

## Hotel Managers' Perception of the Internal Environment for Innovation: The Case of Egyptian Hotels

Karam Gomaa Mohamed Zaki

Faculty of Tourism and Hotels, Fayoum University

### Abstract

For many individuals the term innovation stands for success and something new in our lives. Some might think of their first smart phones, others of using solar panels on their roof. But innovation is so much more; it moves our society forward especially in case of the high market competition.

Innovation has not attracted fair attention in the Egyptian hotel industry, as it is difficult to measure. Hence, this work developed first a theoretical model of innovation determinants and outcomes, to help the hotel managers and executives to better manage innovation especially in cases of competition and recession periods. The theoretical foundations of this conceptual framework are based on the Attitude-behaviour theory. Second, this research highlighted the importance of perceived innovation among a sample of hotel managers in Cairo and Sharm El-Sheikh based in Egypt. Furthermore, new determinants and key indicators to the innovation in hotels (work-life balance; usage of sustainability indicators; innovation importance knowledge; demographic factors) were first, to date, researched and examined in the Egyptian hotel sector in relation to the perceived innovation and innovation success.

The researcher distributed a self-administered questionnaire to a sample of 450 hotel managers in 55 Egyptian five-star hotels based in Cairo and Sharm El-Sheikh. The current research tested hypotheses using the Structure equation modelling (SEM) and the analysis of regression performed by AMOS software 20.

The results revealed that the key determinants of innovation such as work-life balance, key sustainable indicators usage, innovation importance knowledge and some demographic factors (marital status, gender, level of education and age) had an effect on the perceived innovation construct and business success afterwards. In addition, hotel managers experienced significantly differences in innovation according to some demographic characteristics. Implications for practice are discussed as well as future research scenes are offered.

**Keywords:** Innovation, Egyptian hotel managers, critical success factors, business success, demographic characteristics

### Introduction

Innovation seems to be a multidimensional concept that means of any new ideas, products, systems or processes. It means as well the development of products or services, system, process or any organizational forms. Innovation may occur in the management structure of any organization or in the way it markets their products or services (Schumpeter, 1951; Omerzel, 2016).

The daily hotel issues highlight the concept of innovation in many different ways. Product or service innovation comes to develop and introduce the new creative goods or services. An example of that type of innovation may consider the day use option instead of the night selection in hotel occupancy due to the cost of accommodation to the customer who would like to entertain and use the hotel facilities according to their budget especially in the inflation that has been witnessed in Egypt.

Innovation practices in hotels encompass the introduction of new methods; the opening of new market; the use of sustainable resources and organic materials in production; the development of the structure and the management style.

Considering the resource based view theory, to achieve the competitive advantage any organization should determine its critical success factors or the whole system consequences and determinants to best use its resources in innovative way (Kozlenkova et al., 2014). Pervious research guaranteed the relationship link between innovation and the competitiveness and business success (Omerzel, 2016).

Despite of the importance of innovation in hospitality context and the more attention from both practitioners and researchers that received, this issue still needs more investigation due to the lacking literature on innovation in tourism in general as recently declared by Omerzel (2016) in his systematic review article published in the international journal of contemporary hospitality management. He noticed that innovation as a title in the international publications grows dramatically since it has been a few number of published papers counted on one hand in the 1990s and suddenly grows to ten times by the year 2014.

Once again the innovation concept was not fully empirically tested neither in the hospitality nor in the hotels sector which push the researchers to understand this concept in an isolated ways as highlighted by Gopalakrishnan and Damanpour (1997). Therefore getting the consensus of the meaning of innovation did not achieved yet so far.

The main problem of innovation research in hotels merely appears in the diversity of the affecting factors and the interconnections among many determinants and the shortcomings of complete models conceptualize the innovation causes and effects as well (Anderson et al., 2014).

The hotel industry is characterized by its labour intensive and provides intangible services to customers. One of the main problems for service providers sectors, such as hotels, is the highly renewable customer expectations, so higher levels of innovation even in the product or the process would gain successful outputs. As a result, studying innovation is likely to be of major interest in the hotel industry and its measurement is an interesting aspect of operational management performance. Staff attitudes toward perceived innovation measurement in hotels are considered the best way to deliver competitiveness and success.

Strangely to say that from 2005 till now, there is a little research has been done in the context of innovation based in hotels over the globe in general and in Africa particularly (only six published papers) according to Omerzel (2016). However this research hopes to shed the light on this substantial issue in the Egyptian hotel service.

The hotel management research does not offer a suitable model for measuring innovation based on perceived measures. To the best of our understanding, the main reason for this is the complex and dynamic nature of measuring innovation in the hospitality context and the unique characteristics of its services, especially in relation to intangibility and inseparability( Brown et al., 2011). The proposed model ( Figure 2) here is based on the resource based view theory of Barney (1991) since the innovation may help hotels reaching and sustaining higher competitive standards whatever the competitors steal or copy the new developed ideas or not as argued by Weidenfeld (2013) who raised this challenge to innovate because of service process is highly visible and difficult to cover the creative ideas behind the scenes of others.

Despite its probable importance, innovation has not attracted much attention in the Egyptian hotel industry, as it is difficult to measure. Hence, this article develops first a conceptual model of innovation (Figure 2) determinants and outcomes to help hotel managers to better manage innovation especially in cases of competition and recession periods. The theoretical foundations

of this conceptual framework are based on the Attitude –behaviour of Ajzen and Fishbein (1980) theory , which maintains that work attitudes are shaped from people beliefs and the working environment situations. Second, this research highlighted the importance of perceived innovation among a sample of hotel managers in Cairo and Sharm El Sheikh based in Egypt. Furthermore new determinants and indicators to the innovation in hotels (work-life balance; usage of sustainability indicators; innovation importance knowledge; demographic factors) were first, to date, researched and examined in the Egyptian hotel sector in relation to the perceived innovation and innovation success.

