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## Empowering Employees with Spiritual Intelligence for Higher Quality Food-hygiene Practices and Food Service Performance of On-premise Caterers

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# Empowering Employees with Spiritual Intelligence for Higher Quality Food-hygiene Practices and Food Service Performance of On-premise Caterers

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**Abstract.** Empowering employees' spiritual intelligence (SQ) is about bringing back the soul of the hospitality business. This study intends to identify factors that affect a food handler's SQ and also to discover SQ's potential role in mediating food-hygiene practices and foodservice performance. Using judgemental sampling, this study conducted a cross-sectional study to analyse usable data of 1026. The results show that demographic factors significantly affect SQ level. Food-hygiene practices and food service performance were fully mediated by SQ, thus supporting the food handlers' thoughts of self-development and success at work. It is proposed that the positive outcomes from the large and varied datasets of the model can be generalised to the routine practices and performance of other institutions.

## 1. Introduction

The Malaysian restaurant sector has been recording an increasingly high employee turnover rate over the years. Of concern is the adverse effect it has had on food-hygiene practices and foodservice performance. The business by its very nature almost always attracts young workers who treat their work experience as transitory and are devoid of commitment and loyalty which generally contributes to a general feeling of malaise at the workplace. This study hopes to show that skills training alone will not bring back the soul of the hospitality business. It involves nurturing the employee's inner feeling called spiritual intelligence (SQ) that will help them find work meaningful, purposeful and fulfilling. Increasing work involvement and participation leads to higher quality individual performance [1].

SQ is a very essential aspect of human behaviour and discovering what role it plays in an employee's routine practices, and performance has now taken centre stage in this study. Later, it also identifies the food handler's demographic characteristics that affect SQ. Demographics have become the subject of numerous studies as predictors, therefore incorporating these relevant characteristics may highlight important consequences on the SQ level.

Improper and unhygienic food preparation practices could lead to consumption of unsafe food. This is risky to human health. Food handlers should be aware of the right food-hygiene practices as



they handle food, irrespective of whether they prepare or serve the food. They need to understand fully and strictly follow hygiene practices and food safety by maintaining cleanliness and prevent contamination [2]. In order to deliver foodservice performance at an optimum level, training helps food handlers acquire skills and knowledge about hygiene practices and food safety [3][4][5]. Also important is inculcating rightful or appropriate behaviour into work practices [6], for example having an understanding of *halal* (permissible) and *toyibban* (good or superb) when serving people should be foremost in the food handlers' conscience. This high SQ could be translated into the best food hygiene practices. Hence, this study aims to answer if demographic factors affect the food handlers' SQ, and if SQ can potentially mediate Food-hygiene Practices and Food Service Performance.

## 2. Literature Review

Islam is very much concerned with good human behaviour. Muslims must have a sound heart, as Prophet Muhammad PBUH once said, "Beware, in the body there is a flesh; if it is sound, the whole body is sound, and if it is corrupt, the whole body is corrupt, and behold, it is the heart" (Al-Bukhari and Muslim). Islam as a religion of peace (based on its meaning) encourages its followers to be calm and respond to others peacefully and do the right thing in their daily life. This suits the SQ outcomes.

SQ is defined as the intelligence that people address at the deepest, most spiritual level when finding a connection to something that meaningful that transcends all our ordinary day to day actions [7]. SQ can inspire a person's best attitude and mould their capability and behaviour [8] that contributes to their life performance [9]. A person with a high SQ shows a positive attitude and has less negativity in their work [10]. SQ also enhances a worker's effectiveness [11], helps them handle difficulties and challenges in the workplace [13] and increase their work performance [8]. It promotes the capacity to care, tolerate and adapt; to develop a clear and stable sense of individual identity within shifting workplace relationships. Also to determine the meaning of work and events; to identify and align personal values with a sense of purpose; to live according to one's personal values; and to understand how ego can sabotage one's values and purpose [14].

A study by Ali [15] associates religious faith and value with their followers' attitude, such as when Muslims consider working as a 'worship' that encourages them to be hard working, innovative, creative, spontaneous and cooperative. Protestant followers consider working as a 'calling' thus making them embrace work values such as being hardworking, industriousness, persistent, and avoiding laziness which could enhance organisational success [16] [17].

### 2.1. Demographic Factors and Spiritual Intelligence

In SQ research, a few findings reveal certain related demographic profiles. All spiritual factors are related in a significant manner such as age, i.e. the older worker usually has a higher SQ as they undergo a more spiritual experience in life [18]. Yang's [19] study found that nurses with over ten years of nursing experience had the highest intelligence scores. They think more intensely about the higher divine energy source.

