



The Role of Chefs' Technical Skill on Hospitality Industry Managerial Skills in Tanzania

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Abstract: This study examined the role of chefs' technical skills in the relationship between managerial skill and subjective career success in the hospitality industry in Tanzania. The study employed an explanatory design with a survey strategy. A questionnaire survey of 267 chefs in 4-star and 5-star hotels and lodges collected the data. The Data analysis took place through the Statistical Equation Modelling (PLS-SEM). Managerial skills factor yielded a positively lower influence on the chefs' subjective career success compared to technical skills. The moderator technical skills factor acts as an added advantage in the chefs' profession by having a higher influence in the relationship between managerial skills and subjective career success. These results advance the existing knowledge, suggesting that human capital theory is not satisfactory in explaining the relationship between competency and career success. The study recommends that the chefs' training should emphasize much on technical skills compared to managerial skills.

Keywords: Managerial skills; technical skill; career success; objective success; subjective career success.

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Introduction

Chefs are critical for the success of the hospitality industry (Mahfud et al., 2019). According to Mahfud (2019), chefs contribute approximately 20 to 30 percent of total tourism support in the hospitality industry. For instance, in Tanzania, the chef profession created 1,550,100 jobs in the industry in 2019, which is equal to 11.1% of the country's total employment (Wamboye et al., 2020). The hospitality industry accounted for 5% of the national GDP in 2019 and was forecast by the Tanzania

National Business Council to reach 19.5% in 2025/26 (Wamboye et al., 2020). The importance of chefs in the industry is predicated on the value of their skills in the industry as well as their personal career success. The role of chef skills on industry performance is well known (Mahfud et al., 2019) but there is scant knowledge about the effect of technical skill on chefs' managerial skill for enhancement of the chefs' career success (Marinakou & Giousmpasoglou, 2020; Ketter, 2019).

Toward the end of the 20th century, the chef profession attracted young people for employment in the hospitality industry. This attraction promoted training on chefs, hence working in the gastronomic kitchens of the hospitality industry requires competent chefs with specific skills (Marinakou & Giousmpasoglou, 2020). There are two types of chef skills (the managerial and technical skills) that influence employability, promotions and compensation (Lei et al., 2021; Mahfud et al., 2019; Baldwin, 2018). All chefs, regardless of their ranks (i.e., executive chef, sous chef, and chef de partie), require managerial skills as well as technical skills. Cooks and assistant cooks in the kitchen mostly require technical skills rather than managerial skills (Mahfud et al., 2019; Ren & Chadee, 2020).

Managerial skills and technical skills are obtained from training and development (Baldwin, 2018; Skrinjaric, 2022; Marinakou & Giousmpasoglou, 2020). However, the contribution of managerial skills is supported by technical skill to influence the chefs' career success. Objective success involves achievements like job title, salary and promotion while subjective success is an individual's satisfaction with career achievements (Busser, 2020). Chefs who remain in the hospitality industry take seven to fifteen years to pass beyond middle-level management and become competent in skills for career success (Mahfud et al., 2019; Ren & Chadee, 2020). Chefs should demonstrate a wide range of skills to succeed in their kitchen operations (Suhairom et al., 2019). To that end, they undergo training to acquire or improve skills.

Chef competency in terms of skills determines the overall food and beverage experience of tourists (Baldwin, 2018). Hospitality competitiveness therefore, requires chefs who are competent in both managerial and technical skills (Cheng & Bosselman, 2016; Mac et al., 2016; Suhairom et al., 2019). Chefs' skills are necessary for promotion and compensation (Bagdadli & Gianecchini, 2018), which are objective success indicators. Subsequently, accrue subjective career success (Ren & Chadee, 2020).

Studies on theories that govern competency and career success relationships have been fragmented, dispersed, ending up with ambiguous, contradictory and inconsistent results among several disciplinary areas. Such inconsistency in results emanate from the weakness of human capital theory by generalizing and assuming that the theory could

work in a variety of disciplines, regardless of each discipline having a distinct context and culture. The human capital theory predicts the positive effect of training skills on subjective career success (Sharma, 2019). However, it does not exactly indicate which specific skills (i.e., managerial or technical) are necessary for subjective career success. Most chefs have acquired managerial skills for interpersonal relations, planning, budgeting and control (Mac et al., 2016; Wan et al., 2017; Presenza & Petruzzellim, 2019). However, to become a chef as a manager, the contribution of technical skills developed for many years is not clearly indicated (Ren & Chadee, 2020; Mahfud et al., 2019).

Researches with different methodologies did not cover all competency elements, in one single research, hence made the operationalization of the variables vary. Moreover, knowledge about chefs with their skill relationship is small due to academicians having little interest in research about chefs (Marinakou & Giousmpasoglou, 2020; Ketter, 2019). Further, many studies have been conducted in the developed countries, such as Spain, Canada, Holland, the UK, America, Australia, Germany, China and India. Only a few studies took place in Africa, with no research done in the Tanzania exactly on career competency and career success. This indicates that no comprehensive analysis is done about the moderating role of technical skill on managerial skill in the chefs' profession in Tanzania. Studies lack contribution on how skills relate to subjective career success of chefs in the organization. The inconsistency, variation of methodologies used, context and little interest of researchers about chefs is an indication that the interaction between chefs' skills and career success need investigation.

Literature Review

This section is about conceptualization of key terms, theoretical underpinnings, empirical literature as well as the conceptual framework.

Conceptualization of key terms

To detect the capacity of the measurement items to capture the intended concept, the concepts used in the study should be clear (Wamboye et al., 2020). The concepts in the study facilitate helping the stakeholders to have a clear understanding of how the problem can be solved in a quantitative study. Moreover, the effort of making a clear understanding of the concepts allows the readers to be part of the study since they have acquired the

meaning of the concepts in the study constructs. The concepts used in this study are chef, chef competency and career success.

Chef

In this study, a chef is a manager or director who is professionally trained, running a conventional rated hotel kitchen with four main departments, namely garde-manger, saucier, entremetier and pastry, run by departmental chefs (Chef de Parties) who are overseeing operational cooks, assistant cooks and apprentices/trainees' activities in the kitchen (Mahfud et al., 2019; Ren & Chadee, 2020).

