Quality culinary workforce competencies for sustainable career development among culinary professionals

Nornazira Suhairom*, Aede Hatib Musta'amal, Nor Fadila Mohd Amin, Yusri Kamin, Nur Husna Abdul Wahid

School of Education, Faculty of Social Science and Humanities, Universiti Teknologi Malaysia

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ABSTRACT

Competencies are vital factors that provide an incredible impact on individuals' career sustainability. However, the lack of guidelines has made it difficult to define and measure these competencies. This study attempted to identify important competencies that are deemed essential for culinary professionals in the hospitality industry. The qualitative research design composed of document analysis and interviews with culinary experts in Malaysia. The qualitative data were used to form the framework of the Star-Chef Competency Model, which consists of six identified competency constructs. The compilation of the identified competency statements was fully utilised in the development of the competency model and is believed to be a very helpful guidance for culinary professionals in Malaysian hospitality industry. Findings provide culinary educators and trainers with useful insights on important competencies that need to be emphasized in the training and education of professional chefs.

1. Introduction

Culinary tourism presents promising demands for the employment of competent and well-prepared dedicated chefs, administrators and managers in the areas of hotel management, food service, restaurant operations, food manufacturing, catering and hospitality-related fields to provide the best food and service for guests and consumers (Rozila and Azimin, 2011). González & Andrade (2013) stated that the chefs' professionalisation is vital towards the country's economic development. An increased emphasis on food sophistication offers immense challenges for culinary professionals to deliver a customer-valued and outstanding dining experience, especially in top rated hotel establishments. In addition, it is also difficult to maintain their forte for the purpose of withstanding pressures of the kitchen environment. These are regarded to be the most critical element in workplace behaviour because working in a commercial kitchen is always associated with a physically and psychologically stressful work environment (Roosipõld, 2011). Chef's profession is arduous and demanding, requiring culinary professionals to master both scientific and artistic innovation (Zopiatis, 2010). Emphasising the competencies of a pastry chef, Boyle (2012:2) stressed the expectations anticipated from the chefs,

A plated dessert is the measure of a pastry chef. The arranging of dessert components on a plate – a slice of cake, a quenelle of sorbet, a twirl of tuile – is an art form and one that requires a combination of technical skill, a sense of timing and an eye for design.

In order to produce a culinary masterpiece, which is known as Chef-d'oeuvre in the culinary world, the combination of technical skills, along with time management and creativity are needed. Chef-d'oeuvre is a stroke of genius that reflects the stunning success of a chef (Symon, 2004). The same notion regarding the important competencies held by chefs has also been highlighted in a famous quote in the culinary world by Briffault (1846) in terms of appreciating the value of desserts in a meal experience:

The desserts crown the dinner. To create a fine dessert, one has to combine the skills of a confectioner, a decorator, a painter, an architect, an ice cream manufacturer, a sculptor, and a florist. The splendour of such creations appeals above all to the eye – the real gourmand admires them without touching them.

Aron (1975:150), as cited in Zopiatis et al., 2011 stated that,

Chefs are not an employee in the common meaning of the word, but a practitioner, an artist, a fabricator.

Chefs must personify a wide range of skills that represents several job characters. Smilow & McBride (2010) shared their strong beliefs that a passion for food possibly could be transformed into a career of a lifetime. Cooking is the main activity in the kitchen, but being a chef is much more than just the cooking. Professional cooking and commercial

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kitchen operations demand a quality workforce with skilful talent, great personality, and strong determination towards the culinary arts as a profession (Wan et al., 2017; Brien, 2010; Kang et al., 2010; Woolcock & Ferguson, 2006). Quality of the workforce must be regardless of gender (Bartholomew & Garey, 1996; Harris & Giuffre, 2010a; Harris & Giuffre, 2010b) and education and training (Swift et al., 2018; Cullen, 2010; Mcdermott, 2011). Symons (2004) emphasized that cooks and chefs exist behind every occasion and foods served are the true evidence of their hard work. Many examples from the extant literature focus on *what* their creation has been: the meals, foods, recipes and *how* they cook: the methods of preparing meals. However, there is too little emphasis on *who* these cooks and chefs are. These people remain in the background despite their contribution to the society's civility and culture. As mentioned by Wood (2012:132),

The whole of 'foodie' culture revolves, of course, around chefs and yet remarkably little is known about chefs as an occupation, nor the aesthetic values that drive the chefs

Zopiatis (2010) highlighted the need to explore the knowledge, skills and abilities of a specific job classification such as "Chef". Cutting edge models of competencies for the culinary profession demand state-of-the-art competency sets. However, studies exploring culinary professionals' competencies are scarce. The culinary profession has not been able to keep its pace with other occupations' advancement in human resource development. Thus, identifying work-related competencies particularly in the context of the growth of the culinary field is timely and important. The purpose of this study is to identify competencies that are perceived to be vital to the culinary professionals, especially the young chefs in the industry. From this, the research question (RQ) that guides the present study is: What are the competencies for superior work performance in the culinary profession? This RQ was answered with competency identification and development of a competency model for culinary professionals.

2. Literature review

2.1. Work performance

Earlier in the early 1970s, McClelland (1973) contended the ability of accustomed academic examinations in predicting work performance of life success. Thus, this emerging issue has initiated the pursuit for the underpinning philosophy and tools which is reliable in predicting workplace efficacy (McClelland, 1998). Over the years, concerns towards the importance of competencies have become remarkable especially in the area of human resource development practices (Simpson, 2002). Now that the world of work has undergone tremendous changes and development, people has realized the importance of individual work performance towards organizational performance. Choe Peng Sum (2010) describes three assets of todays' hospitality environment that requires responsiveness of the current hospitality organizational leaders, namely the companies, employees and customers. Employees are one of the most vital organizational assets. Producing a dedicated workforce that is able to meet the organizational strategic goals should be the focus of organizations. Human resource management faced new challenges as their practices have been redirected to provide the right people for the right job.

2.2. Individual work performance

Organizational quality is much dependent on the quality of the workforce (Sanghi, 2016) as well as the identification of critical needs and resources for the changing workplace (Society of Human Resource Management, 2008). These two aspects are important for todays' contemporary hospitality and tourism industry. The industry are labor intensive, employing a wide variety of individuals, each having a unique experience, skills sets, and motivational pattern. Thus, the challenge for the human resource management is to manage the human capital in

effective manner so that individual performance can be well-managed (George, 2008). According to Koopmans et al., 2014 and Viswesvaran (2001), individual performance is determined by the person's skills and capabilities. Competencies are further divided into two categories of performance, which are the task and conceptual performance. Task performance is defined as technical tasks which are the central of a job, which distinguish one job from another. Conceptual performance is defined as a set of behaviors which upkeep the livelihood of organizations, along with the social and psychological environment where the technical core is functioning. Scholl (2003) proposed two ways in measuring individual performance. Firstly, performance can be measured through processes or behaviors. By this means, the role expectations rely on the adhered procedures, approaches and the planning of work accomplishment. Individuals are not held responsible for outcomes if they already follow the standard operating procedures. Additionally, another way to measure work performance is by looking at the results where the employees are liable to carry out the procedures on their own. Employees are responsible to ensure they are working towards meeting the anticipated schedules, sales quotas, targeted income, or projected profits.

2.3. Competencies for superior work performance

Competency studies have developed significantly since the pioneering work by David Mc Clelland in 1973. The concept of competency has been discussed thoroughly in literature pertaining to human resource management and occupational and organizational behaviour (Boyatzis, 2015; Shoop et al., 2015 Perhaps the most basic conceptions of competency are skill sets that should be inherent in individuals to perform a detailed job adequately. Competency is a skilled performance required by particular standards under specific circumstances (Armstrong & Taylor, 2014). Competency researchers (Sanghi, 2016; Shoop et al., 2015; Bissett et al., 2010 defined a competency as knowledge, skill, ability, or personal characteristic. Competency could also be a constellation of these attributes; a combination of necessary knowledge, skills, attitudes and ability required for an individual to perform a job successfully and efficiently. Nevertheless, many recent studies reported in the literature suggest that competencies can be best defined as a cluster of individual behaviours that lead to superior results in one aspect of a job. Correspondingly, Boyatzis (2015) and Lucia & Lepsinger (1999) stated that competency is an underlying characteristic of individuals that allows them to deliver superior performance in a given role. Competencies are conceptualised as measurable patterns of knowledge, skills, abilities, behaviours, and other characteristics (KSAOs) that differentiate high from average performance. Competencies are the skills, traits or behaviours that distinguish the best from the rest in an organization. Although the definition appears to vary widely due to its broad background, competencies have been used in many contexts (Wang & Xu, 2017; Takey & de Carvalho, 2015, Lambert et al., 2014 and Lee, 2010).