Furthermore, Gau [20] pointed out that the growth of one's spirituality needs the right surroundings and time to mature. Shabani, Hassan, Ahmad and Baba [21] did a study on SQ and emotional intelligence with the mental health of high school students. They found that age and gender were not a moderator between both variables. Other research also did not find age or other demographic variables moderating SQ [22]. They investigated SQ among medical students and found that there was no effect among demographic variables of age, gender, marital status and study field on SQ. Raisi, Tehran, Heidari and Mehran [23] found that SQ has no significant relationship with age, location, marital status, university admission and parent's occupational education among 353 nursing, midwifery and medicine students. In another study by Ghana, Jouybari, Sharif Nia, Hekmatafshar, Sanagoo and Chehregosha [24] no correlation was found between age, sex, marital status, ethnicity, major of study and grade point average with SQ.

Another significant profile is gender. Other than Shabani et al. [21], Rani, Abidin and Hamid's [13] have found that the moderating factor (i.e. nurse's age and hospital's location) as insignificant. However, the result showed the nurse's tenure affecting the relationship as it moderates the relationship

between SQ and work performance. Practising spirituality has been proven to result in a better and more balanced organisational performance [22].

### *2.2. Food-Hygiene Practices and Foodservice Performance*

Food safety and hygiene practices are two things that are interdependent in the provision of safe food. Food safety means that consumers are confident in consuming food that will not cause harm or sickness [23]. Cortese, Veiros, Feldman and Cavalli [24] stated that adaptation of hygiene practices by the organisation through providing a good, clean and organised storage would affect food safety. Yet, Sheth, Gupta and Ambegaonkar [25] and Jeinie, et al. [5] reported that most food handlers displayed poor personal hygiene and poor personal habits. Deserting food-hygiene practices will lead to foodborne diseases which indicates a failure in hygiene management practices in handling food [26] [27] [28] [29]. Food hygiene has been defined as the cleanliness of the food that is produced. There are three areas of food hygiene: safety procedures, cleaning practices, and confidence management or control procedures. The requirement for enhancing food hygiene depends on safety procedures and basic food handling practices [28]. Food-hygiene practices include personal hygiene practices, food served and atmosphere. Food handlers who are involved in food preparing and serving need to have an awareness of food-hygiene practices throughout the whole task to ensure food safety [30].

Three elements of foodservice management performance; food performance, service performance, and ambience performance [31] [32] [33] are the hospitality service attributes essential for creating a satisfied customer and a great dining experience. Liu and Jang [34] in their study indicated that food quality is food performance, service reliability is service performance, behaviour and attitude of the employees [35] and environmental cleanliness are the ambience performance.

### *2.3. Spiritual Intelligence as a Mediator Role*

SQ is also related to the enhancement of organisational performance. Petchsawanga and Duchon [36] discussed a similar issue. According to them, two more studies proved that promoting employees' spiritual selves according to the eastern context will enhance work productivity. The results also show that meditation was found partially mediating the association between workplace spirituality and work performance.

Bodla and Ali [37] empirically investigated the role of spiritual well-being variable as a mediator between spiritual leadership and individual work outcomes like performance, organisational commitment, and job satisfaction. A partial mediation effect was observed, which points to the existence of a direct relationship between independent and dependent variables. The study concluded that the positive relationship found between spiritual leadership and elements of spiritual survival/well-being had practical implications for effectiveness in banking.

Albuquerque, Cunha, Martins and Sa [38] conducted a study on the influence of three dimensions of workplace spirituality on perceived and objective organisational performance. The dimensions include inner life, meaningful work and a sense of community. A total of 266 healthcare workers (doctors, nurses and administrative staff) involved were from both health centres and family health units in Portugal. The study highlighted the significant mediation effect of the total spirituality construct on the relationship between the workgroup and perceived and objective organisational performance. Meaningful work and sense of community emerged as significant mediating variables in the two types of organisational performance, while inner life did not.

Chen, Yang and Li [39] measured a leader's spiritual leadership, vision, hope or faith, and altruistic love and found three types of follower's factors influencing organisational outcomes. They are employee spiritual attribute towards work – meaning or calling; employee spiritual attribute towards organisation/team - membership; and employee spiritual attribute towards inner self-self-esteem and self-efficacy. Spiritual leadership was found to predict spiritual well-being sub-scales of meaning/calling and membership. Meaning/calling and membership were found to mediate the relationship between spiritual leadership and organisational outcomes. The other mediation effects of SQ were also evident in studies by Habib, Riaz and Akram [40] who found that SQ mediates the relationship between EQ and life satisfaction, and Rahimi and Karami [41] who found that SQ works as a mediator between psychological well-being and life satisfaction. The presented literature can be

summarised; that the elements of spirituality have a positive effect as mediators on workplace performance [1].