Chefs' Competency

Chefs' competencies are those skills (technical and managerial) related with training that influence career success. Other competencies like knowledge from education literature and ability (creativeness and innovativeness) which are talents (Baldwin, 2018; Skrinjaric, 2022; Marinakou & Giousmpasoglou, 2020) were not included in this study.

Hospitality

Hospitality in this context is the provision of food services to people when they travel. Its workers are characterized by their performance, attentiveness, friendliness, appearances, attitudes and the way they carry out and perform their assigned tasks (Martin-rios, 2019). Hospitality also involves an entertainment act of making tourists psychologically and physically secure and instilling the tourist's memorable experience.

Career Success

Career Success means positive professional achievement or satisfaction. In the organization with employees, the success can be either organizational or an employee career success. Based on the measurement, career success can be categorized into internal measurement referring to subjective career success and external measurement referring to an objective career success (Haenggli & Hirschi, 2020; Johnston & Phelan, 2016).

Subjective Career Success

Subjective Career Success is any positive work-related internally satisfied state and is of an individual perceptions and judgement about employee job satisfaction (Haenggli & Hirschi, 2020; Johnston & Phelan, 2016; Lei et al., 2021).

Theoretical Underpinning

Human capital theory (Baia et al., 2019), which underpins this study, advocates that training imparts useful competencies to employee, which in turn increase their productivity and incomes. Human capital are competencies, which are knowledge, skills, experience and attributes embodied in an employee. These competencies are inseparable from an employee and have economic value to an employee, organization, and social economic well-being. Increase in investment in education and training for competencies leads to individual and organizational success. Hiring trained and capable employee with knowledge, skills and experiences promotes personal and organizational performance.

Human capital theory is relevant to this study by indicating that competencies, such as skills embedded with an employee are valuable to both individual and organizational success. Skills as part of these competencies are the ones tested in chefs' subjective career success in the hospitality industry for the justification of the applicability of the theory. The theory is appropriate for the study by holding the general principal that facilitates understanding employees' success in any organization.

Managerial Skills and Career Success

According to Haenggli and Hirschi (2020), skills from training contribute to career success. Bagdadli and Gianecchini (2018) indicate that competencies (knowledge, skills and abilities) obtained from training enhance job success, hence promotion and compensation decisions. In the hospitality industry, managerial skills are for those who oversee day-to-day operations and development of new and improved products (Mac et al., 2016; Suhairom et al., 2019; Wan et al., 2017; Cheng & Bosselman, 2016; Presenza & Petruzzelli, 2019; Wellton et al., 2017). Managerial skills also involve skills for interpersonal relationships between kitchen staff and tourists (Cheng & Bosselman, 2016; Sohn & Lee, 2018; Suhairom et al., 2019; Mac et al., 2016). Studies, for instance, Mac et al., (2016) and Suhairom et al., (2019), suggest that chefs must be competent in managerial skills that make them excellent entrepreneurs in the kitchen business.

Chefs practice managerial skills for success when applying planning skills to manage operations in the food and beverage division in a timely manner. Wan et al. (2017) explained that chefs are the Chief Executive officers who require managerial skills for

planning strategic business to ensure the gastronomic tourism industry is successful. According to Mac et al. (2017), Cheng and Bosselman (2016), a chef require managerial skills for career success through successively minimizing cost and increasing profit while producing food and beverages. Presenza and Petruzzelli (2019) show that chefs' practice of managerial skills in budgeting, cost control and pricing of food and beverage are key for their success in the industry.

Working in hospitality industry is hectic. It has a large workload, long working hours, low compensation, and limited growth opportunities in the industry (Mac et al., 2016). Managerial skills such as interpersonal relations skills (Cheng & Bosselman, 2016) are key for successful interactions with customers and colleagues (Cheng & Bosselman, 2016). These skills enable them to mentor and develop the young chefs (Wellton et al., 2017). In open kitchens, this skill builds up staff and customer relationships and leads to the success of the food and beverage business in gastronomic tourism (Sohn & Lee, 2018). Chefs' interpersonal skills also enable them to work together, share understandings and spark team commitment to work (Suhairom et al., 2019). Therefore, a chef is required to have interpersonal skills for motivating himself and others to avoid stress to attain career success. This study will test the following hypothesis: *H1: There is a positive influence of managerial skills on subjective career success.*

The Role of Technical Skills

Based on the human capital theory, studies show the need for managerial skills for subjective career success (Skrinjaric, 2022; Sree, 2020; Sharma, 2019). In the hospitality industry, chefs require managerial

skills as well. However, to become a chef in a professional kitchen, technical skills and experience matter (Ren & Chadee, 2020; Fusté-Forné & Mundet i Cerdan, 2021). This justifies that, among the responsibilities of the sous chef is training the young cooks on technical skills (Ren & Chadee, 2020; Mahfud et al., 2019). This indicates that a chef's technical skills play part in subjective career success, alongside the managerial skill.

Technical skills are for operational personnel who are in practice in producing high quality products (Shyr et al. 2018; Rebouças et al., 2017). Shyr (2018) insists that chefs must possess technical skills that help them to succeed in day-to-day operations, particularly sourcing the right ingredients and processing them into the right products. A successful chef should master all technical skills of food production in terms of color, flavors, recipes, menus, and how to serve food and beverages (Cheng & Bosselman, 2016). A chef will be successful in the kitchen by insuring the food consumed by tourists is safe and healthy (Mac et al., 2016) through success in hygiene principles (Rebouças et al., 2017). From the literature, kitchen stuff depends much on experienced technical skill, which is the support of becoming a professional chef. This study will test the second hypothesis: *H2 There is a moderating effect of technical skills in the relationship between managerial skills and subjective career success in hospitality industry.*

Conceptual Framework

Figure 1 presents the hypothesized variable relationships that this study sought to establish. The independent variable is managerial skills affecting the dependent variable, which is subjective career success.