Boyatzis (1998) has coined the term competencies, reflecting his perspectives on individual differences at work. Boyatzis (1998) hypothesized that people varies in certain aspects of competencies, and consequently build up a rich psychosomatic depiction of a person in predicting and explaining behavior. These competencies were further categorized into threshold and differentiating competencies. Threshold competencies are those clusters of behavior that people need in order to get the job done, they are the minimal skills needed to carry out tasks associated with a given position. The differentiating competencies are the aptitudes that set star performers apart from those who are average performers (Bruri Triyono, 2012; Daud and Omar, 2010; Konigova, Urbancova, & Fejfar, 2012). Several studies use different terms such as superior competencies (Cockerill and Schroder, 1995), distinguishing competencies (Ryan et al., 2012; Steiner & Hassel, 2011) or exemplary competencies (Dubois et al., 2004). Threshold competencies can be defined as the minimum requirements of a job. These are the units of

behaviour performed by job holders but not considered to be linked to superior performance. High-performance competencies were described as the behaviours that are associated with employees who perform at a superior level (Lee, 2010). While several literatures addressed the different nature of competency requirements, it can be summarized that quality workers need to have both strong technical and non-technical competency (Medina, 2010).

2.3.1. Technical competency

It was found that technical competency and individual work performance is related to each other. Employees with strong technical competencies are able to perform their job well. According to Stasz (2001), technical competency refer to specific skills needed in an occupation and may include references to academic skills or to knowledge of certain tools or processes. Technical competency are often codified in job descriptions or industry skill standards, especially in certified or licensed occupations and measured through standardized assessments. Similarly, technical competency are related to individuals' specific field of study, preparation or occupation (Medina, 2010). In the job market, experience and hands-on training hold exquisite values that are irreplaceable. Unswerving involvement is needed to improve the technical knowledge in the field of endeavor so that skills are constantly improved (Johnson et al., 2005). Consistently, Medina (2010) affirmed that every workers needs to constantly upgrade knowledge in their fields because they evolve constantly as well.

2.3.2. Non-technical competency

There are many different definitions of non-technical competency. UNESCO (2011) provides the definitions which include these six elements of skills such as basic/fundamental (literacy, technology), people-oriented (customer service-driven, communication), conceptual (managing resources, gathering information, problem solving, critical thinking, innovative thinking, creative thinking), personal attributes (responsibility, good attitude, attentiveness, responsiveness, understanding), business (marketing, risk-taker, enterprise) and community (civic, citizenship). There were quite numbers of researches that addressed the importance of non-technical competency, especially among graduates. Non-technical competency, which also regarded as employability skills, generic skills, general skills, core competencies as well as essential competencies (Ahmad Nabil et al., 2011) such as personality, attitudes, communication skills, problem solving, organizational management and decision making skills are the key factors that will enhance the value of an employee (Ahmad Rizal et al., 2008). Kaur & Kaur (2008) in their study found seven constructs of employability skills that are required for graduates from the perspectives of employers which are problem solving; human (interpersonal and teamwork); personal organization and time management; information, communication and technology; leadership; and communication skills. Besides identifying the perception of employers concerning the employability skills needed in the job market, the study also addressed graduates' perception of the employability skills that they currently possessed. The findings show that top management personnel in the industry place high expectations for the entry-level workers' and graduate's competencies.

2.3.3. Personal quality

According to (Marrelli et al., 2005:537), from the views of experts panels in competency field, personal quality such as traits and personality characteristics "may be required for or may influence effective performance". Thus, the inclusion of personality characteristics in the development of successful competency model was proposed. Leung & Law (2010) found that personality research, especially in the field of hospitality and tourism is prominent because human relations are central to tourism and hospitality. Different personalities display different reactions to the same task. The most prevalent personality trait model is the Five-Factor model. It also known as the Big Five model,

which categorizes a large number of traits into five groups comprising Emotional Stability, Extroversion, Openness, Agreeableness, and Conscientiousness. Several studies (Rothmann & Coetzer, 2003; Peltokangas, 2014; Schmitt, 2014) have demonstrated the role of personality characteristics towards work performance using the dimensions of the Big Five model. These studies supported the importance of personal quality towards enhancing the quality of work performance.

Employees with good social values tend to put the highest commitment to the job and holding the job responsibility in a serious manner. For instance, a study by Nabil et al., 2011 found that there are four characteristics of worker that is desired by employer in the industry which are: manifestation of interests towards the job, punctuality, able to work efficiently and determination. Accordingly, Heslin (2005) suggested individual factors such as individual personality are likely to be associated with the relative salience of objective and subjective criteria of career success. Several studies also provide detailed information on the development of measures for personality characteristics which underpin performance on key job competencies critical for employees, such as in (Naemi et al., 2014; Nikolaou, 2003). Personality measurement provides mechanism for organizations to select and identify employees that fit well to the job.

2.3.4. Physical state

Individual performance at workplace is much related to their physical state. This element contributes to the commitment, positive cognition and mental alertness among employees (Hills & Argyle, 2002). The Mayer Committee (1992) in their report Putting General Education to Work: The Key Competencies Report (1992) pointed out that motor skills (dexterity) and health (physical fitness) among the key competency performance. Technical workers must meet the requirement of physiological demand necessary to perform their task at workplace. Extended engagement in a focused intense practiced activities (Anders Ericsson et al., 2007) and deliberate professional practice (Khan & Ramachandran, 2012) helps in developing a superior expert performance. For chef's profession, the importance of physical state is acknowledged. Cooking in the commercial kitchen requires an agitated physical activity and full compulsion towards the physical ability of a person. As their routine job activity are closely related to ability to stand for long periods of time and working for long hours at supersonic speed (Balazs, 2001; Mcdermott, 2011), excellent amount of dexterity is required.

2.3.5. Self-Concept

The issues of stressful working condition and heavy workloads were persistent within the culinary profession. Several studies shows that being a good chef is the ambition of many employees, however, negative issues that persevered in the profession degraded their job motivations (Hinterstoisser, 2011; Ko, 2010). There are two elements of self-concept widely discussed which are the attitudes and values for job-related requirement. A strong self-concept towards work environment helps the culinary professionals to form more realistic expectations for the job. Employees who possess a good self-concept for the profession will have more career confidence, thus, demonstrate willingness in championing any job-related task (Ahmad Rasmi & Ahmad Puad, 2013). Kang et al., (2010) and Robinson & Beesley (2010) also mentioned about absorption with the work task among employees who can overcome job stress effectively. Indeed, these studies highlighted on the importance of values and attitudes among employees towards their job. Employees who appreciated their career consistently engaged and committed in bringing out the best for the job.

2.3.6. Motives

Motives are unconscious thoughts and preferences that drive behavior. Motives are the elements that an individual consistently thinks about or wants that stimulate action. Motives are the element that drive, direct and select behavior toward certain actions or goals.

Motives also present recurrent thoughts that drive the behavior (Spencer & Spencer, 1993). In the evolving labor market, employees increasingly need competencies in managing their career. Obtaining and retaining a job require continuous development of personal and professional competency targeting at the innate capabilities (Akkermans et al., 2012; Francis-Smythe et al., 2013). Some authors in this respect looked at the effective behaviors of top talents in the profession, scrutinizing how these people remain competitive in the ever-challenging work environment. These studies suggested that motives affected how people conceptually framed their positions and future in the profession (Ericsson et al., 2006) (Getha-taylor et al., 2012). Apparently, employees who demonstrate high levels of career motives will effectively setting their own career target and striving towards them.

2.4. Competencies for culinary profession

Globally, culinary profession is observed as one profession that is labor-intensive and dynamic in the diversified career market. For the four consecutive years (2012–2015), the annual Talent Shortages Survey reported that skilled trade workers particularly in culinary art field (chefs, bakers and butchers) were among the hardest job to fill in (Manpower Group, 2016). Ironically, the rapid growth of the tourism industry failed to orchestrate with the employment issues. Skilled worker scarcities, employee deskilling, high turnover rate in hotels sectors are examples of internal employment glitches in Malaysia (Ahmad Rasmi & Ahmad Puad, 2013; Hazrina, 2010; Hemdi and Siti Zuraini, 2010; Zuraini et al., 2009). Similar issues were confounded by other countries such as Cyprus, Korea, France, Europe and United States (Balazs, 2001; Hansford, 2011; Self & Dewald, 2011; Zopiatis et al., 2011). The industry, world-widely has confronted this complex problem for ages. While more talents for the new pool of workforce are being recruited, the rate of attrition or skill wastages either before completion of the apprenticeship or soon after are high (Robinson & Barron, 2007).