### **Literature Review**

According to Schwarzkopf (2016) the term innovation connected with progress, success and anything new. Creativity appears in the first iPhone, solar panels and many new ideas. Innovation is so much more creative things; it moves societies forward, however it brings also new challenges. It keeps mankind in a continuous competition for customer demand.

The historical background of the innovation concept has been indicated in many previous research (Johnson, 2001; Anderson et al., 2014; Chen et al., 2017). Innovation concept comes from the Latin verb *innovare* which means creating or renewing something (Anderson et al., 2014). The Webster dictionary definition of innovation word is to introduce anything new such as methods, ideas, products (Mish, 1986).

The first foundations of the word innovation has been originated in some Latin Church texts of Tertullian around 200 BC and Augustin around 400 BC with the meaning of renewal and change (Muller and Zenker, 2001). Shakespeare used the word innovation in the political change context in full chapter about entrepreneurship as reported by Muller and Zenker (2001).

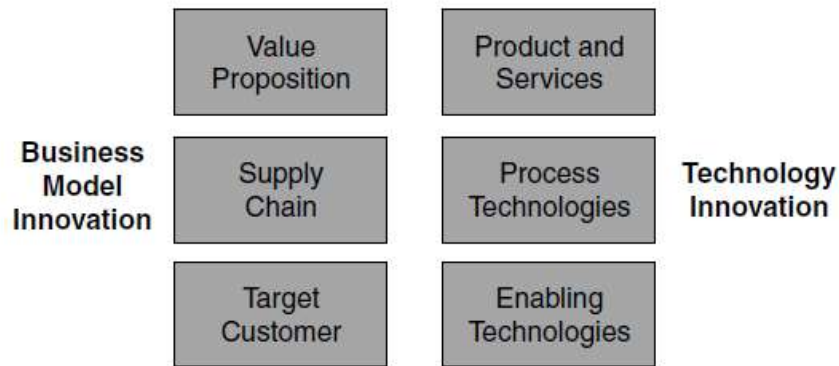
Today our understanding of the innovation concept in a more practical and financial logic has been mainly moulded by Schumpeter in the twenties century, and probably also influenced by Machiavelli (Schumpeter, 1951).

Johnson (2001) highlighted to invention and innovation concepts get mixed up or are used similar. However, modern research, especially Schumpeter, clearly distinguishes between an invention and innovation, with the former being part of the latter. The missing element is implementation in a market. Schumpeter sees innovation combining factors in a new way and bringing them to life or converting the invention into the market (Schumpeter, 1951).

Leonardo da Vinci is often regarded as the chief inventor in the world, and he can serve to simplify the difference between invention and innovation concepts. Leonardo's inventions such as airplane prototypes or robotic knights had never been implemented during his life, and thus never be in use. Times later, societies may have been stimulated by his thoughts and inventions to implement them and make them an innovation. This is the principle of Schumpeter, that it takes other individuals or the business entrepreneurs to truly implement the new inventions and ideas (Schwarzkopf ,2016).

Davila, et al. (2006) highlighted that Innovation involved any type of change to the following components of either the business model (value, supply chain, intended customer) or in technology which appears in products or services or the process as shown in (Figure1).

Figure 1: The six levers of innovation



Source: (Davila et al., 2006).

Davila, et al. (2006) further confirmed that the innovation types are incremental, the semi-radical and radical. The incremental innovation achieves small progress to the current products, services and business processes. It can be understood of as an example in problem-solving where the target aim is clear but how to reach it wants to be solved. While, the radical innovation leads to new ideas delivered in completely novel techniques. It can be understood of as an example in exploration where there might be somewhat significant in a specific way but what will be found is mysterious. In order to select the suitable type of innovation, it is compulsory to realize the features of each type and when to use it.

Many authors obviously indicated that the innovation concept is not simple and has been considered an important issue in ages, with many meanings and much more efforts to describe this concept. Johnson (2001) declared that there is no consensus on the meaning of innovation especially in services. Nevertheless, there is little research on innovation in the service sector so far (Kessler et al., 2015).

Innovation in hotels is defined as the process of creation any changes to a traditional something by introducing somewhat new that brings value to the customers (O’Sullivan and Dooley, 2008). Many research on innovation has been done in manufacturing and other businesses , while in services the term comes too late (Omerzel, 2016).

Almost all the definitions of innovation contained some basic foundations about the newness or the novelty. This might not only mean something new to the business rather than something more radical and supports a change. Innovation is related too much with the fast development of the hospitality industry over the past 50 years since it has been noticed the new hotel brands, companies and chains worldwide.

Many authors agreed that innovation leads to a competitive advantage and consequently of performance and success either in manufacturing (Anderson et al., 2014; Omerzel, 2016) or in the service context (Orfila-Sintes et al., 2005; Hjalager, 2010; Campo et al., 2014; Pikkemaat and Zehrer, 2016) .

Hotels could be considered innovative once their features has been involved new development of idea creation, organizational learning and performing or leading change which might happens in one of four dimensions as reported by Anthonisz (2014): first, the product innovation which has changes in the hotel products or the offered services to the target customer; second, process innovation that has changes in the way in which products or services are created and delivered; third, position innovation which means variations in the context in which products or services are

introduced; forth, paradigm innovation which has changes in the underlying mental models which structure the purpose of any organization.

This previous literature led the researcher to the first hypothesis which is:

Hypothesis 1: Perceived innovation is a multidimensional concept.

The main problem of Innovation as reported by Anthonisz (2014) in the hotel industry has frequently been criticized for its absence of innovation.