### 3. Research Methodology

The targeted population was food handlers in government-controlled foodservice in all 13 states of Malaysia. A total of 1026 responded to the posted questionnaires, which were collected within a month. Question items for Food-hygiene Practices were taken from the instruments developed by Bolton et al. [42], and adapted in line with the Ministry of Health Malaysia's *Latihan Kendiri* (self-check) or SELF-checklists. The SQ question items were taken from Ayranci's [43] Integrated Spiritual Intelligence Scale (ISIS). Meanwhile, the measurement items for the dining meal experience performance were replicated from Kleynhans (2003).

Following Croasmun and Ostrom [44], the 6-point *Likert* scale was used to measure all studied variables. The analysis of the independent t-test and ANOVA were utilised to answer the research question. Are the demographic factors affecting the food handlers' SQ? Additionally, the SEM-PLS was used to examine the posited research hypothesis in the current study. The analysis results and discussions are presented in the next section.

### 4. Analysis, Results and Discussion

#### 4.1. SQ Potential Roles as a Mediator

The subsequent section explains the necessary tests before looking into at SQ's role in the routine practice-and-performance.

#### 4.2. Measurement Model

Entire outer loadings performed in this study has exceeded 0.5. Thus, the model presents the acceptable convergent validity. The results indicate that all constructs have a high level of convergent validity, meaning that the indicator items in each construct have a high proportion of variance, and are reliable in reflecting their construct.

Table 1 shows that all constructs have a higher discriminate validity on their construct compared to others. Thus, all constructs are more strongly correlated with their own measures than with any of the other constructs. Since the constructs are strongly correlated to their measures, then each of the constructs is distinct from the other constructs.

**Table 1.** Discriminant Validity

	APERF	FPERF	FHP	SPEFR	SQ
APERF	0.778				
FPERF	0.567	0.774			
FHP	0.239	0.286	0.911		
SPEFR	0.551	0.698	0.255	0.790	
SQ	0.346	0.445	0.295	0.497	0.636

*Note.* Average variance extracted. APERF=Ambience Performance, FPERF=Food Performance, FHP=Food-hygiene Practices, SPEFR=Service Performance, SQ=Spiritual Intelligence

The composite reliability score for all constructs is above the cut point of 0.7. Particularly, Food-hygiene practices (0.907), SQ (0.859), Food Performance (0.856), Service Performance (0.833) and Ambience Performance (0.860). Thus, all five reflective constructs have high levels of internal consistency reliability. The result implies that each indicator item strongly measures the corresponding construct it attempts to reflect. Thus, the measurement models are significant and reliable.

#### 4.3. Structural Model

This study evaluated the statistical significance of the mediating effect involved in the testing of the null hypothesis on the direct effect  $\beta_c$  ( $H_0: \beta_c = 0$  against the alternative  $H_1: \beta_c \neq 0$ ). Table 2 shows the path coefficient for each relationship, also known as the direct effect of each construct. As can be seen, the direct effect is statistically different from zero, ( $\beta_c \neq 0$ ). Thus, since the null hypothesis  $\beta_c = 0$  is rejected, it is statistically significant.

**Table 2.** Path Coefficient

Relationship	Path Coefficient	T Statistics	P Values	Confidence Interval	
				lower	upper
SQ	0.33	12.774	0.000	0.288	0.389
FPFR	0.466	44.185	0.000	0.422	0.515
SPFR	0.516	22.125	0.000	0.477	0.567
APFR	0.379	12.409	0.000	0.327	0.444

*Note.* APFR=Ambience Performance, FPFR=Food Performance, SPFR=Service Performance, SQ=Spiritual Intelligence

Subsequently, Table 3 and 4 demonstrate that the direct, indirect and total effects are significant, indicating that SQ mediates the relationship between Food-hygiene Practices and Foodservice Performances. The total effect of the Food-hygiene Practices on SQ can be derived from the summation of the direct and indirect effects;  $0.33 \text{ Food-hygiene Practices} + 0.449 = 0.779$ . Specifically, based on the estimation on average, the presence of SQ enhanced the performance of food, service, and ambience by 78%, proving the importance of the SQ.