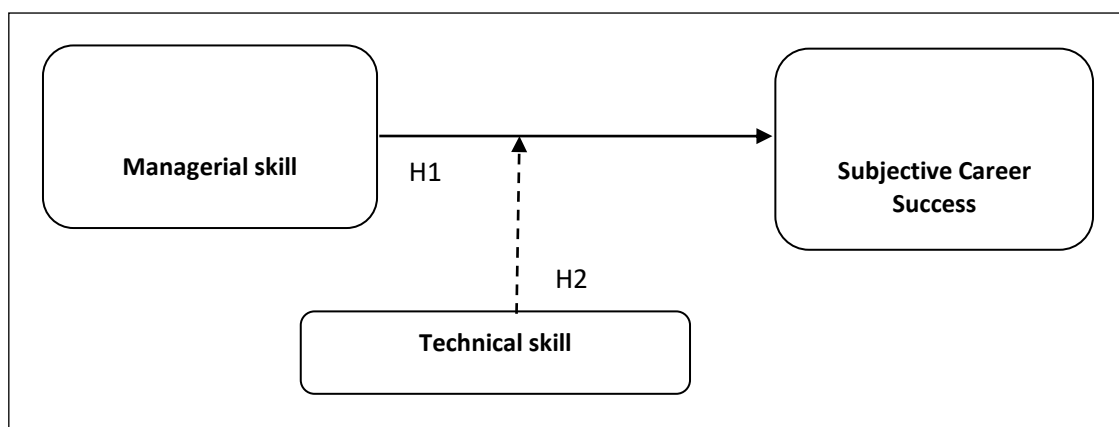


Figure 1. The conceptual framework. Source: Literature review (2024).

The technical skills stand as the moderating variable, tested for whether they strengthen or weaken the relationship between the independent and dependent variables.

Methodology

The methodological part is all about the design and strategy, area of the study, population and sampling and the research instrument. The section further addresses the validity and reliability of data and ethical considerations.

Design

The study adopted a deductive approach, which employs an explanatory design, employing the survey strategy in testing the causal relationship between chefs' managerial skill and subjective career success in hospitality industry in Tanzania. The study employed the cross-sectional survey strategy. This research strategy adopted to capture relevant, suitable and accuracy information needed to be tested in this particular study (Berryman, 2019).

The study took place in Dar es Salaam, Arusha and Zanzibar. According to the Ministry of Natural Resources and Tourism of Tanzania (MNRT) in 2023, the two regions on the mainland, namely Dar es Salaam from the coastal area and Arusha from the northern circuit, are among the three highest-populated areas of tourism activities in Tanzania. The ministry reports that, Zanzibar has many resorts reflecting hospitality activities influenced by chefs, with a required number of chefs as respondents. The study selected the areas because they are the centres of hospitality industry activities with a good number of chefs.

Population and Sampling

According to National Bureau Standards (NBS) in 2022, Tanzania has 184 hotels regardless of their

classification. From the Ministry of Natural Resources and Tourism (MNRT)'s data, Tanzania had a total number of 41 five-star, 93 four-star and more than 90 three-star and unclassified hotels and lodges by 2023. This study considered only five-star and four-star hotels and lodges, which make the total number of 134 hotels and lodges. According to classifications and Standard Operating Procedures (SOPs) of hotels and lodges, normally each hotel in its cuisine comprises of 1 executive chef, 1 executive sous chef, 1 sous chef, 1 chef tournor and 4 chefs de partie while the lodge comprises of 1 head chef, 1 sous chef and 4 chefs de partie. The respondents for the study included 804 (134 hotels/loges x 6 chefs), including head chefs, sous chefs and chefs de partier in four- to five-star hotels and lodges, together with any elaborate caterer's organisations in Tanzania. Additionally, these strata comprise chefs with both managerial and operational skills. Cooks, assistance cooks and apprentices were excluded from the respondents because they are not considered to have managerial skills.

The study adopted the formula proposed by Taro Yamane (1973), which is expressed as $n = N / [1 + N (e)^2]$, to obtain the sample size of ($n = 267$) drawn from the total respondents of ($N = 804$). The (95%; 5%) confidence interval and marginal error, respectively, were used. According to the MNRT, the distribution of hotels and lodges in Tanzania is in the ratio of (1:2:2) Dar es Salaam, Arusha, and Zanzibar, respectively. This makes the sample size distribution 53 in Dar es Salaam, 107 in Arusha and 107 in Zanzibar. Sample sizes can be increased by 20% as a safeguard to accommodate any contingencies in case they may arise (Abaho et al., 2015). However, in this study, the study did not inflate the sample size of 267 due to the purposive sampling used for selecting hotels and lodges with highest number of chefs who were the respondents.

Table 1: Population and Sample Size in the Study Region

Study Region	Area Population (N)/ (cluster)	Sample Size (N) Stratum
Dar es salaam	160	53
Arusha	322	107
Zanzibar	322	107
Total	804	267

Source: Ministry of Natural Resources and Tourism (MNRT, 2023) and Ministry of Information, Tourism, and Archives in Zanzibar (2023).

Both stratified and cluster random sampling in a probabilistic sampling technique were used to obtain respondents. Stratified sampling was used by selecting groups of chefs as respondents (head chefs, sous chefs, and chefs de partie), eliminating

other groups of chefs (executive chef, executive sous chef and tourner chef) because these ranks might be available in upscale hotels and not necessarily be available in lodges.

Table 2: Operationalization and Measurement of Research Variables

Dimension (Variable)	Operationalization (Reflective Indicators)	No of items	Measurement	Source
Technical skills	✓ Purchasing Skills	6	Ordinal	Suhairom et al. (2019), Mahfud et al.(2019)
	✓ Preparation Skills			
	✓ Production Skills			
	✓ Presentation Skills			
	✓ Food safety skills			
	✓ Service Skills			
Managerial skills	✓ Planning	5	Ordinal	Suhairom et al. (2019), Mahfud et al. (2019)
	✓ Budgeting			
	✓ Decision making			
	✓ Complaint handling			
	✓ Team building			
Subjective career success	✓ Job Satisfaction	5	Ordinal	Lei et al. (2021), Johnston & Phelan, (2016).
	✓ Career growth			
	✓ Influence			
	✓ Recognition			
	✓ Promotion			

Cluster sampling was used for selecting hotels and lodges in the area of study. In this study, the multistage sampling technique was imposed to obtain samples, whereby the first stage involved purposive sampling of selecting hotels and lodges in Dar es Salaam, Arusha and Zanzibar with the highest number of chefs based on a regional ranking database. The second stage was the selection of chefs based on their ranks among kitchen brigades in hotels and lodges.