Artič (2013) indicated that innovation is predictable if an organization needs to continue in the market, and nevertheless the hospitality context still seems to be lagging behind, mostly in relation to more inclusive and radical innovations. This can moderately be clarified by putting a substantial emphasis on effective everyday processes, and consequently, very limited numbers of hotels have unique processes or sections for innovation in services that they offer to the guest. Starwood and Marriot are examples cited in Jayawardena et al. (2013) that has an innovation division while others has not. However, recently the hotel industry has made considerable movements into the development of a number of innovation types aimed at enhancing the customer service, making operational competences and increasing more sustainable methodologies. Furthermore, three key factors of extreme competition, the need for a unique marketing and the very challenging customer needs have raised innovation to the top priorities (Jayawardena et al., 2013).

The potential impact of innovation on the hotel industry is that they will rely on a technology-based environment, much of which may be unseen to the guest such as sustainable energy of heating, air conditioning, air quality and the LED lighting usage, but also the way in which customers are recognized on their arrival so the entire check-in process could change (Sloan et al., 2013).

Campo et al. (2014) counted the key innovations observed in the hotel industry mainly in technology and key sustainability indicators such as: the use of integrated management systems; automatic check-ins; radio-frequency identification tags used in laundries and automatic uniform dispensing; hotel lobbies as fully integrated social media applications with access to tablets, headphones, touch screens; and iPads in the hotel rooms that provide the customer with the freedom to select the lighting, heating, request the in house room service by just a button click. For the most part, the use of innovative key sustainability indicators has been the biggest contributor to streamlining hotel operations that affect the innovation activity and afterwards enhancing the guest experience. These devices and applications are changing the traditional revenue-generating landscape for hotel owners and operators who have no choice but to adapt because many of their customers have already incorporated these new technologies into their day to day lives.

Innovations in sector are tenuous since now we are facing economic crisis, the benefits of innovation on hotel industry could be used to overcome the crisis (Bilgihan and Nejad, 2015).

This previous literature led the researcher to the second hypothesis which is:

Hypothesis 2: Usage of sustainability indicators (Ksi) has a positive effect on the perceived innovation.

Many research outlined the outcomes of innovation especially innovation success and firm performance success. The organizational innovativeness is a precondition for the successful implementation of innovation and the innovation success consequently contributes to business success (Omerzel, 2016). In terms of innovation success, innovation research usually distinguishes between product innovations (e.g. the number of innovations and their contribution to revenue or profit) and process innovations (usually cost-saving measures) as indicators of the

success of innovation at the corporate level (Nieves and Diaz-Meneses, 2016). Business success are measured by financial as well as non-financial indicators as reported by Chen et al. (2017).

There are three key indicators of overall organizational performance to evaluate the success of innovations implemented in the hotel industry: market success, financial success and employee-related success (Kessler et al., 2015).

According to Vila et al. (2012) hotel staff perception of innovation is highly related to their knowledge and awareness level of the potential outcomes of innovation.

The attitude-behaviour theory of Ajzen and Fishbein (1980) entailed persons that hold attitudes in their working location, this attitude affects their behaviours. The individual's attitudes represent their favourable or unfavourable evaluation of the specific realm. It is expected that favourable attitudes are linked to good behaviours and vice versa. According to this theoretical foundation the rationale for the third hypothesis of this research is presented as following:

Hypothesis 3: Innovation importance knowledge (Ik) has a positive effect on the perceived innovation.

The lack of comprehensive conceptual models about innovation in the hotel industry in general and in the Egyptian hotel sector in particular guided this research to offer a modest effort to fill this gap in the literature by providing the following theoretical framework (Figure 2) based on the attitude-behaviour theory and resource based view theory. This research conceptual framework incorporates the key determinants of innovation and its consequences. Most of the internal and external environment factors that shape the predictors of innovation such as: organizational factors; marketing; technology were empirically tested in previous research in relation to the dependent factor of business performance with the mediating role innovation. The main context of this research is the bulleted rectangular as shown in Figure (2) because these stimulus factors were rarely tested empirically in the Egyptian hotel sector as well as incorporating all of the conceptual framework herein needs further validations and much effort to collect the data from the field which is beyond the researcher ability.

Providing a measurement method for innovation in hotels depends on a clear model of how innovation is managed and how new ideas are created, evaluated and selected, and transformed into business value.