The emergence of gastronomy which is defined as a study of food and culture, with a particular focus on gourmet cuisine has proliferated new landscape in the hospitality and tourism industry (Mohd Amin et al., 2010; Salehuddin et al., 2009). The chronicle development of culinary has created over-indulgence pool for job employment among young culinary buds. These days, culinary professionals have to be more than just a good cook. As a consequence, culinary professionals, in their turn, scuffles towards meticulously imprint the seal of their genius upon their culinary creations. In professional cookery, the fusion of various knowledge and skills is the key for career success. Every professional chef shared different success story as the reach of successful chefs is poles apart from one and another (Gergaud et al., 2009; Johnson et al., 2005). A person has to start from the beginning and eventually, able to establish a successful career after years of working in the culinary field. Through times, there are people who survived and succeed along the rough journey (Ruhlman, 2006). Nonetheless, as mentioned by (Balazs, 2002), the recipe for success of great chefs largely depends on the roles they played and the constellation of their competencies while working in the kitchen.

As one of the most challenging professions in the hospitality and tourism industry, chefs are recognized as culinary professionals who are responsible in maintaining the high quality of foodservice in the hospitality related operations. A chef have to be all-rounder person, mastering every aspect of the food service operations, from preparing raw ingredients, fulfilling guest orders until managing the cooks under their supervision. Chefs must possess advanced culinary expertise and food knowledge; they are more than cooks in a way they are required to possess planning and management skills, perform culinary personnel training and supervising responsibilities as well as coordinate food-related departments for hotel culinary production. It is unquestionable that superior chefs must hold a vast "knowledge, skills and abilities" – competency– in order to perform the best in the industry. According to
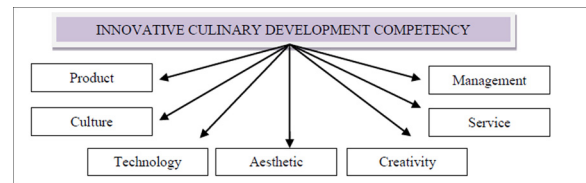

Fig. 1. Innovative Culinary Development Model by Hu (2010).

Zopiatis (2010), chef profession encompasses scientific mastery as well as artistic innovation. Being a chef is a profession that combines creative art, science and business.

From the literature review, the definition for culinary competencies are varies. Competency in culinary includes attributes that equipped successful culinary professionals such as creativity, culture, aesthetics, technology, products, service and management (Hu, 2010). Findings from Hu (2010b) proposed that technology element should present in culinary competencies. As demonstrated in Fig. 1, the model of innovative culinary listed several criteria of technology competencies, including the use of technology to maintain food freshness, to increase the speed of cooking method as well as to produce better quality of food.

Alternatively, Mohd Salehuddin, Mohd Hairi, Muhammad Izzat, Salleh & Zulhan, (2009) proposed that chefs nowadays must have an array of skills and to-be knowledgeable in vast area of food such as science and technology in the food preparation, food consumption and marketing in order to meet the needs of the industry. A study by Dayang Suhaila (2003) among catering students in Malaysian technical schools demonstrated that students hold negative attitudes for science and nutrition topics of the study. Catering students were found to have lack of awareness on the importance of science and nutrition element in the catering curricula. This is contradictory to the fact that knowledge in food science is one of the critical aspects in culinary competencies. Science in culinary might contribute to the better competencies in culinary profession (Bissett et al., 2010). Ruiz et al., 2013 also suggested that in order to optimize the traditional method of cooking technique, science and technological aspect in culinary field should be explored thoroughly.

According to Tittl (2008) culinary careers encompassed the combination of both competencies in the aspects of culinary and science. A professional culinary artist must have a great knowledge concerning variety of cooking technique as well as the science behind the food creation. Prestigious fine dining restaurant earned their reputation by providing outstanding menu items that amused their guests with an exceptional taste, texture and food presentation (Shahrim, 2001 and Chalmers, 2008). Several constructs of culinary competency were identified in previous studies, as shown in the Table 1. Birdir & Pearson (2000) identified a competency list that focused on the aspect of food research and food management where competent chefs must master the knowledge of recipe development, formulation of ratio, function of each ingredient in the meal, usage levels of food chemicals and the use of food additives in the food products. Whereas, Zopiatis (2010) outlined technical competencies as the critical criteria to be considered as successful chefs. Technical competencies include culinary specific skills such as knowledgeable in the area of food service management, ability to develop menu and recipe as well as expert in culinary flavors. Competencies in leadership and management also considered as vital criteria required for a successful livelihood in the field.

2.5. Conceptual framework

An established theory is that competencies will contribute to work performance because expertise and skills are developed at the workplace (Campbell et al., 1990; Ericsson et al., 1993). Fig. 2 illustrates the competency domains being studied in the current study. Based on the

Table 1
Constructs of competency in culinary.

Author	Country	Dimension of competency	Respondent	Instrument
Bissett et al., 2010	USA	Business and sales, Quality assurance, Product development, Culinary arts, Formula & Nutrition	Practicing culinologist, Research chefs	Questionnaire survey 43 competency statements and focus group
Hu (2010	Taiwan	Seven Innovative Culinary: Culture Aesthetics Technology Product Service Management Creativity	Senior chefs, R&D managers, research chefs	Deep interviews 69 items in seven dimensions
Hu (2010	Taiwan	1. Innovative culinary development: innovative product, culture, management, service, aesthetics, creativity, technology competency	Executive chefs, R&D managers and culinary artists	156 competency items. Delphi and ANP 31 ICD competency
Zopiatis, (2010)	Cyprus	1. Technical (culinary specific) 2. Leadership-management 3. Administrative 4. Interpersonal 5.Conceptual (creative-adaptive)	Chef professionals	1.Focus group 2.Questionnaire consisting of 27 competency items
Birdir & Pearson, 2000)	USA	1. Technical (culinary specific) 2. Management 3. Leadership	Research chefs	1. Delphi method 2.Questionnaire survey

literature (Spencer & Spencer, 1993; Rao, 2010), two important components of a competency model were identified. These are the visible competencies (Technical and Non-Technical), and the hidden competencies (Self-Concept, Personal Quality, Physical State and Motives). Similarly, Koopmans et al., 2011 categorized individual work performance into two main constructs, which are task-performance (focusing on the technical expertise) and contextual performance which focusing on individuals behaviour that support the organisational, social and psychological environment in which the technical core must function.

3. Methodology

Qualitative research design using document analysis techniques and interviews were employed to obtain views within the context of Malaysian culinary settings. The integration of these two data sources allows the comparison and triangulation of rich and relevant data. Document analysis is often used in combination with other qualitative research methods as a means of triangulation. By triangulating data, the researcher attempts to provide 'a confluence of evidence that breeds credibility' (Bowen, 2009). There are six main journal articles that serve as the sources for document analysis as well as six documents on

culinary job descriptions and skills certification in culinary profession. Onwuegbuzie et al., 2012 provided the rationale for utilising multiple sources beyond print or digital documents in qualitative research. The theoretically-driven data obtained from the document analysis needed to be supported empirically through other means. To overcome this gap, interviews are suggested by some authors (Gill et al., 2008; Isidro-filho et al., 2013 as a valid empirical tool to supplement the document analysis.

Purposive sampling of experts produced culinary professionals from the hotel industry and culinary educational institutions as participants. Semi-structured interviews were conducted with nine participants who were purposely selected based on their background in the culinary industry. The current study adopted the "behavioural event interview" (BEI) method as suggested by Dillon & Taylor (2015) to extract important competencies from culinary professionals. The first step of data analysis was performed by reading the transcription thoroughly to investigate emerging issues and probable themes that are relevant to the present study. Second, thematic data analysis was conducted using Atlas.ti to ensure that the data can be reduced to manageable and meaningful codes based on the research directions (Friese, 2014). Subsequently, the analysed data were transformed into an interim
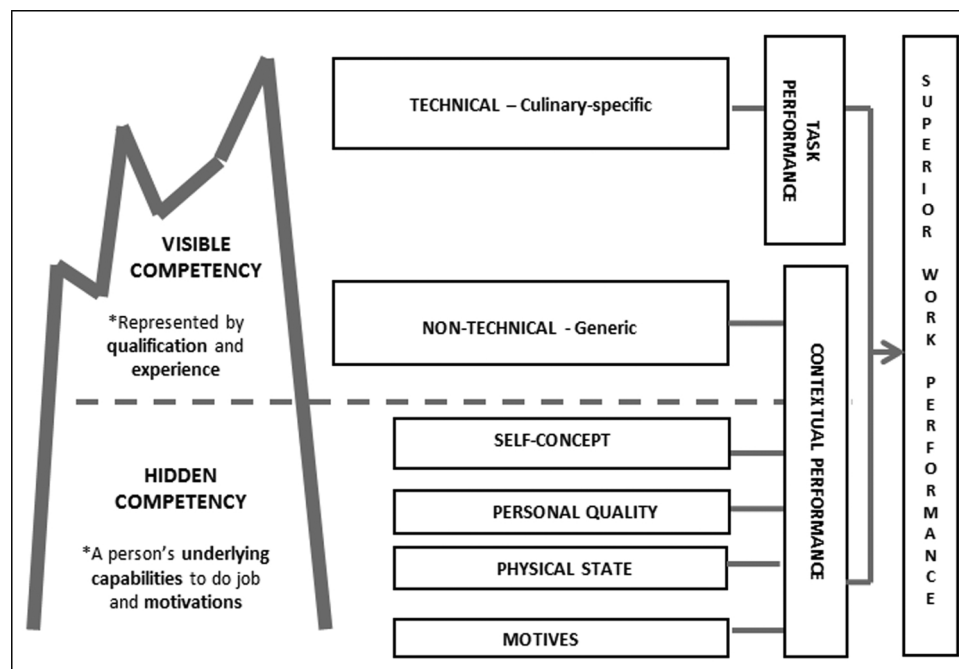

Fig. 2. Domains of Competencies for Superior Work Performance.