Instrument

The study constructed a questionnaire through literature review as indicated in table 2. The questionnaire was used to collect primary data from the main variables of the study, which were managerial skill, technical skill and career success. The obtained information was tested through validity and reliability to ensure a consistent and relevant sound of the result (Hair et al., 2019).

Validity and Reliability

Reliability and Validity are central issues in determining the quality of a study. For a study to provide adequately sound, consistent, and relevant evidence, the information provided must be both reliable and valid (Hair et al., 2019).

Validity of the Data

In this study, internal and external validity were observed to attain the accuracy of the

measurement. Internally, the extensive review of literature, selecting the relevant variables and adopting validated measurement instruments was done. Skillfully, setting of the scientific research methods and the use of Likert scale in the questionnaire was done. This was done for the reason that it acts as a precise measure of validity, especially when the proposed model has low number of indicators (Dijkstra & Henseler, 2015).

Industrial experts did face validity. The researchers measured the content validity, which is concerned with whether research is believable and true or whether the measurement instrument evaluates what is intended (Hair et al., 2020). Content validity involved Professional check of the relevance of the content and calculating content validity index (≥ 0.7) for each variable.

Construct validity was checked through discriminant validity where latent variables were diagnosed to make sure they are not similar with another latent variables in the same study model. In convergent (concurrent) validity, indicators were assessed to view whether indicators associated positively with different indicators of the same latent variable in the study model. For discriminant validity, an evaluation is made through cross-loading of manifest variables, where Heterotriat-Monotrait (HTMT) Ratio ≤ 0.90 , and Fornell-larcker criterion. Normally, in cases of conflicting of these tests,

HTMT ratio should be opted for because it is a more effective way by being liberal in nature as it evidenced by its high sensitivity rate (Hair et al., 2019). For convergent validity, a test using Average Variance Extracted (AVE) - ≥ 0.5 was conducted. Externally, before using structured questionnaires, ten of them went through pre-testing to measure reliability of operationalisation of the indicators in the questions and corrected any misconceptions that appeared. After a pre-test, a pilot study was conducted to ensure validity of the instrument. The pilot study brought the confidence of the instrument by addressing the weakness identified (Rose & Shevlin, 2019).

Reliability of the Data

The internal reliability of the model consisting reflective variables was ensured through internal consistence reliability (Hair et al., 2019). This involved the measurement analysis through indicator loading and internal consistence analysis. Indicator loading involved dropping those indicators with values below the threshold of 0.5 (Hair et al., 2020). Internal consistence analysis employed composite reliability (CR), Cronbach's alpha (α), composite coefficients and rhoA (R) test and dropping those values below the threshold of 0.70 (Hair et al., 2020). In case of conflicting each other among the composite reliability (CR), Cronbach's alpha (α) and composite coefficients rho_A (R), normally composite reliability (CR) are opted for because they overcome the limitations of Cronbach's alpha (α), which tend to under estimate internal consistence reliability (Hair et al., 2017). Externally, reliability was ensured through a careful selecting of the sample size and adding 15% extra to

the respondents in the sample as proposed by (Abaho et al., 2015) in case of non-response, missing values and outliers during data cleaning.

Statistical Treatment of Data

The primary reflective data from respondents related to managerial skill, technical skill and subjective career success collected from chefs who are working in hotels and lodges, was analysed through the Structure Equation Modelling (PLS-SEM) technique (Hair et al., 2020; Witulski & Dias, 2020). Analysis took place using the Smart PLS software.

Ethical Considerations

The collection of data involved the seeking of permission and approvals prior to obtaining data from the field, where samples were drawn from. This was done believing that chefs and the organization are working with their secrets, which ethically are not to be known to other people apart from the researcher who observes and maintain high degree of confidentiality. Moreover, the consent and willingness of chefs was sought before engaging them.

Results and Discussion

In this section, the discussion based on the model assessment and hypothesis testing. Furthermore, the discussion on hypothesis testing was in two category that is direct and indirect hypothesis testing.

Model Assessment

In testing the reliability (Table 3), the model was assessed though Indicator reliability (IR) and internal consistency reliability.

Table 3: Results of the Assessment of the measurement model

Constructs	Item	Loadings	rho_A			
			(α)	(R)	(CR)	(AVE)
Technical Skill (TS)	TS1 -Purchasing	0.825				
	TS2 -Preparation	0.676				
	TS 3-Production	0.803				
	TS4 -Presentation	0.780	0.778	0.806	0.855	0.598
Managerial Skill (MS)	MS1- Planning	0.847				
	MS2- Budgeting	0.835				
	MS3- Team work	0.817	0.783	0.798	0.872	0.694
Subjective Career Success (SCS)	SCS1-Job satisfaction	0.784				
	SCS2-Career growth	0.653				
	SCS3-Influence	0.704				
	SCS4-Recognition	0.688	0.741	0.712	0.803	0.505

In testing the Internal consistence reliability, the model was assessed through composite reliability, Cronbach's alpha and rho-A. The model was tested for validity by convergent validity (CV) through average variance extracted (AVE). The discriminant validity was done through the Heterotrait-Monotrait (HTMT) criterion and Fornell-Larcker criteria as specified by scholars (Henseler et al., 2015; Hair et al., 2020). The loaded indicators resulted above the threshold level of 0.50 and the composite reliability (CR) was above the threshold of 0.70, meaning the high level of internal consistency of the model (Witulski & Dias, 2020). The AVE indicated equal to 0.5 or above the threshold, which means that the model was valid. In

Table 3, the Loadings are > 0.5 indicating the item's reliability, CR values > 0.7 indicating internal constancy was established, and AVE values > 0.5, values for confidence intervals (CI_{0.95}) do not include 1, indicating the convergent validity was established.