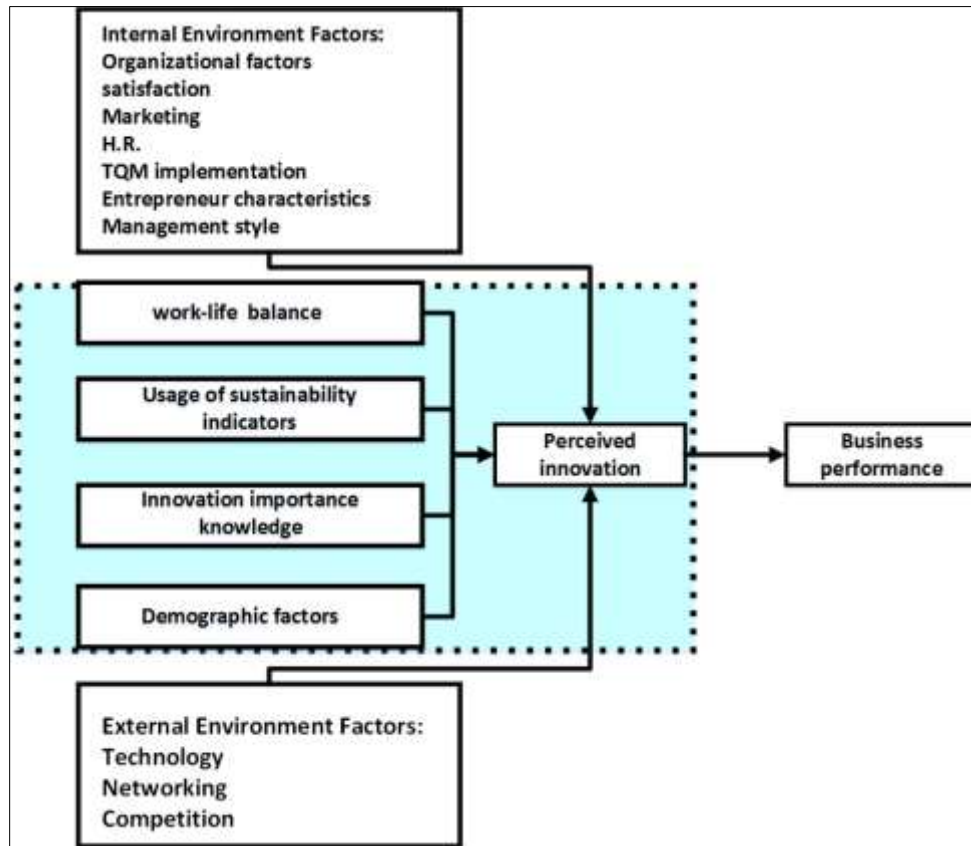
Noteworthy this research highlighted the relationship between work-life balance and the perceived innovation.

The interest in studying work-life balance is increasing according to Harrington and Ladge (2009). It is extensively accepted by academics that the work-life balance is connected with desired consequences in the work environment. Despite this increased interest and these favorable outcomes of work-life balance, little studies have directly linked it with outcomes. Also, several scholars have pointed out that the effect of work-life balance on employees' attitudes and behaviors is still unclear and have called for more in-depth research (Dex and Bond, 2005).

Kim (2014) found that many studies were limited to clarify what effect work-life balance can have in changing employees' attitudes and behavior. Moreover, he further stated that the work-life balance research were carried out in the developed countries categorized as having a personal society may show results different from those of studies in developing countries such as Egypt, characterized as a different society (Clark, 2000).

Work-family balance is defined by the level of satisfaction and good performing in the work environment and at home without any conflict. This research sought that work-life balance leads to attitude of innovation as agreed with Kim (2014).

Figure 2: The research conceptual framework demonstrating relationships among concerned variables



Several empirical studies have showed that the experience of work-life balance is positively related to organizational performance. Definitely, work-life balance has been shown to have constructive consequences, such as low turnover intention, improvement of performance, and job satisfaction (Kim, 2014).

Finally two other hypotheses were formulated based on the key findings from the conceptual framework and in the light of the previous related literature as follows:

Hypothesis 4: Work-life balance (W) has a positive effect on the perceived innovation.

Hypothesis 5: The perceived innovation is affected by the demographic factors of (age, gender, marital status, level of education).

### Research Design

This research is based on the Egyptian five –star hotels that supposed to be excellent service provider and works in a highly competitive and innovative environment that suite the main scope of this work. Two main tourism destinations were selected to be the sampling frame. The down town Cairo which is the capital of Egypt and the Sharm El-Sheikh which is considered the most beautiful destination in Egypt were selected from Egypt. The aim of selecting two samples is to capture the variability of interpreting the results and to provide more external validity to the obtained results (Walsh et al., 2015). As well as, these two cities are considered the best civilised downtown regions in Egypt with the largest number of five-star hotels (Mohamed, 2015).

According to the EHA (2016), the total number of the hotel population in Cairo is 33 five-star hotels and 43 hotels in Sharm El-Sheikh. The researcher contacted all the management of these hotels to explain the aim of this research so as to get permission to distribute the research questionnaire. The total number of the accepted hotels to participate was 55 hotels 30 of them in Cairo and 25 from Sharm El-Sheikh representing about 72% response rate. The total number of the hotel managers in the 55 participated hotels was 2720 based on the information obtained from the hotel key respondents. The researcher distributed 500 surveys using the simple random sampling since the total population is homogenous which constitutes 18% sample percent that is accepted according to Gay and Diehl (1992). The total number of and returned questionnaires were 450 yielding very positive response rate of 90 percent. Considering incorporating nearly all the hotel sections in the sample was performed to represent all job classifications and the characteristics of the target population. Piloting was performed on a sample of 50 managers to test the questionnaire instrument. Pilot test results were guaranteed fully understanding of all participated respondents to the research variables.

The designed questionnaire involved three sections (Appendix1). First section contains a cover letter to explain the purpose of the survey, key contact information, and general directions followed by four questions about the demographic data of (age, gender, marital status and the level of education). The second section designed to get the respondent perceptions on the innovation behaviour in the hotel. The innovation behaviour measures were developed based on reliable and valid scales of previous researchers such as: (Schumpeter, 1951; Hjalager, 2010; Badewi, 2016; Nieves and Diaz-Meneses, 2016; Omerzel, 2016; Sen and Kaushik, 2016) with some wording alteration to match with the research purposes. All research constructs were measured by the use of a 5-point Likert-type scale in which 1= (strongly disagree) and 5= (strongly agree).

The third section contained the four constructs of the innovation determinants that are suitable to the hotel operations: work-life balance, key sustainable indicators, innovation importance knowledge and the demographic factors.