**Table 3.** Indirect Effect

Relationship	Path Coefficient	T Statistics	P Values	Confidence Interval	
				Lower	Upper
FHP -> APFR	0.111	6.544	0.000	0.080	0.145
FHP -> FPRF	0.154	8.142	0.000	0.123	0.192
FHP -> SPFR	0.164	8.637	0.000	0.132	0.201

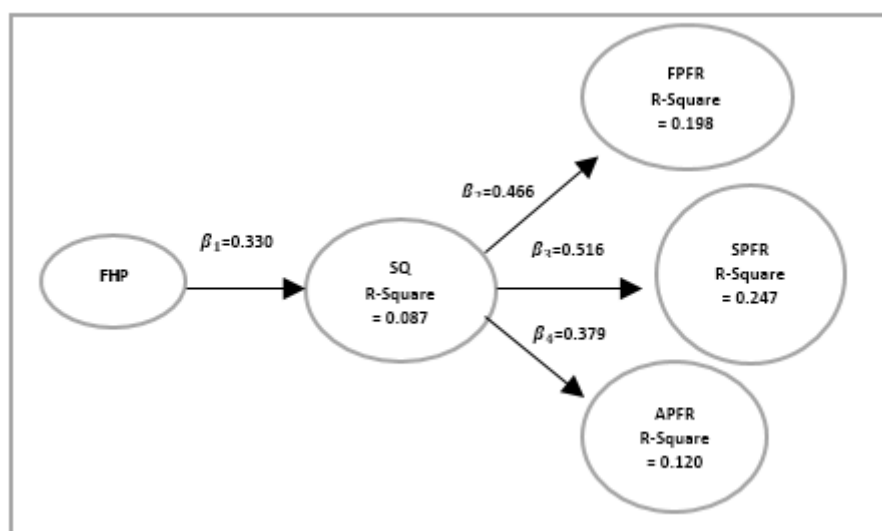
*Note.* APFR=Ambience Performance, FPRF=Food Performance, FHP=Food-hygiene Practices, SPFR=Service Performance

**Table 4.** Total Effect

Relationship	path coefficient	T Statistics	P Values	confidence interval	
				lower	upper
FHP -> APFR	0.102	6.167	0.000	0.075	0.141
FHP -> FPRF	0.132	7.667	0.000	0.102	0.167
FHP -> SPFR	0.147	7.871	0.000	0.115	0.187
FHP -> SQ	0.295	9.244	0.000	0.239	0.359
SQ -> APFR	0.346	10.599	0.000	0.292	0.415
SQ -> FPRF	0.445	18.681	0.000	0.398	0.494
SQ -> SPFR	0.497	21.096	0.000	0.456	0.547

*Note.* APFR=Ambience Performance, FPRF=Food Performance, FHP=Food-hygiene Practices, SPFR=Service Performance, SQ=Spiritual Intelligence

The SQ mediation model is illustrated as in Figure 1.



**Figure 1.** Structural Model

*Note.* APFR=Ambience Performance, FPFR=Food Performance, FHP=Food-hygiene Practices, SPFR=Service Performance, SQ=Spiritual Intelligence

The hypothesis of this study is supported, in which SQ was found to mediate the practice and performance relationship fully. This study urges managers and decision-makers to value the impact of SQ in the service industry. The food-hygiene practices apparently not only correlate but are significantly related to performance and this is in line with other empirical studies such as Albuquerque, Cunha, Martins and Sa [38], Petchsawanga and Duchon [36] and Bodla and Ali [37] where the quest is to find the meaning that promotes a healthy relationship between practice and performance. Next, as they are connected significantly, SQ now enables the managers or decision-makers to find more space to enhance company performance. For practitioners, the managers and decision-makers will have a great opportunity to look into the good practices among their employees and to optimise SQ among them. As SQ is concerned, another significant finding found that the SQ level is generally low among the food handlers, which in turn leads to unattractive results for the company's performance. Hence, the subsequent section shall analyse and discuss the possible influential demographic factors.

#### 4.4 Demographic Factors that Affect Food Handlers' Spiritual Intelligence

To identify demographic factors that affect the food handlers' SQ, gender, age, qualification, job status, and working hours were checked and analysed. This study obtained about 10% more responses from the female food handlers than the male. They are young workers between the age of 18 and 30 years old and have only completed high school. Their profile also confirms their status as contract workers, while permanent workers only comprise 24%. These food handlers work between 8 and 10 hours daily and have been in the foodservice industry between one and five years.

The independence T-test tested the effect of gender on SQ. The test shows that there was a significant difference in the relationship between both genders and SQ since the p-value was 0.000 (0.05 alpha cut of a point). The results reveal the Group Statistics table which shows that male food handlers ( $\mu_1 = 5.0290$ ) had lower levels of handling their own SQ at the end of the program compared to the female food handlers ( $\mu_2 = 5.1684$ ). This study then later conducted the Levene's test for equality of variances since it was suitable for the normality assumption for PLS-SEM technique showing that  $t(1018) = -3.430$ ,  $p = 0.001$ . In handling SQ, male food handlers were found to be significantly lower than the female, with an average score of 5.0290 (male) and 5.1684 (female).

