strong proclivity for low-risk NPD with normal and certain rates of return	1–7	There is a strong proclivity for high risk NPD with changes of very high return	IO4	−0.253	Deleted
	Owing to the nature of the environment (saturated), it is best to explore gradually via cautious, incremental behavior	1–7	Owing to the nature of the environment (saturated),wide-ranging acts are necessary to achieve the restaurant's objective	IO5	−0.029	Deleted
	Typically we adopt a cautious, wait and see posture in order to minimize the probability of making costly decision	1–7	Typically we adopt a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities	IO6	0.262	Deleted
	Typically we respond to action that competitors initiate	1–7	Typically we initiate action to which competitors then respond	IO7	−0.324	Deleted
	We are very seldom the first business to introduce new products	1–7	Very often we are the first business to introduce new products	IO8	0.541	
	We typically seek to avoid competitive clashes, preferring a ''live-&-let live'' posture	1–7	We typically adopt a very competitive, undo-the-competitors' posture	IO9	0.641	
Market saturation	Competitive advantage that are continuality created			MS1	0.579	
	Low barriers to entry that are continually created			MS2	0.909	
	Drastic changes in customers' food preferences			MS3	0.007	Deleted
	Changes in customers' price acceptances			MS4	−0.091	Deleted
	Rapid changes in the composition of competitors			MS5	0.379	Deleted
Idea generations	Culinary magazines			ID1	0.880	
	Cooking books			ID2	0.915	

(continued)

Table 3. Continued.

Constructs/latent variables	Original items	Label items	Loadings	Deleted items
	Meeting to discuss market trends	ID3	0.373	Deleted
	Value perception	ID4	0.623	
Concept testing	Competitors	CT1	0.857	
	Testing and design are performed by in-house specialist team	CT2	0.898	
	Food testing	CT3	0.601	
	Regular customers	CT4	0.835	
Testing and design	To convert the concept into operational entity, testing and design are required	TD1	0.959	
	By introducing new product, design of new production process is required	TD2	0.950	
Premarketing	Customer survey	PM1	0.745	
	In-house panel	PM2	0.892	
	Place card on dining tables	PM3	0.088	Deleted

Note: NPD: new product development.
Items with lower loading value below 0.4 were deleted in accordance to Hulland's (1999) cutoff value at 0.40 in exploratory studies.

Assessment of the structural theory

To measure the structural theory appropriately, the predictive power of the linear structural model was carried out by linking the latent variable of innovation orientations and concept development. The results of the PLS algorithm analysis, a statistical measurement tool that emphasizes predictive accuracy of explained variance (Hair et al., 2014), indicated that an R^2 value of 0.151 was obtained for concept development. Hence, categorically, in terms of its predictive accuracy, the structural model of this linear relationship was found to be slightly below weak level based on Hair et al.'s (2014) assessment of R^2 values as only 15% explained variance yielded. On the other hand, a negative standardized coefficient value was obtained at 99% significance level ($\beta = -0.388$, $\tau = 2.382$, $\rho < 0.01$).

Testing the moderating effect

A moderation analysis was performed by linking latent variable of market saturation to the endogenous construct (concept development) along with its generated interaction model as moderator (see Figure 4). With the inclusion of the interaction model, the value of the R^2 for concept development increased to 0.418, it improves the structural model's predictive accuracy to 41.8%. In establishing the significance of the interactions estimate, the results of this moderation analysis, which are shown in Table 7, it can be concluded that this study found support for significant moderating effect of market saturation on the relationship between innovation orientations and concept development at 95% significance level.

Following this result, the f^2 effect size was performed to determine the effect size of the moderator by removing the moderator from the structural equation. Effect size f^2 is defined where R^2_{included} model and R^2_{excluded} model are the R^2 provided on the endogenous (dependent) latent variable when the predictor latent variable is used or omitted in the structural equation, respectively (Chin, 2010). Reporting effect size f^2 has been long advocated in research literature as indispensable when presenting empirical research findings since it facilitates the interpretation of substantive significance of the research result as opposed to the statistical generated result (Cohen, 1988; Ellis, 2010). Hence, the change in R^2 value was used to estimate the impact of the moderator on the relationship between the exogenous variables and endogenous variables based on Cohen's (1988) assessment of f^2 effect size of 0.02 (small), 0.15 (medium), and 0.35 (large). The formula is presented below along with the results of the calculations. The results of the calculations

Table 4. Psychometric properties of the outer models.