For the discriminant validity, the Fornell-Larcker and (HTMT) criteria indicated the acceptable discriminant validity level. The Fornell-Larcker criteria showed that the square roots of AVE are greater than the underneath values. The HTMT values were below the threshold value of 0.85 (Webber et al., 2018), as indicated in table 4.

Table 4: Discriminant Validity Analysis using Fornell - Larcker criteria and Heterotrait - Monotrait Ratio

Construct	Fornell-Larcker criteria			HTMT Criterion		
	MS	SCS	TS	MS	SCS	TS
MS	0.833	-		-	-	-
SCS	0.337	0.710		0.452	-	-
TS	0.229	0.381	0.773	0.354	0.482	-

Note1: Fornell-Larcker criteria: square roots of AVE are > the Underneath (not bolded) values indicating discriminant validity was established.

Notes2: HTMT Criterion: Values are < 0.85, and HTMT inferences criteria upper and lower confidence interval (CI_{0.95}) limit does not include 1 indicating that discriminant validity has been established.

Table 5: Results of Moderation Analysis in Smart-PLS

Direct Hypothesis											
Hypothesis	M	SD	VIF	T-V	P-V	R ²	f ²	Q ²	95%CI	Decision	
H1:MS -> SCS	0.23	0.24	0.06	1.00	3.63	0.00	0.11	0.129	0.05	[0.125, 0.347]	Supported
	8	9	6	0	7	0	4	2			
Indirect hypothesis											
Hypothesis	M	SD	VIF	T-V	P-V	R ²	f ²	Q ²	95%CI	Decision	
H2:TS*MS->SCS	0.18	0.18	0.05	3.32	0.00				[0.219, 0.282]	Supported	
	2	0	4	N/A	0	N/A	N/A	N/A			

Notes: p<0.05, t>1.65, and β>0 indicate positive, β-original sample, SD-standard deviation, TV-T values, PV-P value and significant moderation at 95% CI- confidence interval, 1-tail test.

Hypothesis Test

Using the collinearity technique to assess the direct hypotheses, independent variables in Table 5 showed the VIF inner values of 1.000, which is less than 4.0, meaning the variables were not associated with each other (Hair et al., 2020). The significance of path co-efficient through bootstrapping in table 5 was 0.238 (t=3.637; p = 0.000). In the same table, the t-value was higher than the threshold of 1.65 one-tail test at a significant level of 5% as per Sarstedt et al. (2019). The p-value was less than the threshold of 0.05 at a significant level of 5% as per

Hair et al. (2020). The coefficient of determination (R²) was 0.114, equal to 11.4%, which is more than 10% positive and considered satisfactory, requiring a moderator as per Kenny et al. (2016 and Li (2020). The effect size f² is 0.129, meaning small effect, which require a moderator since the values indicate as follows: below 0.02 less effect, 0.02 to 0.15 small effect, 0.15 to 0.35 medium effect, and above 0.35 is higher effect sizes (Ali et al., 2021; Lei et al., 2021).

The predictive power (Q²) was 0.052 positive, meaning exogenous variables can explain

endogenous variables (Hair et al., 2020). The results of path coefficients (p-values, t-values) and f^2 values show that managerial skills variable (MS) was positive and statistically significant in the model, as it appears in Table 5.

The study checked the interactive variable (technical skill) for validity and reliability. The researchers further tested it directly to see whether it had an effect on the model as illustrated in Figure 2.

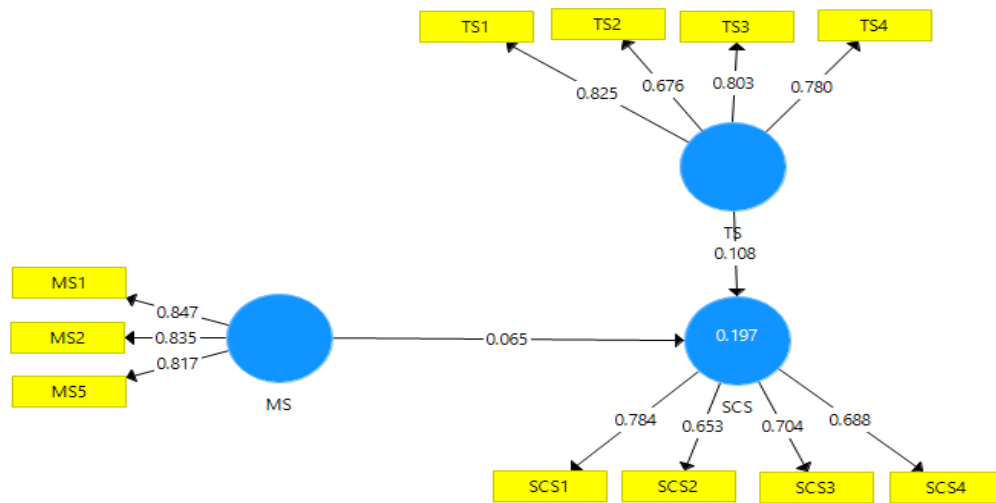


Figure 2: Direct relationship of Technical Skill. Source: Field data extracted from Smart-PLS3 (2024).