Table 2
Document Analysis Matrix.

	Competency	Journal Articles (A)						Skills Standards (B)					
	Documents	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
VISIBLE	**TASK PERFORMANCE - Technical (culinary-specific)**												
	Kitchen operations	/	/	/	/	/	/	/	/	/	/	/	/
	Kitchen & catering service	/	/	/	/	/	/	/	/	/	/	/	/
	Technology	/		/		/	/	/	/	/	/	/	/
	Science	/			/	/	/	/	/	/	/	/	/
	Nutrition	/				/	/	/	/	/	/	/	/
	Research	/					/	/	/	/	/	/	/
	Creativity	/	/	/	/		/	/	/	/	/	/	/
	Innovation		/	/			/	/	/	/	/	/	/
	Aesthetic		/	/		/		/	/	/	/	/	/
	Culture	/	/	/	/	/	/	/	/	/	/	/	/
	Safety				/	/		/	/	/	/	/	/
	Hygiene					/	/	/	/	/	/	/	/
	Quality	/				/		/	/	/	/	/	/
	Costing	/	/				/	/	/	/	/	/	/
	CONTEXTUAL PERFORMANCE - Non- technical (Generic)												
	Emotional intelligence	/	/	/	/		/		/	/			/
	Cognitive intelligence	/	/	/	/		/	/	/	/	/		/
	Social intelligence	/	/	/	/		/			/		/	/
	Professionalism & ethics	/			/			/				/	/
	Leadership	/							/			/	/
	Management	/	/	/	/	/	/	/	/		/	/	/
	Entrepreneurship	/				/			/				/
	Lifelong Learning						/						
	Career						/						
HIDDEN	**Personal Quality**												
	Openness	/					/						
	Agreeableness						/						
	Conscientiousness				/		/						
	Extrovert												
	Emotional Stability	/											
	Physical State												
	Fitness						/						
	Self-Concept												
	Attitude			/	/		/	/		/	/	/	/
	Values	/			/			/			/	/	/
	Motives												
	Sense of worth				/		/						
	Achievement motivation		/										
	Relationship management												

framework. The research design was based on the competency model-ling and validation design based on the approach introduced by Boyatzis (1982), Spencer & Spencer (1993), and Lucia & Lepsinger (1999).

4. Results

4.1. Document analysis

In identifying competencies for superior work performance, an in-depth analysis of the documents was conducted. A list of competencies was constructed, and a frequency table was developed come which comprises the competencies that appropriately represent a superior culinary competence common as shown in Table 2. The thematic

analysis managed to identify six competency constructs, namely Technical, Non-Technical, Personal Quality, Self-Concept, Physical State, and Motives.

Solely synthesizing the documents for quantitative content analysis, visible competency was highlighted as important competency for culinary professionals. As described in the table, competencies related to task-performance (culinary-specific) and contextual performance (generic) appeared in most documents. However, hidden competencies were not common in the documents. As this study is designed to identify important competencies for superior work performance among culinary professionals – it is essential to examine the conceptions of "superior work performance" from the views of culinary industry experts as well as culinary educators. Hence, interviews were conducted to discover those obscure virtues. Findings from interview corroborated the missing information gathered from the document analysis.

4.2. Interview findings

4.2.1. Technical competency

A total of 15 sub-themes emerged from the analysis, which starts with 14 themes (Kitchen Operations, Catering Services and Operations, Technology, Science, Nutrition, Research, Aesthetics, Culture, Creativity, Innovation, Costing, Safety, Quality and Hygiene). The analysis found that the sub-construct of Kitchen Operations comprises two elements, namely 'Mastery of Culinary Techniques' and 'Culinary Products Knowledge-Wise'. Most of the interviewees agreed that chefs must be all-around individuals, particularly in mastering technical competencies. Such competencies are necessary to produce superior work performance even though several competencies are considered basic. It is obvious for chefs to be a cook with extraordinary qualities, and is a person especially equipped with a strong foundation of cooking.

4.2.2. Non-Technical competency

Nine sub-themes identified in the interviews include Social Intelligence, Emotional Intelligence, Cognitive Intelligence, Professionalism and Moral Ethics, Leadership, Management, Entrepreneurship, Lifelong Learning, and Career. Culinary educators highlighted their thoughts on the importance of Non-Technical competencies as an added value along with the Technical Competencies. More importantly, chefs with high performance also displayed several non-technical competencies that help them to perform their best while at work.

4.2.3. Personal quality

The identification of sub-themes for personal quality is guided by the coding developed from the Big Five Personality Model, which are Conscientiousness, Agreeableness, Openness, Extrovert, and Emotional Stability. Most of the culinary educators and high performing chefs agreed that personal quality is one of the most important competencies that must be possessed by culinary professionals to succeed in their career. The following quotes describe the personal quality elements in determining how culinary professionals should behave at work:

They must be hardworking, that is all because culinary and being chefs involve hard work. (CE01)

The traits… "Can do" nothing is impossible, we as human beings have the limitation, but you will never know your limit until you try. (CE02)

4.2.4. Physical state

Physical state refers to the physical ability of an individual to carry out work duties. Culinary professionals who work in commercial kitchen operations are required to meet the high standard of work demands that include coping with a tight schedule, long working hours, and under high pressure. Moreover, their daily operations involve dealing with a high volume of food productions considering that they are the back-of-the-house personnel in kitchen operations. In this study, the majority of the interview participants highlighted the importance of physical fitness in being a competent chef. The work nature requires culinary professionals to work unusual hours and long hours, as revealed during the interview sessions:

Working long hours, pressure, and non-stop cooking (HPC04).

Some people will not be able to stand the long hour of working. It is not an eight-hour job. Sometimes it could be 14–16 hours. Most chefs come to work at 6.30 am until 6.30 pm. Sometimes they cannot go home, and this is what it takes to be a successful chef. (CE01)

Of course, you have to work extra time, be resistant to fatigue. (CE02)

4.2.5. Self-Concept

Self-concept is described as an individual's attitude and values towards occupational preferences. Majority of the interviewees shared their views by stating that culinary professionals who possess self-concept competencies tend to perform the best in their career. Subsequently, the findings show that Self-Concept is important for culinary professionals because attitudes and values towards the profession will drive more positive outcomes in their daily work life.

4.2.6. Motives

Motives are the factors that drive an individual in the culinary profession towards better work performance. Three themes for the Motives emerged from the interview analysis; a sense of worth, achievement motivation, and relationship management. The emerging sub-themes identified from the study include recognition, satisfaction, dreams, job-task fulfilment and relationship with others which are described as follows:

I have a target, vision, and passion. You have to lead your team in the world competition. All good chefs selected from various backgrounds will participate in the competition. This is considered as recognition. 12 years… that was my achievement. Gold medal, award… That is one of my strength. That is what people see as "he is the qualified chef" (HPC04)

Most of the interview participants agreed that motives should be considered to be the underlying components of competencies on the basis that it strengthens the foundation of an individual to believe that the culinary arts is the best profession for them. In addition, most of them agreed that innate aptitudes that are described as "passion, vision, dreams, target" will lead to the highest achievement in the culinary profession. Meanwhile, sense of worth, achievement motivation, and relationship management are the motives that keep them motivated to stay and strive in their profession. Through the convergence of information from these different sources, competencies identified from document analysis and interviews are constructed into an interim framework of the Star-Chef Competency Model. Fig. 3 illustrates the interim framework, which outlines the competencies with specific behavioural indicators.

As illustrated in Fig. 4 and 5, a network view for all competency constructs was developed using a qualitative data analysis tool. The framework plotted in the figure clearly shows the links of sub-constructs with each of the six constructs. More importantly, theoretically derived competency constructs managed to be developed from the document analysis. The draft was then empirically supported by the findings from the interviews. Overall, the focus of the analysis was to develop a list of competencies necessary to achieve superior work performance, which will further reflect the outstanding attributes of the employees in the culinary profession.