Constructs/latent variables	Measurement items	Loadings	*SE*	τ	CR	AVE
Innovation orientations	IO1	0.786	0.168	4.683	0.811	0.523
	IO3	0.523	0.219	2.387		
	IO8	0.782	0.215	3.638		
	IO9	0.769	0.164	4.680		
Market saturation	MS1	0.579	0.329	1.757*	0.763	0.63
	MS2	0.962	0.320	3.010		
Idea generation	ID1	0.898	0.022	40.257	0.852	0.666
	ID2	0.927	0.015	61.205		
	ID4	0.576	0.127	4.541		
Concept testing	CT1	0.861	0.076	11.342	0.879	0.649
	CT2	0.899	0.062	14.445		
	CT3	0.593	0.166	3.572		
	CT4	0.833	0.136	6.128		
Testing and design	TD1	0.958	0.012	78.217	0.953	0.911
	TD2	0.950	0.021	44.642		
Premarketing	PM1	0.804	0.081	9.935	0.841	0.726
	PM2	0.894	0.031	29.031		

Note: CR: composite reliability; AVE: average variance extracted; *SE*: standard error.
*Significant at $\rho < 0.10$; the rest of the τ values were all significant at $\rho < 0.01$.

Table 5. Discriminant validity of constructs.

Constructs/latent variables	1	2	3	4	5	6
1. Innovation orientations	**0.523**					
2. Market saturation	0.004	**0.630**				
3. Idea generation	0.505	0.052	**0.666**			
4. Concept testing	0.000	0.069	0.182	**0.649**		
5. Testing and design	0.069	0.099	0.278	0.242	**0.911**	
6. Premarketing	0.026	0.045	0.135	0.121	0.175	**0.726**

Note: Diagonals (in boldface) represent the average variance extracted (AVE), while the other entries represent the squared correlations.

indicated that the f^2 effect size for the moderator was found to be medium.

$$f^2 \text{ Innovation Orientations} \times \text{Market saturation} \rightarrow \text{Concept Development} = \frac{R_i^2 - R_e^2}{1 - R_j^2} \frac{0.418 - 0.250}{1 - 0.418} = 0.289$$

Predictive relevance Q^2 was also performed to ascertain the predictive relevance of the interactions' effect on concept development. Stone-Geisser's Q^2 refers to predictive sample reuse technique developed by Stone (1974) and Geisser (1974), using blindfolding procedures (Tenenhaus et al., 2005) to obtain the cross-validated redundancy (CV-Red) and cross-validated Communality (CV-Com), which is readily available in SmartPLS. Stone-Geisser's Q^2, widely used to provide a prediction of the endogenous latent variable's indicators in a structural model, represents a synthesis of function fitting and cross validation, which fits the PLS–SEM path modeling approach "like hand in glove" (Wold, 1982).

Following the blindfolding procedure set in SmartPLS, an omission distance was specified in accordance with guidelines of which the omission distance number should not be the division of the number of observation used in the model estimation and the distance must be an integer (Hair et al., 2014). Hence, with 71 observation obtained in this study, an

Table 6. Results of higher order construct and its associations with first-order latent variables.

Relationships	*M*	*SE*	β	R^2	τ
Concept development → Idea generations	0.796	0.052	0.782	0.612	15.193
Concept development → Concept testing	0.792	0.091	0.787	0.620	8.775
Concept development → Testing and design	0.811	0.055	0.819	0.671	14.734
Concept development → Premarketing	0.670	0.051	0.616	0.379	11.877

Note: *SE*: standard error.
τ values were all significant at $\rho < 0.01$.