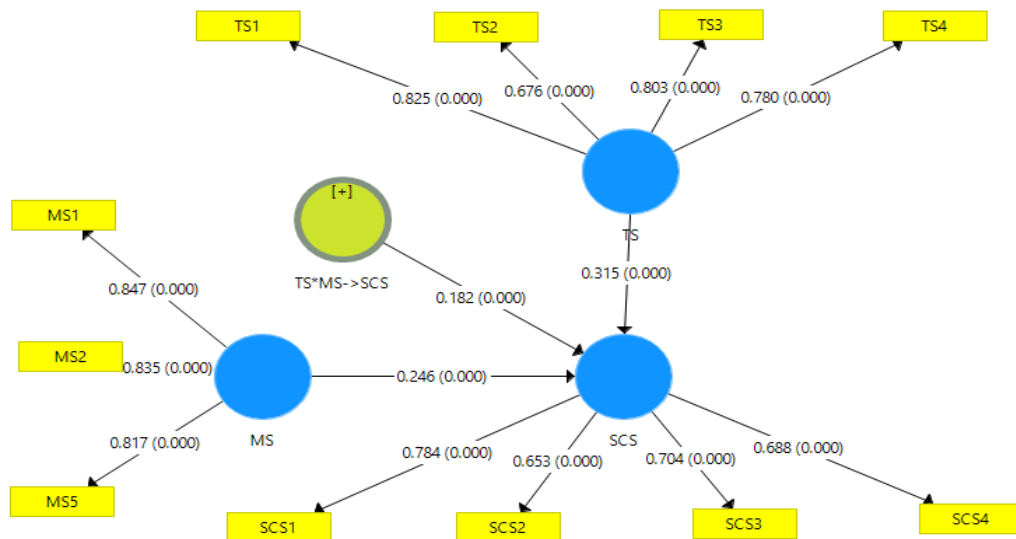


Figure 3: Moderation Analysis Result with P-values. Source: Field data extracted from Smart-PLS3 (2024).

The results in figure 2 show the R^2 of 0.197, equal to 19.7%, an increase of 8.3% from 11.4% to 19.7%. The effect size f^2 resulted in 0.108, equal to 10.8% as an indicator for moderation effect.

Indirect Hypothesis

In Table 5 and Figure 4, when a test was conducted on the moderation of technical skill in the relationship between managerial skill and subjective career success ($MS*TS \rightarrow SCS$) through PLS-SEM, the path results indicate the t-value of 3.320. The p-

value result of 0.000 appears in Tale 5 and Figure 3, indicating a significant effect of technical skills (TS) in the model as per figure 3 and 4. The significant effect is due to the t-value being greater than the threshold value of 1.65 and the p-value being less

than the threshold of 0.05 (Hair et al., 2020). That is, the technical skills variable (TS) positively and significantly influences the relationship between managerial skill (MS) and subjective career success (SCS).

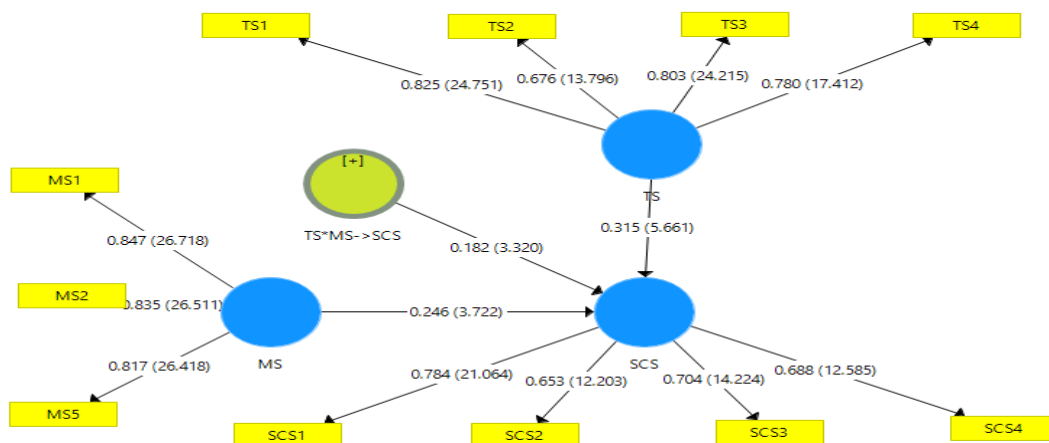


Figure 4: Moderation Analysis Result with t-values. Source: Field data extracted from Smart-PLS3 (2024).

Generally, the direct hypothesis on managerial skills and subjective career success through the VIF inner values, path coefficient, the coefficient of determination (R²), the effect size (f²) and the predictive power (Q²) in Table 5 show that managerial skills (MS) factor is positive in influencing the subjective career success. However, its influence is not as high as that of technical skills. Regarding the indirect hypothesis on the role of technical skills in the relationship between the managerial skills and subjective career success, the path results are that technical skills (TS) positively and significantly influence the relationship between managerial skills (MS) and Subjective Career Success (SCS) (Table 5). It is interesting to note that the managerial skills results have low impact on the subjective career success (R² = 0.114) as indicated in Tale 5, unless the chefs have technical skills to support the managerial skill.

Though the managerial skills, which are planning, budgeting, and team building, seem to be important to chefs, they are of operational level and can be executed by an experienced chef possessing technical skill. Planning activities includes kitchen layout, staff roster, staff activity, menus for customers and time to execute activities (Wan et al.,

2017). Budgeting skills act as revenue and expenditure management (Wan et al., 2017). Team-building skills motivate employees to achieve their personal success and organizational goals successfully (Suhairom et al., 2019). The motivation, encourage and help each other in the organization to make the team strong for the best performance (Lei et al., 2021). Building a team helps weak members in the brigade explore different ideas about product design and distribution (Hossain et al., 2020).

The result for the role of technical skill in moderating managerial skills supported the literature. Chefs with technical skills demonstrate purchasing skills, preparation skills, production skills and presentation skills. Specialist companies value technical skills to managerial skills by self-learning, school courses or company-provided education and training (Wan et al., 2017). Technical skills influence purchasing and preparation techniques. The preparation skills for the received ingredients is vital to all chefs in the kitchen (Shyr, 2018). The chef must be skilled in preparation using quality equipment and tools in deboning, slicing, cutting, curving, trimming and peeling to avoid cost in the kitchen, for instance excessive trimming of

vegetables and meats (Shyr, 2018). A chef should master production process, including following recipes and flavouring dishes before they have been served to guests. (Cheng & Bosselman, 2016).

Chefs must have presentation skills of menus for plate appeal because a well-presented food affects a person's perception that the dish will taste as good as it looks (Cheng & Bosselman, 2016). The satisfaction of tourists effects chefs' career success in terms of satisfaction, growth and development, authenticity, influence, personal life, meaningful work, quality of work and recognition (Haenggli & Hirschi, 2020; Johnston & Phelan, 2016; Lei et al., 2021).