Considering the first subscale of work - life balance in which seven statements have been constituted its scale according to the literature of (McCarragher and Daniels, 2000; McCarthy, 2001; Dex and Bond, 2005; Kim, 2014) with some amendments. Key sustainable indicators were measured through six well developed and validated sub scales (four items about energy, eight items represent the waste, six items for water, three items of sustainable food, five measures for corporate social responsibility and five items related to greening schemes). The sustainable indicators were finally composed from 31 questionnaire items according to previous research of (Sloan et al., 2009; Zientara et al., 2010; Winroth et al., 2012; Zhang and Chin, 2012). Thirdly, the innovation importance knowledge construct was measured through six items modified from previous studies (Orfila-Sintes et al., 2005; Orfila-Sintes and Mattsson, 2009; Vila et al., 2012; Omerzel, 2016) to evaluate respondents understanding about the benefits of innovation.

Questionnaire analysis was performed through three stages of analysis: first, preliminary analysis of screening the data prior to analysis; second, descriptive analysis; third, multivariate analysis.

Preliminary analysis aims at establishing and testing necessary conditions prior to multivariate analysis. By investigating data issues such as addressing missing data, dealing with outliers, normality test, multicollinearity, linearity, and homoscedasticity. Preliminary analysis also included sample size and sample bias to measure the differences between groups or variables (e.g. T-test).



The second stage was concerned with some descriptive analysis, which included: some central tendency measures; variability (dispersion) measures; and some information concerning the distribution of scores. The third stage included multivariate analysis such as reliability, factor analysis were employed to test the used items reliability, validity and dimensionality. Furthermore, structural equation modelling (SEM) was used to test constructs dimensionality and to investigate the relationship between variables of the measurement model. The multivariate analysis techniques employed in the current research was exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and SEM using SPSS 22 and AMOS 20.

## **Results and discussions**

### **The respondents' demographic profile**

The following Table (1) indicated the individual characteristics of the hotel participants. It is noted that the participated hotels from Cairo was almost three quarters of the whole population 67% while 33% was devoted to Sharm El-sheikh hotels. The majority of the respondents were males with 91% and 9 % were for females. The majority of the respondents were the hotel executives whether managers or assistants of 63% and 37 were for the supervisors. Management and front of the house departments reported about 80 %, while about 20 % were from the back of the house. The older staff participated was merely 7%, while 93% of the sample was junior staff aged from 20-44 years. The level of education among respondents revealed that more than the half had professional qualifications and about a quarter of them fortunately had post graduate certifications. Married respondents indicated 44% followed by single (26%), divorced (22%) and (8%) for widowed respectively.

Table 1: Respondent characteristics (N=450)

	<b>Characteristics</b>	<b>Frequency</b>	<b>Percent</b>
<b>Hotel Sample</b>	Cairo	300	67
	Sharm El-Sheikh	150	33
<b>Department</b>	Front Office	202	45
	Food & Beverage	64	14
	Conventions	27	6
	Housekeeping	74	16
	Back of the house	83	18
<b>Age</b>	20-34	351	78
	35-44	69	15.3
	45-55	30	6.7
<b>Education</b>	Secondary school	28	6.2
	College Diploma / Professional qualifications	254	56.4
	Undergraduate degree	41	9.1
	Postgraduate degree	127	28.2
<b>Experience</b>	Less than one year	54	12
	1 to 2 years	193	43
	3 to 5 years	63	14
	6 to 10 years	130	29
	More than 11 years	10	2
<b>Position</b>	Manager	148	33

	Assistant Manager	136	30
	Supervisor	166	37
<b>Gender</b>	Male	408	91
	Female	42	9
<b>Marital status</b>	Single	118	26
	Married	200	44
	Widowed	35	8
	divorced	97	22

Table (2) showed the descriptive statistics that were implemented to obtain the mean scores, standard deviation, variance and percent of the questionnaire items.

The mean score for the overall perceived innovation behaviour (3.9) ranging from 1.5 which is considered very low to the item (the hotel invests in the development of new products) to 4.5 for the item of (We often are the first to introduce a new product (service) to the market). This contradiction was agreed previously by Orfila-Sintes and Mattsson (2009) who declared that investments in innovation in manufacturing is more than in services because the management do not need to register their new products or to pay for patents in service sector.

Table 2: The descriptive statistics (N=450)

	<b>Mean</b>	<b>Std. Deviation</b>	<b>Variance</b>	<b>Cronbach's Alpha</b>
<b>1. Perceived innovation behaviour.</b>	<b>3.9</b>	<b>0.7</b>	<b>0.5</b>	<b>0.83</b>
i1	4.5	0.8	0.7	
i2	4.1	0.9	0.8	
i3	4.3	0.8	0.7	
i4	1.5	1.1	1.2	
i5	3.9	0.9	0.7	
i6	3.9	1.0	1.1	
i7	4.2	0.8	0.6	
i8	4.0	1.0	0.9	
i9	4.0	1.1	1.1	
i10	4.0	1.0	1.0	
i11	4.0	0.7	0.5	
i12	3.8	0.7	0.6	
i13	3.8	0.8	0.7	
i14	3.9	0.9	0.7	
i15	4.2	1.0	1.0	
<b>2. Work –life balance scale measures</b>	<b>4.4</b>	<b>0.1</b>	<b>0.02</b>	<b>0.74</b>
W1	4.1	0.9	0.8	
W2	3.9	0.8	0.7	
W3	3.9	0.9	0.9	
W4	4.2	0.8	0.6	