4.3. Content validation for the framework of the Star-Chef Competency Model

While document analysis along with the consensus of interview participants resulted in prioritising six competencies with sub-

COMPETENCY FOR SUPERIOR WORK PERFORMANCE		
TECHNICAL: CULINARY- SPECIFIC		
KITCHEN OPERATIONS • Products knowledge-wise • Mastery of culinary techniques	KITCHEN &CATERING SERVICES • Customer service orientation	RESEARCH • Design mindset
TECHNOLOGY & EQUIPMENT • Technology acceptance	CREATIVE • Creative culinary	CULTURE • Culinary culture diversity
AESTHETICS • Culinary aesthetics	COSTING • Cost management	SCIENCE • Scientific culinary
INNOVATION • Culinary innovation	NUTRITION • Nutrition-wise	QUALITY • Quality-commitment
HYGIENE • Hygiene compliance	SAFETY • Safety management	
NON-TECHNICAL: GENERIC		
SOCIAL INTELLIGENCE • Effective communication • Teamwork and cooperation	EMOTIONAL INTELLIGENCE • Responsiveness • Decisive judgment	PROFESSIONALISM AND MORAL ETHICS • Professional expertise
COGNITIVE INTELLIGENCE • Analytical thinking Conceptual thinking	MANAGEMENT • Interpersonal management • Organizational management	CAREER • Self-development • Strategic positioner • Situational adaptability • Virtual collaboration
LIFELONG LEARNING • Learning orientation	ENTREPRENEURSHIP • Opportunity alertness • Business acumen	LEADERSHIP • Developing others • Impact and influence
PHYSICAL STATE		
PHYSICAL FITNESS		
PERSONAL QUALITY		
• PERSONALITY (Openness, Emotional Stability, Conscientiousness, Extroversion, Agreeableness)		
SELF-CONCEPT		
• OCCUPATIONAL PREFERENCES (Attitude and Value)		
MOTIVES		
SENSE OF WORTH • Recognition • Satisfaction	ACHIEVEMENT MOTIVATION • Dreams • Job-task fulfilment	RELATIONSHIP MANAGEMENT • Relationship with others

Fig. 3. Interim framework of the Star-Chef Competency Model: Competencies for superior work performance.

constructs, additional analysis of content validity process with twelve experts was carried out and resulted in further validating the competencies. Specifically, the purpose of content validity process was to obtain subject-matter experts' evaluation of the validity of the competency components (Liang et al., 2018); Carstens & De Kock, 2017; Colburn et al., 2016Competencies listed and suggested from the qualitative phase were rated according to the level of importance using a scale of 0 (Not Essential), 1 (Useful but Not Essential) and 2 (Essential).
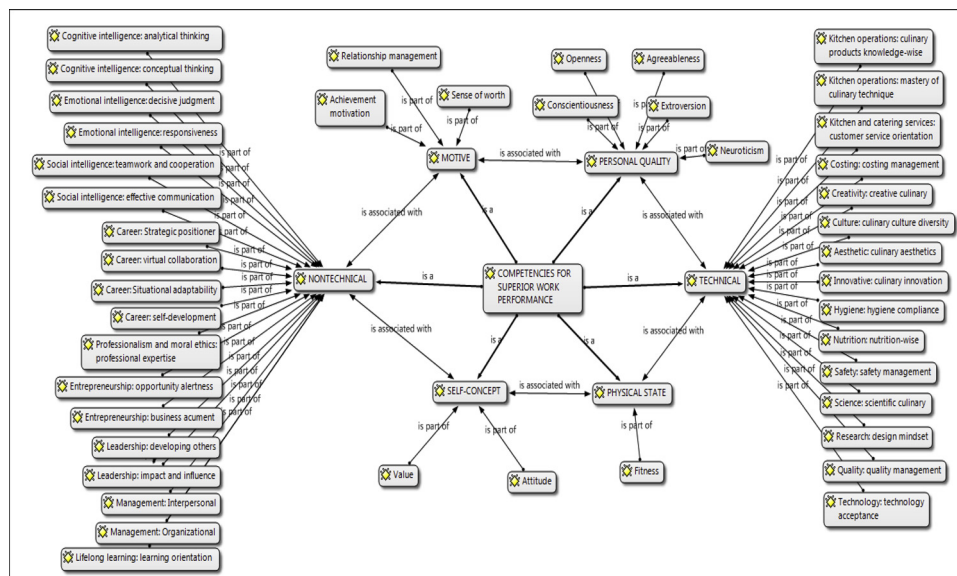

Fig. 4. Network view of qualitative data analysis (QDA) using Atlas.ti.
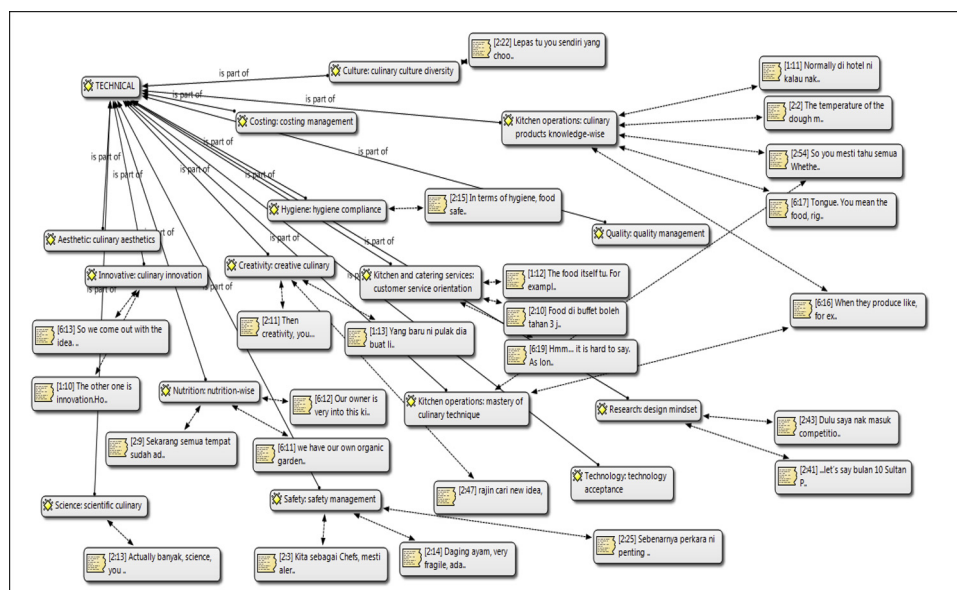
Fig. 5. Example of network view of qualitative data analysis (QDA) using Atlas.ti for constructs (Technical).

Content validity ratios (CVR) (Lawshe, 1975) were calculated based on its formula to indicate the proportion of subject-matter experts (SME) who agree that a particular competency is essential. The value for CVR will be in the range of +1 to -1.

Content validity ratio (CVR) = n_p – N/2

N/ 2

n_p = number of expert panel members who agree the items is essential.

N = total number of expert panels.

Results from the CVR calculation shows that all the competencies are essential for superior work performance. The analysis indicated that all competencies were above the recommended threshold value of 0.56 for twelve panels as suggested by Lawshe (1975). Most of the CVR values for competencies also meet the criteria suggested by Lawshe (1975) which emphasised that a consensus level of more than 0.80 threshold values is desirable in order to accept or reject the list of competencies when using CVR.

4.4. Identification of threshold and differentiating competencies

The next step is to classify the competencies into two categories, either the competencies are threshold of differentiating for an employees' work performance. Experts whom involved in the CVR process were asked to assign ratings for the competencies as Threshold (T) or Differentiating (D). Based on experts judgment, the technical competency is made up of six threshold and nine differentiating competency. Meanwhile, most of the non-technical sub constructs were identified as differentiating competencies except for the construct of Professionalism and Moral Ethics. Physical State is rated as threshold competency. Personal Quality, Self-Concept, and Motives were rated as differentiating competencies.

Experts also agreed that 90% level of mastery the differentiating competency is required for a superior work performance in culinary profession. Overall, there are eight (8) threshold competency and thirty-six (36) differentiating competency in the framework of Star-Chef Competency Model. Results from the subject matter expert evaluations on the identification of Threshold (T) and Differentiating (D) competencies are presented in Table 3.

5. Discussion

5.1. Competencies for sustainable career development

The purpose of this research was to identify quality culinary workforce competencies for sustainable career development among culinary professionals in the context of Malaysia. Valorising human capital within the industry using competency-based approach is achievable through the implementation of competency frameworks which facilitates the identifications of competency sets on the basis of the industry stratagem. Several studies related to chef's competencies were conducted in other countries such as in Cyprus (Zopiatis, 2010), Costa Rica (González and Andrade, 2013, Hong Kong (Hu, 2010; Ko, 2010), United Kingdom (Bissett et al., 2010), and United States (Birdir & Pearson, 2000). The studies provide preliminary views on what is expected from the culinary professions globally.