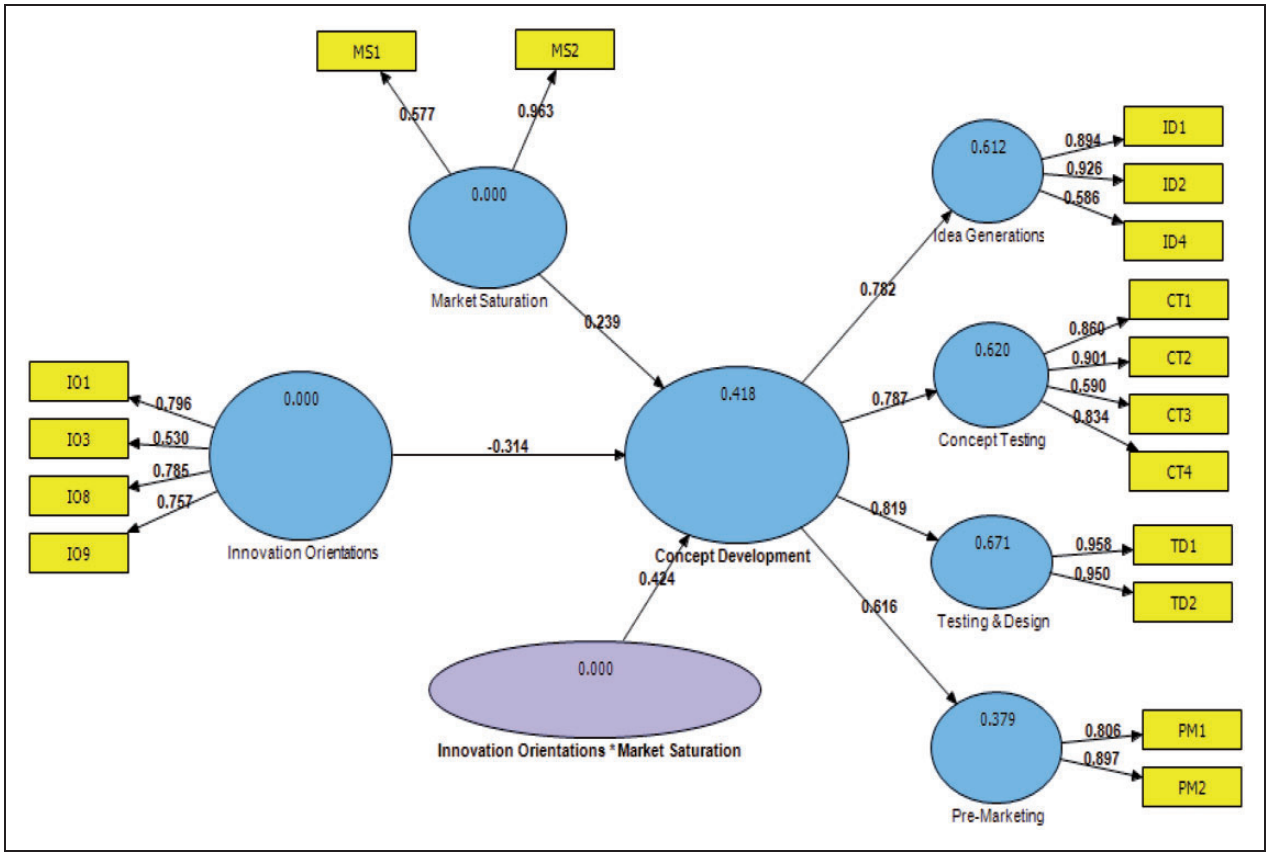

Figure 4. Results of structural model testing.

omission distance of $D = 5$ was chosen, and the endogenous construct of concept development was specified to be analyzed in blindfolding. Based on the blindfolding algorithm analysis performed in SmartPLS, the predictive relevance Q^2 of innovation orientations and market saturation (as direct exogenous variable), and the moderator (as indirect latent variable) on concept development obtained a value of 0.156, indicating above zero, thus providing support of predictive relevance in regard to the respective path models.

In order to ascertain the effect size of the path models, q^2 effect size was also assessed. The base formula for the calculation is similar to f^2 deployed earlier, where, instead of the R^2 values, the CV-Red Q^2 values of the predictive relevance were used as inputs. The summary of the results based on the computations are shown in Table 8.

Discussion and conclusion

Although this study sets out with the aim of investigating the moderating effect of market saturation toward the link between innovation orientation and concept development, the structural model put forward in this paper contributes meaningful insights to the body of knowledge in hospitality research. The molecular second-order construct of concept

Table 7. Results of path coefficients, standard errors, and τ—statistics.

Interaction path in moderating research model	Path coefficients (β)	Standard errors (*SEs*)	τ—statistics	ρ Value
Innovation orientations × Market saturation → Concept development	0.424	0.223	1.906	0.03**
Paths in research model				
Innovation orientations → Concept development	−0.314	0.133	2.356	0.01*
Market saturation → Concept development	0.239	0.135	1.775	0.04**

Note: A nonparametric bootstrapping applying 5000 replications as recommended by Hair et al. (2014) was performed to obtain the *t* statistic values of path coefficient and standard errors (*SEs*).
*Significant at $\rho < 0.01$. **Significant at $\rho < 0.05$ based on a single-tailed test.

Table 8. Results of the q^2 effect size.