W5	4.2	0.8	0.6	
W6	3.9	0.9	0.8	
W7	3.9	0.8	0.7	
<b>3. Usage of sustainability indicators</b>				
3.1 Energy	<b>3.9</b>	<b>0.2</b>	<b>0.05</b>	<b>0.52</b>
Ksi1	3.9	0.9	0.8	
Ksi2	3.6	1.0	1.0	
Ksi3	4.1	0.9	0.8	
Ksi4	3.8	0.8	0.7	
3.2 Waste	<b>3.8</b>	<b>0.2</b>	<b>0.03</b>	<b>0.87</b>
Ksi5	3.7	1.0	1.0	
Ksi6	3.7	0.8	0.7	
Ksi7	3.9	1.1	1.1	
Ksi8	3.6	1.0	0.9	
Ksi9	3.7	1.1	1.2	
Ksi10	3.6	1.0	1.1	
Ksi11	4.0	0.9	0.7	
Ksi12	4.0	1.0	0.9	
3.3 Water	<b>3.6</b>	<b>0.1</b>	<b>0.01</b>	<b>0.80</b>
Ksi13	3.5	1.3	1.8	
Ksi14	3.6	1.0	1.0	
Ksi15	3.7	1.1	1.1	
Ksi16	3.7	1.0	0.9	
Ksi17	3.5	1.1	1.3	
Ksi18	3.8	1.1	1.2	
3.4 Sustainable food	<b>3.7</b>	<b>0.2</b>	<b>0.04</b>	<b>0.75</b>
Ksi19	3.8	1.0	1.0	
Ksi20	3.9	1.1	1.2	
Ksi21	3.5	1.1	1.2	
3.5 Corporate social responsibility	<b>3.7</b>	<b>0.2</b>	<b>0.03</b>	<b>0.83</b>
Ksi22	3.6	0.8	0.7	
Ksi23	3.4	1.0	1.0	
Ksi24	3.7	1.0	0.9	
Ksi25	3.9	0.8	0.6	
Ksi26	3.8	0.9	0.8	
3.6 Greening	<b>3.5</b>	<b>0.44</b>	<b>0.2</b>	<b>First trial: 0.46 Second trial: 0.6 excluding Ksi30</b>
Ksi27	3.7	0.9	0.8	
Ksi28	3.0	1.4	2.1	
Ksi29	3.9	1.1	1.1	
Ksi30	3.2	1.3	1.7	
Ksi31	3.9	0.8	0.6	
<b>4. Innovation importance</b>	<b>3.7</b>	<b>0.3</b>	<b>01</b>	<b>0.62</b>

<b>knowledge</b>			
Ik1	3.9	0.9	0.7
Ik2	4.2	0.8	0.6
Ik3	3.9	1.0	0.9
Ik4	3.5	1.2	1.3
Ik5	3.5	1.0	1.1
Ik6	3.3	1.1	1.3

**Note:** The following Likert-type scale: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly disagree was used.

Work-life balance measures were also mostly agreed by the hotel executives (Table 2) since the overall all mean was 4.4 and the standard deviation was 0.1. This result was partially highlighted in research of Mohamed (2015) who empirically investigated the stress factors in a sample of Egyptian hotels in Cairo and Alexandria and she recommend to decrease the stress factors. This research argued that getting a balanced life and work is more connected to the stability and then innovation is easy to come afterwards.

As we can also see in Table 2 that the managers of investigated hotels were aware and committed to use practices of sustainability in their hotels in relation to energy, water, waste, sustainable food ,corporate social responsibility and greening (overall mean was 3.9, 3.8,3.6,3.7, 3.7, 3.5 respectively).

Not to miss the level of awareness to the importance of the innovation is in the selected hotel sample. The descriptive results in Table 2 showed a fair percent of this knowledge since the overall mean score was 3.7 with a variance score of 0.2.

### **Testing the research hypotheses**

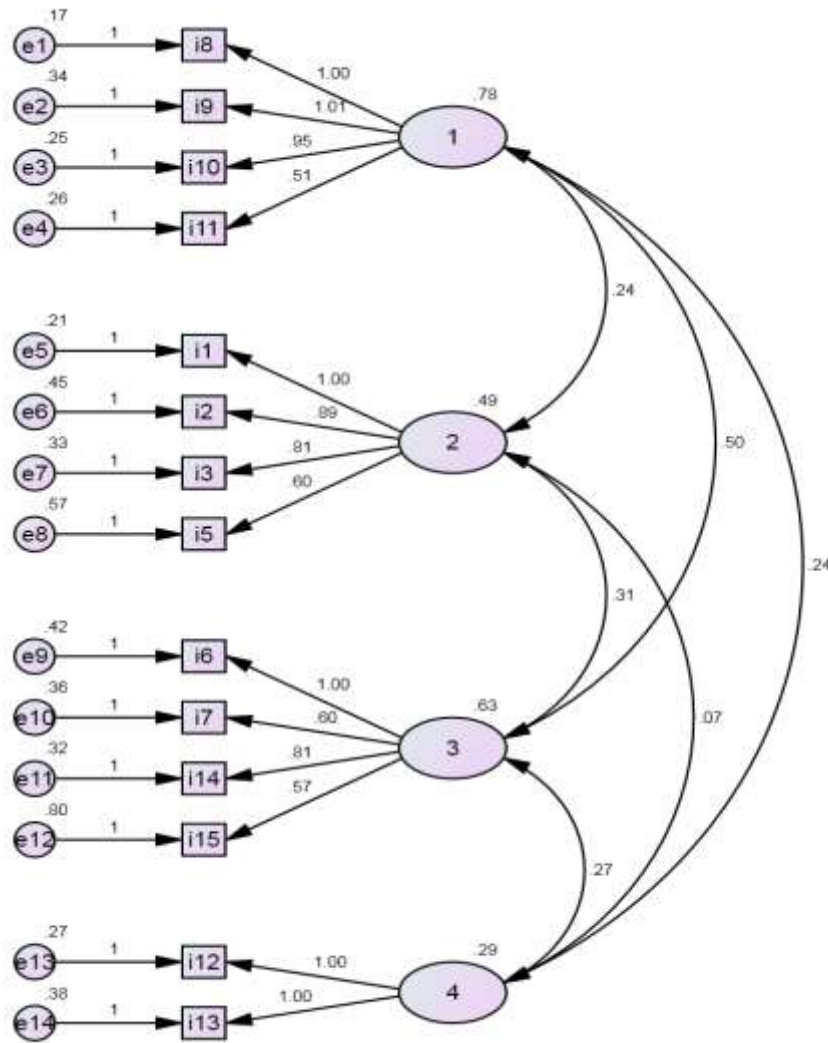
Conformity factor analysis (CFA) using AMOS 20 used to test the first hypothesis that the perceived innovation is a multidimensional concept. Structural Equation Modelling (SEM) using AMOS is employed to test the null hypothesis in which estimates equals zero of these relationships between the latent (non-observed) factors as shown in Figure 3. The multiple model-fit indices as shown in Figure 3 were: (Chi-square =572, GFI=.87, CFI=.93, SRMR=.005, RMSEA=.081). Generally, all the model fit indices were statistically acceptable. The measurement model showed high factor loadings ranging from 0.51 to 0.95. The observed variables were decent indicators of their particular latent variables. The composite reliability (CR) was also performed by AMOS to test the internal consistency of the perceived innovation scale as recommended by Byrne (2016). CR is recommended to be more than 0.60. The Four - sub scales of the perceived innovation construct fulfilled the criteria of Byrne (2016) with CR ranging from 0.62 to 0.86.