The integration of document analysis with the interviews for the purpose of building and consolidating resources for the development of the Star-Chef Competency Model managed to effectively yield rich data and insight regarding competencies. Several dimensions and behavioural indicators emerged from the interview analysis was not appear in the skills standards such as emphasis on specific hidden competencies (personal qualities, motives and self-concept). Many general employee competencies are valued across the industry but the current study demonstrates the effort to address specific competencies required for superior performance in culinary profession, especially for those who works in the 4-star and 5-star hotels sector. The framework of the Star-Chef Competency Model is a visual manifestation of the themes that emerged from the interviews and the document analysis that complemented it. Fig. 6 illustrates the final framework of the Star-Chef Competency Model.

5.1.1. Technical competency

The technical competencies in the chefs' profession refer to the set of knowledge, skills, abilities, behaviours, and other attributes that are closely associated with cooking. Culinary-specific competencies are required to ensure a successful career as professional chefs because the profession requires individuals to deal with a substantial number of technical elements. Hence, culinary professionals vying for top spots in the kitchen brigade system must be able to prove that they have outstanding technical competencies (Lee-ross, 1999; Bissett et al., 2010; Zopiatis, 2010The eclectic role of the current culinary professionals

Table 3
Identification of Threshold and Differentiating competencies.

Competencies	Threshold (8 Competency)	Differentiating (36 Competency)
Technical: culinary- specific		
Kitchen operations	Culinary product knowledge-wise Mastery of culinary techniques	
Technology	Technology acceptance	
Culture		Culinary culture diversity
Aesthetics		Culinary aesthetics
Creative		Creative culinary
Innovation		Culinary Innovation
Kitchen and catering services		Customer service orientation
Science		Scientific culinary
Nutrition		Nutrition-wise
Costing		Cost management
Quality	Quality commitment	
Hygiene	Hygiene compliance	
Safety	Safety management	
Research		Design mindset
Non-technical: generic competency		
Social intelligence		Effective communication Teamwork and cooperation
Emotional intelligence		Decisive judgment Responsiveness
Cognitive intelligence		Analytical thinking Conceptual thinking
Professionalism and moral	Professional expertise	
Management		Interpersonal management Organizational management
Leadership		Developing others Impact and influence
Lifelong learning		Learning orientation
Entrepreneurship		Opportunity alertness Business acumen
Career		Situational adaptability Self-development Strategic positioner Virtual collaboration
Personal quality		Openness Emotional Stability Agreeableness Conscientiousness Extroversion
Physical state	Physical fitness	
Self-concept		Attitude Values
Motives		Relationship management Achievement motivation Sense of worth

seems to challenge their abilities beyond the scope of traditional kitchen work, but it is important to note that the mastery of technical competencies remains significant. This qualitative study demonstrated that a culinary professional must have the necessary competencies in kitchen operations: knowledge on culinary products and the mastery of culinary techniques. According to Bissett et al., 2010 areas that need to be mastered by chefs include the application of food products, principles of cooking, production systems, kitchen tools, and equipment and culinary fundamentals. Cheng (2012) and Horng et al., 2008 define culinary as the architecture of taste and involves flavour building as well as the production of particular cuisines. Generally, the responsibility of a culinary professional is to transform the received food orders into appetizing cuisine provided that the food is served with high quality and regarded as pleasing to the eye as well as to the palate.

Furthermore, culinary professionals must be well-equipped with competencies, particularly in the area of kitchen and catering services.

Service quality ensures guest satisfaction towards the dining experience offered by the hotels. Culinary professionals must work as if they are the guests of the hotels and it is expected of them to perceive guests' expectations of their meals. For instance, buffet display arrangement accompanied by a wide selection of foods and beverages will astound the guests (Murphy & Smith, 2009). Similarly, Johnson et al., 2005 highlighted that quality standards for culinary services are not solely determined by the cuisine. The ability of the culinary professionals to deliver extensive culinary services plays a key role in trendsetting, image building, and establishing rapport with the guest through the presentation of food to establish an excellent dining experience.

Costing element is believed to be crucial for the culinary professionals' competency, which is in agreement with the study by Pratten & O'Leary (2007) and states the concern regarding stock control is one of the new skills that needs to be developed among culinary professionals. Glass (2009) and Zopiatis (2010) likewise pointed out the importance of budget allocation planning and costing for culinary professionals. Crainer & Dearlove (2005:30) mentioned the role of the chefs in costing management:

> "Great chefs are exceptional buyers – they source the very best ingredients at the best prices. Chefs need to be able to deliver consistency of product at a predetermined price, normally fixed for a season while coping with market price variances on a daily basis and high fluctuations in demand."

In the interview, the participants revealed the importance of culinary professionals to master the competencies in culture - local, regional, and world cuisines. It is crucial to master an exciting range of flavours and acknowledge the uniqueness of different cultural cuisines. However, accomplishing this is very challenging for culinary professionals. According to Karim et al., 2011 and Murphy & Smith (2009), the ability of chefs to master the preparations, ingredients, and presentations of the cuisines culturally will contribute to a better culinary experience. Hence, chefs must be able to offer a wide range of culinary products that represents international cultures with the emergence of culinary tourism globally.

Further, this study revealed that aesthetic competency reflects the extraordinary talent of culinary professionals. Specifically, the ability to develop artistic cuisine is deemed crucial in terms of food presentations just as food styling is crucial to entice a person's appetite. Most of the time, the chefs are challenged to create visually expressive cuisines that will tempt the appetite. Several studies also point out the importance of mastering aesthetic quality based on the fact that "food is a work of art" (Ronning, 2011:131). Moreover, being good in aesthetics also provides culinary professionals with the opportunity to come out with their own identity as well as produce a signature dish's authenticity. At all times, the development of a menu offers artistic expression along with personality communication.

Dornenburg et al., 1996 documented how the world's leading chefs' menus are painstakingly created. In most cases, the creation of cuisine involves meticulous processes that often begin with the careful selection of ingredients, a brilliant pairing of items, and dazzling flavour combinations. Chefs must have the ability to discover the language of food, especially during recipe development. They must know each and every ingredient by keeping in mind that the ingredients must suit each other with the purpose of creating cuisines that can be appreciated by the guests' palates (Hegarty and O'Mahony, 2001). The interview findings of this study also revealed that chefs must have research competencies in order to come up with fresh and vibrant ideas. Ronning (2011) summarises Marion Halligans' series of books on culinary journeys and refers to Halligans' word:

> "Chefs, whose livelihood is others eating, know that the best food begins in the mind."

The majority of the interviewees highlighted the importance of culinary professionals to be equipped with creative criteria in
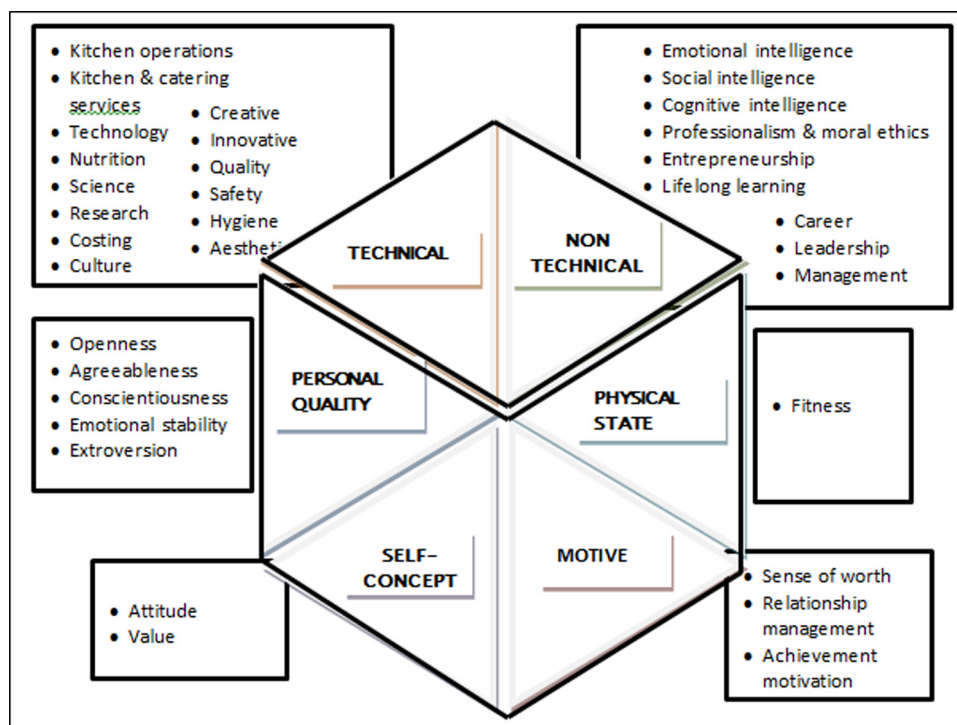
Fig. 6. The Framework of the Star-Chef Competency Model.

developing novel food creations for their restaurants. Creativity can be observed based on the ability of the chefs in utilizing unique ingredients in their cooking in order to produce vibrant, unique, and extraordinary cuisines. In addition, innovation in cuisine involves the development of new ideas as well as the incorporation of different aspects of cooking styles such as integrating modern ways of cooking in the preparation of traditional cuisine (Albors-Garrigors et al., 2013; Horng et al., 2008; Ottenbacher & Harrington, 2008). Exploring traditionally unique ingredients is also one of the efforts of being respectful towards the gifts of nature. Hence, innovative and creative chefs are highly needed in the industry due to the day by day increase in competition. The innovation and creative process requires much thought as well as research competencies. Therefore, it is recommended for a good chef to be excellent in research, innovative, and creative considering that these three factors always come together interchangeably.