Interaction paths in moderating research model	β	Q^2_{included}	Q^2_{included}	q^2	Effect[a] size
Innovation orientations × Market saturation → Concept development	0.424	0.156	0.099	0.07	Small
Paths in research model					
Innovation orientations → Concept development	−0.314	0.156	0.049	0.13	Small
Market saturation → Concept development	0.239	0.156	0.150	0.01	No effect

[a]In accordance to Cohen's (1988) f^2 effect size assessments of 0.02 (small), 0.15 (medium), and 0.35 (large).

development set forward in this study reflects a positivist notion as it put together an empirically testable theory to establish a new scientific paradigm that can be a valuable alternative reference for researchers in a field alike. To date, although the "priori knowledge" of PIP models from various restaurant sectors have been well documented in literature (see Feltenstein, 1986; Jones, 1996; Mifli, 2004; Mooney, 1994; Ottenbacher and Harrington, 2007, 2008), this study contributes further to the "posteriori knowledge" by revealing the significant components of concept development along with its activities that remain elusive in hospitality research.

Among the four components, our findings show that idea generations, concept testing, and product testing and designs are important dimensions in managing menu innovation as evidence of their respective models' predictive accuracy shown in Table 6 and, although, premarketing has a slightly lower value at 37.9%, they all are significant at $P < 0.01$. Unlike previous studies (Jones, 1996; Mifli, 2004; Ottenbacher and Harrington, 2007, 2008) that used qualitative methods to identify the critical components of PIP along with its associated activities in different research setting and restaurant sectors, this study, as shown in Table 3 and Figure 4, has empirically substantiated the dimensions of concept development in the context of foodservice management. Interestingly, earlier results of the EFA have pointed none of the five predictors of business analysis associated along the menu innovation process of chain restaurants (see Table 1). In previous studies, the dimension of business analysis has been identified and ranked as one of the critical components to be adhered to when engaging into new menu innovation (Feltenstein, 1986; Jones, 1996). Yet, our findings discovered otherwise. It is therefore plausible to conclude that such activities of business analysis may have been carried out much earlier at the chains' headquarters or still executed within the concept lead time, but in separate hierarchical processes. Hence, future research in this field alike is encouraged to consolidate this proposition.

This study, therefore, has extended existing theory of PIP in the foodservice industry with a particular reference to chain restaurants by incorporating the theory of innovation orientations along with market saturation, as a moderator, in the structural theory that is lacking in hospitality research. In particular, as far as it is known, such a structural model has never been forwarded in a statistical perspective and empirically tested. Thus, the study believes that it has made a valuable contribution to theory by developing and substantiating the hierarchical concept development construct, linking both domains of radical and incremental innovation orientations that are known to spur different direction of NPD, and assessing the

impact of market saturation that moderates menu planners strategy on new menu development. With this structural theory put forward, this study provides a holistic view of what could be a close-to-reality about managing menu innovation. Furthermore, this study has provided a timely analysis of the effect of market saturation on menu innovation as most global consumer foodservice markets have been long reported to reach its maturity level (Feltenstein, 1986; Jones and Wan, 1992).

In the context of innovation management, innovation orientations, either radically or incrementally driven, are strongly correlated to PIP. Previous empirical findings have concluded that most NPD are incrementally driven, but they are mostly from engineering and manufacturing industries (Abernathy and Clark, 1985; Booz, Allan, & Hamilton, 1983). Yet, the only known research works in hospitality industry that are related to innovation orientations in menu development are the works of Jones and Wan (1992). In Jones and Wan's (1992) study, they have highlighted four different types of product innovations based on the UK foodservice industry. In this study, they conclude that "product newness" that is totally new in the market is rarely practiced in this industry, instead the act of "copy-cat" or "me-too products," which is a term they used to denote the characteristics of incremental product orientations, appears to be the most pursued strategy by industry practitioners when managing menu innovation. Due to this paucity of theoretical support, our findings appear to provide some evidence of "copy-cat" acts when the coefficient value of the interaction variable on the criterion variable (concept development) depreciates slightly to $\beta = -0.314$ from $\beta = -0.338$ of the linear relationship (excluding the moderating variables). Although these results can be argued to be inconclusive, as the evidence of radical orientations remains in force at 99% confidence level, we posit there are acts of "copy-cat" occurred, though minimal. This is because of the nature of market saturation that implies similar development of product concepts and features is abundant within the marketplace (Hashimoto, 2003).