Other demographic variables were examined using ANOVA to compare the variance (variability in scores) for one independent variable (SQ) and different groups in a continuous variable.

The results of the F-test and  $p$ -values are depicted in Table 5, showing a significant difference for age on SQ ( $F=5.722$ ,  $p=.000$  and for working experience ( $F=2.931$ ,  $p=.020$ ). However, other factors such as qualification, job status, and job hours had no significant difference on SQ.

From the ANOVA results, this study had further tested multiple comparisons to seek the post-hoc value of Age. The post-hoc test shows Age having a significant difference in SQ. There was a mean difference that was significant at the level of 0.05, showing that the age range between 18 and 30 years old had a significant relationship with all other age range except those below 18 years old. The significance level of 18 and 30 years old was evident on other age range; 31-40 years old ( $p=0.24$ ), 41-50 years old ( $p=0.009$ ) and above 50 years old ( $p=.002$ ). The post-hoc value for working experience was further analysed. The mean difference for working experience was significant at the .05 level, the SQ level which the study found among food handlers who have less than a year working experience ( $p=.019$ ), as having a significant relationship with those who have more than 10 years working experience ( $p=.019$ ).

**Table 5.:** Results ANOVA (Demographic Profile)

Research Questions	F-test	$p$ -value	Result
1- Is there a significant difference between Age and SQ	5.722	.000	Supported
2-Is there a significant difference between Qualification and SQ	1.316	.262	Not supported
3-Is there a significant difference between Job Status and SQ	2.366	.070	Not supported
4-Is there a significant difference between Job Hours and SQ	1.984	.115	Not supported
5-Is there a significant difference between Working Experience and SQ	2.931	.020	Supported

The presented analyses of this study unveil the demographic factors of gender, age, and working experience as being related in a significant manner. This study is consistent with Gau's [20], Wolman's [18] and Yang's [19] where age and working experience pattern a person's behaviour. Age is not only a sign of existence, but age brings wisdom and knowledge. However, age is a matter for someone to behave in the way that the person conducts herself/himself. The finding of this study reveals that employees below 30 years old are significantly different from those aged more than 50. The spirituality level of the under thirty respondents can be interpreted as low probably due to the fact that they are considered young and inexperienced and would also need a lot more training. It is this low SQ level that influences their behaviour at work, and whether they choose this line of work temporarily or as a step towards a future career.

A study by Rani, Abidin and Hamid [13] has proven that nurses of different age groups have more or less the same SQ level, but this is not the case with working experience. The current study found that food handlers with 10 years working experience seem more at one with work and are more natural when interacting with colleagues and customers. This finding relates to how they subconsciously feel about their work. This is probably the SQ, the inner feeling that can only grow over time and in a stable career environment. Gau [20] argues that the potential SQ in a person is big as it is a self-awareness that involves higher consciousness in one's life experience. Once developed the feeling is manifested in their behaviours in all situations. A worker with high SQ can quickly adapt to challenges in any situation even though s/he is not a permanent worker. A high SQ person has high adaptability, and self-manageability in life as their total submission to God makes them more aware of other's needs. As with a Muslim who considers a job as a form of worship to God, he or she will become more hardworking, cooperative, and persistent. This will eventually craft all workers to perform in the organisation.

The demographic results of this study are consistent with that of Shabani et al.'s [16], Yang's [19], and Rani, Abidin and Hamid's [21]. Our findings recognise an essential ingredient that is much needed in the hospitality industry. It is about people who work with their hearts and spirit and about finding a connection, meaning and purpose at work that will enhance work practices and performance.



The findings of this study could also pave the way for future research on other potential factors that influence SQ.

## 5. Conclusion

The findings of the study show important practical implications for organisations to consider SQ's positive impact on employees' work engagement towards the success of the organisation. This study has empirically proven that SQ causes the proposed framework model matters as the complete intervention. However, explained by the demographic factors, the presented results indicate that gender, age, or the maturity level of a person, and working experience are significant when intellectual and emotional intelligence intertwine and form the behaviour of the food handlers. SQ impacts food-hygiene practices. Good food-hygiene practices ensure that food is safe to be served. Hence, apart from knowledge and skills about food-hygiene, it is imperative that food handlers be empowered with SQ. Conscientious food handlers adopt good food-hygiene practices as an obligation. This rightful behaviour is a display of SQ.

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