Though managerial skills are also needed in the chefs' profession (Suhairom et al., 2019; Presenza & Petruzzelli, 2019), to become a chef depends much on technical skills developed through working experience (Ren & Chadee, 2020; Mahfud et al., 2019). That is why specialised organisations value technical skills to support managerial skills (Wan et al., 2017). Moreover, the nature of chefs' responsibilities, for instance, the sous chef is training technical skills to the young cooks (Ren & Chadee, 2020; Mahfud et al., 2019). This shows that technical skills are vital to complement managerial skills for subjective career success of the chefs. The Chefs are managers and masters of production. Managers require managerial skills while master of production requires technical skills, especially sourcing the right ingredients, in producing high quality products. This requires chefs to have technical skills to support their managerial skills (Shyr et al, 2018; Rebouças et al., 2017).

The interpersonal relationship between kitchen staff and tourists (Cheng & Bosselman, 2016; Sohn & Lee, 2018; Suhairom et al., 2019; Mac et al., 2016) emerges from the effect of managerial skill. However, the hidden reason is that it comes automatically from skilled chefs to release stress and hectic work with a large workload, long working hours, low compensation and limited growth opportunities in the industry (Mac et al., 2016).

Conclusion and Recommendations

Conclusions

The study concludes that though people expect managers to depend much on managerial skills, technical skills increases their professional competency towards their career success. This means that managerial skills factor has a lower

influence on the chefs' subjective career success compared to the technical skills factor, which acts as an added advantage in the chefs' professional development.

Recommendations

Because managerial skills factor has a lower influence compared to technical skills factor on the chefs' career success, the study recommends that, the chefs' technical skills should carry more weight in training compared to the managerial skills. The chefs who have only managerial skills in the hospitality industry should undergo training in technical skills to enhance their performance.

References

- Abaho, E., Olomi, D. R. and Urassa, G. C. (2015). Students' entrepreneurial self-efficacy: does the teaching method matter? *Education and Training*, 57(8–9), 908–923. <https://doi.org/10.1108/ET-02-2014-0008>.
- Ali, M., Ramayah, T. and Cheah, J. (2021). PLS-SEM Statistical Programs. *Journal of Applied Structural Equation Modeling*, 5(1), 4190–4221. [https://doi.org/10.47263/JASEM.5\(1\)06](https://doi.org/10.47263/JASEM.5(1)06).
- Bagdadli, S. and Gianecchini, M. (2018). Organizational career management practices and objective career success: A systematic review and framework. *Human Resource Management Review*, 7(8), 10–22. <https://doi.org/10.1016/j.hrmr.2018.08.001>.
- Baia, E., Ferreira, J. J. and Rodrigues, R. (2019). Value and rareness of resources and capabilities as sources of competitive advantage and superior performance advantage and superior performance. *Knowledge Management Research & Practice*, 12(3), 1–14. <https://doi.org/10.1080/14778238.2019.1599308>.
- Baldwin, W. (2018). Chef's Sabbatical: An analysis of chef's gastronomic research through culinary tourism Watson. *International Journal of Gastronomy and Food Science*, 12(5), 1–14. <https://doi.org/10.1016/j.ijgfs.2018.05.006>.
- Berryman, D. R. (2019). Ontology, Epistemology, Methodology, and Methods: Information for Librarian Researchers. *Medical Reference Services Quarterly*, 38(3), 271–279. <https://doi.org/10.1080/02763869.2019.1623614>.
- Busser, J. (2020). Authentic leadership and career satisfaction: the meditating role of thriving and

- conditional effect of psychological contract fulfillment. *International Journal of Contemporary Hospitality Management*, 32(6), 2117–2136. <https://doi.org/10.1108/IJCHM-06-2019-0551>.
- Cheng, M. and Bosselman, R. (2016). An Evaluation of the Research Chefs Association's Bachelor of Science in Culinary® Core Competencies. *Journal of Hospitality and Tourism Education*, 28(3), 127–141. <https://doi.org/10.1080/10963758.2016.1189831>.
- Dijkstra, T. K. and Henseler, J. (2015). Consistent and asymptotically normal PLS estimators for linear structural equations. *Computational Statistics and Data Analysis*, 81(15), 10–23. <https://doi.org/10.1016/j.csda.2014.07.008>.
- Fusté-Forné, F. and Mundet i Cerdan, L. (2021). A land of cheese: from food innovation to tourism development in rural Catalonia. *Journal of Tourism and Cultural Change*, 19(2), 166–183. <https://doi.org/10.1080/14766825.2020.1797757>.
- Haenggli, M. and Hirschi, A. (2020). Career adaptability and career success in the context of a broader career resources framework. *Journal of Vocational Behavior*, 119(2), 400–414. <https://doi.org/10.1016/j.jvb.2020.103414>.
- Hair, H., M. C. and Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109(12), 101–110. <https://doi.org/10.1016/j.jbusres.2019.11.069>.
- Hair, J. F., Sarstedt, M., Ringle, C. M. and Hair, J. F. (2019). Rethinking some of the rethinking of partial least squares Rethinking some of the rethinking of partial least squares. *European Journal of Marketing*, 12(10), 0309–0566. <https://doi.org/10.1108/EJM-10-2018-0665>.
- Hair, M. L. M., Matthews, R. L. and Magdeburg, O. (2017). PLS-SEM or CB-SEM : updated guidelines on which method to use Marko Sarstedt. *International Journal of Multivariate Data Analysis*, 1(2), 1–68.
- Henseler, J., Ringle, C. M. and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>.
- Hossain, S., Kannan, S. N., Kala, S. and Raman, K. (2020). Factors Influencing Sustainable Competitive Advantage in the Hospitality Industry Factors Influencing Sustainable Competitive Advantage in. *Journal of Quality Assurance in Hospitality & Tourism*, 24(10), 1–32. <https://doi.org/10.1080/1528008X.2020.1837049>.
- Johnston, N. E. and Phelan, K. V. (2016). Assessing objective and subjective factors of culinary career success: Exploring the influence of industry certifications. *Journal of Culinary Science and Technology*, 8052(1), 36–58. <https://doi.org/10.1080/15428052.2015.1080641>.
- Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C. and Pellicano, E. (2016). Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism*, 20(4), 442–462. <https://doi.org/10.1177/1362361315588200>.
- Ketter, E. (2019). Millennial travel : tourism micro-trends of European Generation Y. *Journal of Tourism Futures*, 12(11), 1–5. <https://doi.org/10.1108/JTF-10-2019-0106>.
- Lei, C., Hossain, S., Mostafiz, I. and Khalifa, G. S. A. (2021). Factors determining employee career success in the Chinese hotel industry : A perspective of Job-Demand Resources theory. *Journal of Hospitality and Tourism Management*, 48(7), 301–311. <https://doi.org/10.1016/j.jhtm.2021.07.001>.
- Li, F. (2020). Social media marketing strategy : definition , conceptualization , taxonomy , validation , and future agenda. *Journal of the Academy of Marketing Science*, 10(5), 51–70.
- Mac, M., Iomaire, C., Allen, H., Allen, H., Mac, M. and Iomaire, C. (2016). Exploring Factors Influencing Success in Irish Kitchens Secrets of a Head Chef. *Journal of Culinary Science and Technology*, 15(3), 187–222. <https://doi.org/10.1080/15428052.2016.1225538>.
- Mahfud, T., Polytechnic, B. S., Pardjono, P., Yogyakarta, U. N., Lastariwati, B. and Yogyakarta, U. N. (2019). Chef's Competency as a Key Element in Food Tourism Success: A Literature Review. *Journal of Tourism and Geosites*, 26(3), 1057–1071. <https://doi.org/10.30892/gtg.26329-417>.
- Marinakou, E. and Giousmpasoglou, C. (2020). Chefs' competencies : a stakeholder 's perspective. *Journal of Hospitality and Tourism Insights*, 15(11), 2514–9792. <https://doi.org/10.1108/JHTI-06-2020-0101>.