Therefore, this discovery points to our understanding of innovation orientation in menu development in several ways. First, our study provides valuable insight into the issue of radical versus incremental innovation orientation in NPD. Over the years, radical innovation orientation, which is commonly associated with transforming new knowledge to the development process with the expense of killing existing one, is noted to be rarely implemented (Abernathy and Clark, 1985; Booz et al., 1968, 1982; Jones and Wan, 1992). The extant studies indicate that a large number of food-related products developed globally are not new to the world. Instead, product line extension, also known as incremental product orientation, appeared to be the strategic choice adopted by many firms simply because it presents a relatively risk-free development and require limited resources and "know-how" (Samli and Webber, 2000). While these previous studies are based from the manufacturing and engineering industries with the exception of Jones and Wan (1992), this present study extends further into this theory in the context of foodservice industry. As stated earlier, our findings appear to support in Salavou and Lioukas' (2003) study, which they found significant evidence of entrepreneurship domains in managers' decision-making process. Therefore, from a practical perspective, the results obtained imply that with medium forces of market saturation ($f^2 = 0.289$; Cohen, 1988) on menu planners' decision making in managing menu innovation, radical product innovation orientation remains steadfast and still being relied upon as opposed to the theory of managing incremental product orientation in a stable and predictable market (Cunha and Gomez, 2004; Drucker, 1985; Feltenstein, 1986; Iansiti, 1995).

Second, to substantiate further the "law likes generalization" of the present study's structural theory, the result obtained from the Stone-Geisser's Q^2 value analysis (see Table 8) confirmed a small effect size ($q^2 = 0.07$) of market saturation in menu planners' radical product innovation orientation. Ensuring that new menu development embeds with necessary new knowledge innovated in accordance to novelty scale. With this chosen strategy for menu innovation, management in the foodservice industry needs to understand what knowledge to invest and pursue those novelty ideas ahead from rival competitors. Our results suggest that menu innovation of chain restaurants in the region of Klang Valley is radically significant. Yet, "me too" or "copy-cat" product is not new in global foodservice industry, a strategy that is well suited by new entrants to penetrate and imitate those rising menu concepts in a given marketplace. In this study, the sign of such business strategy found to be minimal and the study conducted by Euromonitor International about the consumer foodservice market in Malaysia only came about in early 2000. Thus, though such studies provide insights into the industry's stage of consumer market, its saturation level is arguably not to the same level like those occurring in developed countries, such as in the UK and USA. This could be one of the reasons our empirical results appeared to be contrary to what were found by Jones and Wan's (1992) study. Nevertheless, we strongly believe that this study can also serve as a reference to foodservice management across the globe with similar

background of consumer foodservice markets, particularly, in the Asia Pacific regions.

Finally, the deployment of the concurrent assessment of market saturation as moderator on the relationship between innovation orientations and concept development sheds light to the realism of managing menu innovation. To date, most global consumers' foodservice markets are already at the stage of saturation due to vibrant transformation of socioeconomic development in major cities across the globe. In light of this phenomenon, the study provides valuable insight into actual engagement of menu innovation that proactive management ought to be carried out through continuously gathering and using information from the surrounding business landscapes. To avoid further depletion of market shares, foodservice management not only must proactively seeks customers' latent needs but also find ways to engage in research and development within the organization along with food purveyors in order to contribute to and facilitate the radical menu innovation.

To conclude, most research has limitations, and our study is no exception, as the observation of the respondents did not represent the entire spectrum of the chain companies that exist in Malaysia. Out of the five restaurants chain sectors, only FSR and cafés and bars were successfully interviewed and entered as data in this study. Therefore, the fast-food chains, which have the highest number of outlets and are known to have standardized and consistent product development, were excluded due to their preference not to participate in this study. The other two chain companies were street stalls/kiosks and 100% home delivery/takeaways with a total population that is quite small, and therefore, their exclusion is not an issue.

Apart from this, some of the respondents who participated in this study represented international chain companies such as Starbucks, Pizza Hut, Shakey's, Sushi King, Dave's Deli, Four Season, Coffee Bean and Tea Leaf, Gloria Jean's, and Dome to name a few. Although, some local companies hold the right of being the master franchisees for a few brands here in Malaysia, we believe that product development or innovation is still largely being developed at the corporate headquarters. Therefore, if there are any changes of NPD, these are likely to be minimal, largely corresponding to the sociocultural food preferences, acceptances, and habits, as product standardization is essential to brand image of chains' ownership. With this notion, the findings in this study cannot be generalized as a universally acceptable paradigm. Yet, it would be useful for future researchers to replicate our structural model to do cross comparisons between international and local brand ownerships or within the restaurant sectors.

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