Moreover , Kaiser-Meyer-Olkin (KMO) test of sampling adequacy was 0.758 (Table 3) which indicating a good acceptance (Hair et al., 2010). Bartlett’s Test of Sphericity was significant at ( $p < 0.05$ ) that means the R-matrix is not an identity matrix; therefore, there are some relationships between the variables, which have been explored in CFA. As a result, these conditions to conduct EFA were partially met without looking to the factor loadings and communalities to improve the pattern matrix and prepare it for CFA since there are no single-item indicators.

Structural equation modelling (SEM) analysis was finally employed to test the other research hypotheses. Results indicated that the hypothesized model fit the data (Chi-square = 840.102,  $\chi^2/df =26$ , GFI = .86, CFI = .93, RMSEA = .08, SRMR =.02). Standardized path coefficients ( $\beta$ )

were considered to determine the effect size of the path among constructs. T- values of the standardized path coefficients are considered significant if its value is more than 1.96 (Hair et al., 2010). Therefore, the standardized path coefficients with t-values and P-value related to the aforementioned hypotheses are presented in Table 4. The demographic factor of age was only negatively correlated to the perceived innovation factor because the estimated structural path was -0.37, however, the P-value of this factor was significant.

Figure 3: The multidimensional model of the perceived innovation using the oblique factor model by AMOS



**Note:** 1= Product/service innovation; 2= Process innovation; 3= Managerial innovation; 4= Marketing innovation.

**Model fit indices summary:**

Chi-square = 572.329

Degrees of freedom = 48

Probability level = .081

CMIN/DF= 2.263

SRMR= .005

RMSEA= .081

NFI= .91 CFI= .93 GFI= .87

PCFI= .65 PNFI = .63 PCLOSE= .08

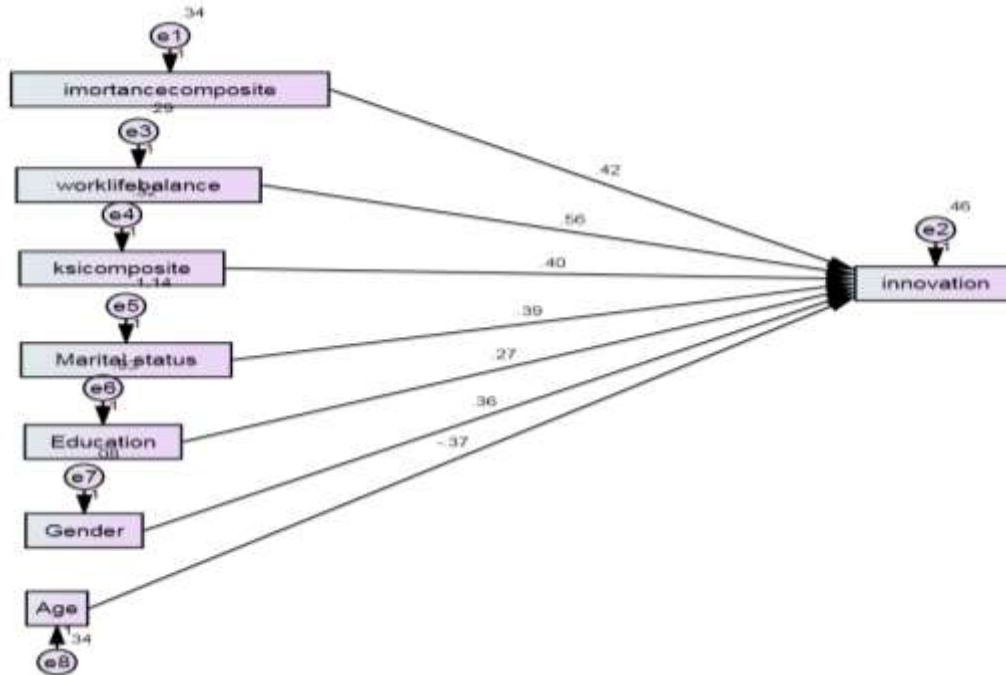
Table 3: Results of KMO analysis of the pilot study

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.758
Bartlett's Test of Sphericity	Approx. Chi-Square	3005.2920
	df	78
	Sig.	.000