Another competency that was mentioned during the interview sessions is technology. Large-scale catering systems such as hotels' commercial kitchens are challenging for culinary professionals due to the use of advanced technology and equipment. Lee-ross (1999) states that the use of technology is increasing in food business operations, especially in mass food processing and production techniques. In most cases, advanced catering systems have been observed to be more effective; hence, these new systems have been strongly embraced by hotels. Furthermore, the emergence of culinology and the combination between culinary arts with science and technology have been intensively discussed in recent years (Blanck, 2008; Cheng et al., 2011; Tittl, 2008; Vega & Ubbink, 2008). In addition, the competencies in the science of food were deemed to be important. It is valuable to have a better understanding of the scientific explanation of the cooking process. Culinary professionals need to know basic information regarding chemical and physical transformation during food preparation.

Competency in nutrition has become more important for culinary professionals based on observing the latest trends in healthy eating. According to Horng & Lee (2009), nutrition is one of the environmental factors that tend to influence the development of creative culinary products. Nutritional considerations challenge the ability of culinary professionals to enhance their awareness in the social context of

cooking as well as to keep them updated with the latest eating trends. Culinary professionals are expected to have the ability to prepare foods and dishes according to a specific dietary requirement. This is supported by previous studies in regard to portion size, nutrition information, weight management of food (Condrasky et al., 2007), attitudes towards healthful food preparation (Reichler and Dalton, 1998), attitudes and knowledge towards healthy eating (Middleton, 2000) and the importance of cooking for special diets (Lee-ross, 2006).

Findings show that hygiene is another competency area that is considered important for the culinary profession. The principles of food hygiene are equally important to safety, which tend to affect the quality of food correspondingly (Bolton et al., 2008; Caraher et al., 2013). It is important that the aspect of hygiene principles and food safety management be maintained in every stage of food preparation and handling. The current study also identified that culinary professionals must have adequate competencies in the safety area. An extensive production capacity requires culinary professionals to take extra precautions on the food safety elements, such as the temperature, microbial growth control, and cross-contamination risks that are believed to affect the quality of foods. Similarly, Curtis & Cowee (2009) and Jalis (2009) mention the importance of quality compliance among culinary professionals. Middleton (2000) states that customers are often reliant on the chefs' knowledge and moral conscience while preparing the foods. Thus, quality maintenance while working in the kitchen area is the chefs' responsibility.

5.1.2. Non-technical competency

Most of the published studies in various professions were in agreement regarding the importance of non-technical competencies as an added value for the 21st century skilled workers (Kyndt & Baert, 2015; Allen & van der Velden, 2012; Kaprawi et al., 2010). Nevertheless, culinary professionals currently are faced with the challenge of reacting to the evolving workplace environment despite the lessons acquired from culinary schools and what working experience has taught them about good cooking. This finding is supported by Zopiatis (2010) and Hu (2010) who share a similar opinion that culinary professionals should develop and improve upon their talent not just in cooking but in

all related aspects.

The result of this study showed that culinary professionals are required to possess three types of intelligence: social, emotional, and cognitive. Rothmann & Cooper (2008) emphasise the importance of social intelligence such as effective communication as well as the ability to demonstrate teamwork and cooperation among members of the organization. Effective communication may facilitate an effective medium in conveying information and ideas. Moreover, relationship building in a work situation helps to establish the common understanding between an organizations' members. Most of the time, fulfilling an event's task requirement may involve chefs from different culinary specialisations working together and thus clearly requires a culinary cadre commitment to teamwork. Meanwhile, emotional intelligence refers to the ability to exhibit intelligent use of emotions in managing themselves and working with others to develop an effective working environment. Generally, it requires the culinary professionals to demonstrate comfort in certain work conditions, especially during setbacks or failure (Boyatzis et al., 2000; Hinterstoisser, 2011). In addition, cognitive intelligence seems to challenge the culinary professionals in making most of the critical decisions at work, thus explaining the need for analytical and conceptual thinking especially in the event of precipitous culinary catastrophes. According to Bryce (2017), cognitive intelligence such as strategic thinking needs to be extended throughout organizations in order to enhance the responsiveness towards the needs of customers as well as revenue management.

Professionalism and moral ethics are one of the identified competency areas that require individuals to demonstrate their commitment to ensuring the efficiency and integrity of the moral and professional features in the profession. The professionalisation of chefs, especially in terms of presenting the professional image of chefs, is important based on the fact that their profession involves various roles such as craftspersons, artists, leaders, administrators, scientists, and managers (Mack, 2011). On the other hand, culinary professionals must demonstrate competencies in lifelong learning. Patterson et al., 2002; Brown (2005), and Wang & Tsai (2012) contended that lifelong learners are those who are constantly aware of new ideas and tend to emulate others' actions that are deemed beneficial to their lives.

Management is one of the competency aspects that are necessary for the culinary profession (Birdir & Pearson, 2000; Cheng, 2012; Miller, 2005; Zopiatis, 2010). Competencies in interpersonal and organisational management enable the culinary professionals to be more effective in managing their work performance and career directions. Several studies also mentioned that management and leadership competencies are related to each other (Schwalb, 2011; Young & Dulewicz, 2005). The present study managed to identify leadership competencies based on the definition that leadership includes the characteristics of outstanding performers in the chef's profession. Balazs (2001) states that successful chefs tend to strongly lean to the "to lead and let live" quality. Therefore, chefs must be able to impact and influence others as a leader at the micro and macro level.

According to Balazs (2002), individuals working as a chef are required to play dynamic roles as an entrepreneur and businessman. In most cases, financial success comes along with career excellence. Hence, it is expected for the chefs to be able to do marketing, forecast new trends in culinary products and services, and ultimately bring profits and new business opportunity to their organisation. Entrepreneurship was identified as one of the most important competencies for culinary professionals to achieve superior work performance. As supported by Crainer & Dearlove (2005), culinary business competencies are choreographed by the chefs, especially those with a high-ranking position such as Executive Chefs who manage kitchen operations. It is highlighted that the entrepreneurial ventures among chefs are one of the elements that explain why many chefs are tempted to set up their own restaurants. Career competency was identified as one of the competencies during the qualitative stage. The management of goals and actions is required to ensure a sustainable development in

the profession, which can enhance their profession advancement (Akkermans et al., 2013; Weber et al., 2013; Sisson & Adams, 2013).

5.1.3. Personal quality

Occupational stress among chefs had been studied in Malaysia by Abdul Hanan (2012) as well as in other countries (e.g. Robinson & Beesley, 2010; Zopiatis et al., 2011). Traditionally, chefs work in an atmosphere that is described as hectic, loud, and mentally pressured by constant stress. This clearly describes why culinary professionals are required to have a preferable occupational personality that will be reflected in their behaviour at the workplace. Moreover, the presence of a constellation of personality traits should remain relatively stable across time and situations. The findings are supported by several studies that found personality characteristics or traits are important for culinary professionals (Kang et al., 2010) and is believed to lead to better work performance (Peltokangas, 2014).

5.1.4. Physical state

Working towards a successful culinary career takes perseverance as well as extraordinary stamina. Lee-ross (1999) stated that culinary professionals are required to have appropriate motor skills and manual dexterity. Similarly, Kang et al., 2010 mentioned that "speed" is regarded to be the core physical skill in kitchen operations of hotels; those who work in a commercial kitchen need to work quickly and effectively under pressure. Therefore, physical state or fitness is important because culinary professionals spend most of their working hours in the kitchen.

5.1.5. Self-Concept

Chefs play an integral part in establishing the success of the food service industry. Culinary professionals are required to work in a demanding, avant-garde, and vicious environment that entails a high degree of stress as well as no tolerance for errors (Chuang et al., 2009; Kang et al., 2010; Ismail & Abidin, 2010). It is important for individuals to acquire knowledge on how to alleviate their stress and ensure full commitment towards occupational responsibility. Therefore, self-concept that is represented as individuals' attitudes and values towards occupational preferences must be present (Vazirani, 2010).