- Martin-rios, C. (2019). Hospitality innovation strategies: An analysis of success factors and challenges. *Tourism Management*, 70(8), 218–229. <https://doi.org/10.1016/j.tourman.2018.08.018>.
- Presenza, A. and Petruzzelli, A. (2019). Investigating business model innovation in Haute Cuisine. Role and behavior of chef-entrepreneurs. *International Journal of Hospitality Management*, 82(3), 101–111. <https://doi.org/10.1016/j.ijhm.2019.03.027>.
- Rebouças, L. T., Santiago, L. B., Martins, L. S., Rios Menezes, A. C., Araújo, M. da P. N. and Almeida, R. C. de C. (2017). Food safety knowledge and practices of food handlers, head chefs and managers in hotels' restaurants of Salvador, Brazil. *Food Control*, 73(8), 372–381. <https://doi.org/10.1016/j.foodcont.2016.08.026>.
- Ren, S. and Chadee, D. (2020). Influence of guanxi on hospitality career performance in China: Is more necessarily better? *International Journal of Hospitality Management*, 91(3), 1–18. <https://doi.org/10.1016/j.ijhm.2019.102420>.
- Rose, R. and Shevlin, M. (2019). Conducting the Pilot Study : A Neglected Part of the Research Process ? Methodological Findings Supporting the Importance of Piloting in Qualitative Research Studies. *International Journal of Qualitative Methods*, 18(12), 1–11. <https://doi.org/10.1177/1609406919878341>.
- Sarstedt, M., Ringle, C. M. and Ting, H. (2019). Structural model robustness checks in PLS-SEM. *Tourist Economics*, 1(24), 531–554. <https://doi.org/10.1177/1354816618823921>.
- Sharma, S. (2019). Culinary skills: The spine of the Indian hospitality industry: Is the available labor being skilled appropriately to be employable? *Worldwide Hospitality and Tourism Themes*, 25(2), 25–36.
- Shyr, W.-J. (2018). Development of competences for teppanyaki chefs in food and beverage education. *British Food Journal*, 120(8), 1696–1707.
- Skinjaric, B. (2022). competence-based approaches in organizational and individual context. *Humanities and Social Science Communications*, 28(9), 1–12. <https://doi.org/10.1057/s41599-022-01047-1>.
- Sohn, E. and Lee, K. (2018). The effect of chefs ' nonverbal communication in open kitchens on service quality. *Journal of Foodservice Business Research*, 12(1), 1–10. <https://doi.org/10.1080/15378020.2018.1459125>.
- Sree, V. (2020). Pros and Cons of On the Job training versus Off the Job Training. *International Journal of Science and Technology Research*, 14(8), 1–5.
- Suhairom, N., Hatib, A., Fadila, N., Amin, M. and Kamin, Y. (2019). Quality culinary workforce competencies for sustainable career development among culinary professionals. *International Journal of Hospitality Management*, 81(2), 205–220. <https://doi.org/10.1016/j.ijhm.2019.04.010>.
- Wamboye, E. F., John, P. and Sergi, B. S. (2020). What are the determinant of international tourism in Tanzania ? *World Development Perspectives*, 12(2), 1–18. <https://doi.org/10.1016/j.wdp.2020.100175>.
- Wan, T. H., Hsu, Y. S., Wong, J. Y. and Liu, S. H. (2017). Sustainable international tourist hotels: the role of the executive chef. *International Journal of Contemporary Hospitality Management*, 29(7), 1873–1891. <https://doi.org/10.1108/IJCHM-08-2015-0406>.
- Webber, T. A., Critchfield, E. A. and Soble, J. R. (2018). Convergent , Discriminant , and Concurrent Validity of Nonmemory-Based Performance Validity Tests. *Assessment Journal*, 1(17), 1399–1415. <https://doi.org/10.1177/1073191118804874>.
- Wellton, L., Jonsson, I. M. and Svingstedt, A. (2017). “ Just trained to be a chef , not a leader ”: A study of head chef practices. *International Journal of Hospitality & Tourism Administration*, 20(5), 1–23. <https://doi.org/10.1080/15256480.2017.1397584>.
- Witulski, N. and Dias, J. G. (2020). The Sustainable Society Index : Its reliability and validity. *Ecological Indicators*, 114(9), 1–10. <https://doi.org/10.1016/j.ecolind.2020.106190>