5.1.6. Motives

Occupational stress among chefs has directly influenced their motivations to stay and strive in the profession (Hinterstoisser, 2011; Murray-Gibbons & Gibbons, 2007). Robertson (2008) stated that individuals' deficit of inner competencies may be the real reason that hinders their effective performance. Hence, additional attention should be given to identifying the extraordinary quality of the most outstanding culinary professionals locally and internationally (Johnson et al., 2005). Personal accounts of success and early failure are part of the motivations that will influence the culinary professionals to remain in the industry (Gergaud et al., 2009; Johnson et al., 2005). Achievement motivation is driven by the employees' own initiative and self-motivation in identifying opportunities to make progress with their work performance. Individuals with motive competency are those who are able to do a job independently because they are exclusively acquainted with what they want to achieve from their job. Correspondingly, "sense of worth" is an indicator of motives, which is also treated as spirituality driven success factors (Robertson, 2008) where the profession as a chef offers the feeling of exceptional, self-actualisation and satisfaction. In addition, relationship management may drive individuals to strive to aim for career success. Relationship with others has accustomed chefs to have better social affiliations in the culinary society. Finally, it is crucial to have a great social support from people in the profession because they help the culinary professionals to be innately equipped and predestined for higher accomplishment in the profession (Chuang et al., 2009; Johnson et al., 2005).

One of the concerns of the current study is to develop a competency model for culinary profession. The competency modeling phase

emphasizes on the establishment and construction of competencies constructs and items. This includes the study of related literature, concepts, models and constructs related to the competencies for culinary profession. The qualitative methods involves individual interviews with four culinary educators and five high performers chefs in the culinary industry, and document analysis including journal articles, skills standards, certification documents. Items were constructed based on the transcription of the interviews as well as identification from related documents. There are six constructs of competencies that are identified from the document analysis which are then empirically refined through the interview findings. The six constructs are Technical, Non-Technical, Personal Quality, Physical State, Self-Concept and Motives.

Particularly for culinary profession, the technical competency was viewed as the most important criteria for chef's successful career (Zopiatis, 2010). In this study, most of the constructs of Technical competencies are identified as the differentiating competency except for Technology, Hygiene, Safety and Quality. As well, most of Non-technical are categorized by the experts as the differentiating competency except for Professionalism and Moral Ethics. Personal Quality, Self-concept and Motives were also identified as the differentiating competency. Physical State was identified as threshold competency. These are the competencies that have been identified empirically distinguishes superior performers from average-performing job holders in the profession. Findings of the study were supported by previous studies which found that skilled trade workers must possess a highly technical skills along with non-technical competencies (International Labour Office, 2011; Karoly & Panis, 2004). Previous study agreed that non-technical skills, which also named as soft skills and generic skills is the competencies which differentiate low and high performers (Kwon et al., 2010; Lee, 2010). Similarly, studies by Nabil et al., 2011and Safarin et al., (2012) also focused on the proficiency of skilled workers towards their non-technical skills. Supported by these studies, the current study also identified non-technical competencies as components that will support an individual work performance for the culinary profession.

Critics have argued in achieving consensus with regard to the demanded competencies in order to succeed in the culinary industry (Riggs and Hughey, 2011). Again this context, this study found that mastery of all the competencies is required for culinary professionals. In specific, experts in the current study agreed that most of the listed competencies in the Star-Chef Competency Model are the differentiating competencies. These competencies are all referred to as individual work performance; employees' behavior which is relevant to organizational goals by Koopmans et al., (2014). This findings is supported by Aguirre & Andrade (2013) which highlighted on the competencies required for the 21st century skilled chefs. The findings are also relevant to the current philosophies of competencies for 21st century, where culinary professionals need to unremittingly meet the demands of the global business hospitality and tourism industry. By the same token, the researcher ends this section by sharing words from Marie-Antoine Carême, an early French culinary practitioner, a proponent of the sumptuous style of cooking known as grande cuisine whom initiated the "high art" of French cooking: a grandiose style of cookery favored by the sovereigns and the rich of Paris in the late 1700s,

When we no longer have good cooking in the world, we will have no literature, nor high and sharp intelligence, nor friendly gatherings, nor social harmony.
Marie-Antoine Carême (1784–1833)

5.2. Theoretical implications

Theoretically, the current study aimed to extend the body of knowledge regarding chef competencies in the culinary arts by providing a framework of Star-Chef Competency Model. Competencies at

work lead to significant human resource development. At present, there is no specific competency model that guides the career development of culinary professionals in the industry. Thus, the goal of the current study is to develop significant sets of competencies to be included in a competency model. This study generated competencies for superior work performance which addressed both visible (Technical and Non-technical) and hidden competencies (Self-Concept, Personal Quality, Physical State and Motives). Both visible and hidden competencies are important as a base for effective and superior work performance. The present study expands on the existing literature by developing an updated competency model for superior work performance among culinary professionals by contrasting the visible and hidden competencies. Further, the strength of the present study lies in its focus on identifying the threshold and differentiating competencies. Usually the hierarchy of the back-of-the-house personnel of the kitchen operations especially in hotel settings comprises job position levels which are referred to as kitchen brigade. Culinary professionals typically start as kitchen staffs (Commis or Cook) and subsequently move up the ranks according to the establishments' kitchen brigade. Job position as Executive Chef, Executive Sous Chef, Sous Chef, Head Chef, Pastry Chef, Demi Chef and Chef de Partie are considered as management level where as job position as Cook and Commis is considered as non-management level. Normally in culinary industry, the Cook and Commis were required to work for at least several years before they can request for position as chef, which starts with Chef de Partie position, regardless of their educational background. It is suggested that future studies should make use of a competency modelling framework and add more specification in both visible and hidden competencies in exploring and deciphering the conceptions of superior work performance.

Culinary professionals progressing from junior level (Commis or Cook position) to middle level and subsequently, to senior level. As they progress, they will have to enhance their technical and non-technical competencies, particularly developing their professional expertise. Despites the occupational stress following working in laborious commercial kitchen environment, there is an exceptional emphasis on client-focused cooking, of cooking to make people happy, of personal qualities, and a high level of technical ability combined with knowledge, a sense of fun, creativity, and intelligence among Chefs. In extensive literatures about Chefs, there are constant references to the quest for "perfection," which is often seen as a moving target towards a sustainable growth in the profession. In viewing specific competencies, the findings illustrated the complexity of the chefs' competencies while performing their technical tasks, which further suggests the need to carefully organise professional talent development for the purpose of upgrading their technical expertise accordingly. However, for a chef's profession, dealing with issues such as work stress, long working hours which is always associated with the high end kitchen environment is challenging. In the minds of preparing oneself for a sustainable career development, the punitive work context is one factor that might influence the culinary professionals work performance. This calls for an emphasis in hidden competencies which could be ones' motivator to success in the profession. Future efforts can use this work to design various strategies (qualitative and quantitative) to obtain better competency indicators to improve an employee's performance. Also, this study serves as a platform for subsequent research that intends to examine the level of competencies of individual employees in the workplace.

5.3. Practical and managerial implications

Practically, the competency model is expected to serve as a potential reference for educational and training programs targeting at career development in culinary paths. The competency model provides an essential career map with specifically targeted competencies that are needed by every culinary professional to allow them to achieve their culinary career success. The present study offers the industry with a

functional-competency model that is recommended for future practices. From this (1) organizations will be able to develop their own model of culinary profession development, (2) culinary employees may now understand the necessary competencies that will assist their professional advancement, (3) hospitality schools will be able to design and review the culinary curriculum, and (4) students will be equipped with the necessary information that will help them to craft their culinary career paths. The competency model provides indispensible career map with specific targeted competencies which every culinary professionals needs in order to travel the road to culinary career success. Essentially, it is learnt from this study that a competency model provides a discernible mechanism to communicate the industry's expectations towards their job incumbents and prospective workforce. The identified Star-Chef Competency lists can be used to guide the design of professional development activities for culinary professionals.

5.4. Study limitations and future research

Although several distinctive competency areas were found, limitations in the current study exist. The majority of the interviewees discussed about the indistinctive concept of superior work performance, especially for culinary profession. This study includes interviews with high performers chefs in identifying competencies associated to superior work performance, competencies that differentiate high and low performers. Similar studies should be carry out by means of interviews with average and low performers in order to verify competencies possessed by these groups of employees. It is also possible to include the perceptions of the human resource management to better understand the current industry requirement about quality culinary workforce. Ideally, a more diverse sample would be used in future. The next step in this research is to corroborate the results from the qualitative analysis with the quantitative analysis. Which competencies matter more? What is the value or rank of these competencies as they relate to important organizational outcome, especially in the high-end foodservice sectors such as upscale restaurants and high star-rating hotels? Further, there is a need to explore on how these competencies facilitate individuals' sustainable career development. Perhaps, a quantitative research approach would yield more robust findings to increase our understanding of successful competencies in culinary realm.

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