An examination of the path coefficients and the related P-value to assess the relationship among the dependent factor of perceived innovation and predictors revealed that all the predictors have a strong effect on the perceived innovation. The next paragraph will be elaborated upon this in an ascending way. First, work-life balance and perceived innovation revealed that work-life balance has a direct positive effect on perceived innovation. The path coefficient between them is (0.56) with a high significance P-value ( $P < 0.001$ ). This highly significant ( $P < 0.001$ ) path coefficient provide an evidence to reject the null hypothesis which means that there is no relationship exists and indicated that work-life balance has a positive direct effect on perceived innovation. Second, the path coefficient between innovation importance knowledge and the perceived innovation is (0.42) with a high significance P-value ( $P < 0.001$ ). This highly significant ( $P < 0.001$ ) path coefficient provided an evidence to reject the null hypothesis (there is no relationships) and indicated that innovation importance knowledge has a positive direct effect on the perceived innovation. Third, the path coefficient between key sustainable indicators and the perceived innovation is (0.40) with a high significance P-value ( $P < 0.001$ ). This highly significant ( $P < 0.001$ ) path coefficient offered an evidence to reject the null hypothesis and showed that key sustainable indicators has a positive direct effect on the perceived innovation. Fourth, the path coefficient between the first demographic factor which is the marital status and the perceived innovation is (0.39) with a high significance P-value ( $P < 0.001$ ). This highly significant ( $P < 0.001$ ) path coefficient showed an evidence to reject the null hypothesis and indicated that marital status has a positive direct effect on the perceived innovation. Finally, the path coefficient between the other demographic factors of level of education, gender and age and the perceived innovation is (0.27, 0.36,-0.37) respectively with a high significance P-value ( $P = 0.000$ ). These path coefficients provided an evidence to reject the null hypothesis and indicated that these demographic factors have an effect either positive or negative on the perceived innovation as shown in Table 4.

The strength of the relationship between the research variables was ensured since the result of (R) was (0.46) in AMOS output, ( $R^2$ ) = (0.46) and (F) value = 851.981 which is more significant (0.000) at 0.05 level. The accuracy of predicted value was also confirmed from the value of standard error of estimates that was more significant. These results are in accordance with previous research (Barney, 1991; McCarragher and Daniels, 2000; Harrington and Ladge, 2009; Anderson et al., 2014; Bilgihan and Nejad, 2015; Nieves and Diaz-Meneses, 2016; Omerzel, 2016; Pikkemaat and Zehrer, 2016; Sanjeev and Bandyopadhyay, 2016).

Figure 4: The structural model using SEM by AMOS



**Note:** e1:e8=error terms (residuals).

**Model fit indices summary:**

Chi-square = 840.102      CMIN/DF= 32.312      NFI= .90 CFI= .93      GFI= .86  
 Degrees of freedom = 26      SRMR= .02      PCFI= .80      PNFI = .81      PCLOSE= .03  
 Probability level = .000      RMSEA= .08

Table 4: Results of testing research hypotheses

Hypotheses	Path estimates	SE	t-value	P	Null hypothesis	Interpretation
H.2	0.56	0.07	4.26	***	Rejected	Work-life balance has a positive direct effect on innovation (effect size = .56 )
H.3	0.42	0.05	3.56	***	Rejected	Innovation importance knowledge has a positive direct effect on innovation (effect size = .42 )
H.4	0.40	0.06	4.56	***	Rejected	Key sustainable indicators has a positive direct effect on innovation (effect size = .40 )
H.5-1	0.39	0.05	5.81	***	Rejected	Marital status has a positive direct effect on innovation (effect size = .39 )
H.5-2	0.27	0.05	4.64	***	Rejected	Education level has a positive direct effect on innovation (effect size = .27)
H.5-3	0.36	0.04	4.11	***	Rejected	Gender has a positive direct

						effect on innovation (effect size = .36)
H.5-4	-0.37	0.03	4.23	***	Rejected	Age has indirect effect on innovation (effect size = -.37 )

**Note:** SE = Standard Error of Estimates

**Conclusion, Limitations and Directions for Future Research**

Innovation in the hotel sector fair enough attention from both researchers and practitioners however, this multidimensional concept still hopes further exploration due to the lack in the previous literature on innovation in tourism in general as recently declared by Omerzel (2016). The innovation concept was not fully empirically tested neither in the hospitality nor in the hotel sector which push the scholars to understand this concept in an isolated ways as highlighted by Gopalakrishnan and Damanpour (1997).Therefore, getting full consensus of the meaning of innovation did not achieved yet.

Regardless of the innovation probable importance, it has not attracted considerable attention in the Egyptian hotel business predominantly because it is difficult to measure in one hand and it has many unsettled predictors and outcomes on the other hand. Hereafter, this research aimed to develop first a conceptual model of innovation key determinants and outcomes (see Figure 2) to help hotel managers to better manage the innovation process. The theoretical foundations of this conceptual framework are based on the Attitude –behaviour of Ajzen and Fishbein (1980) theory. Second, this research highlighted the importance of perceived innovation among a sample of hotel managers in Cairo and Sharm El Sheikh based in Egypt. Furthermore new determinants and indicators to the innovation in hotels (work-life balance; key sustainable indicators usage; innovation importance knowledge; demographic factors) were first, to date, researched and tested in the Egyptian hotel sector in relation to the perceived innovation.

Five main hypotheses and four sub hypotheses had been structured and then tested in this research. All of them were accepted based on the statistics generated from SEM using AMOS. The main findings of this empirical study that was performed in a sample of 450 hotel managers in 55 five-star hotel in Cairo and Sharm El-Shiekh of Egypt confirmed the measurement model and the conceptual framework (Figure 2). The dimensionality nature of the perceived innovation concept was guaranteed due to the oblique factor model in Figure 3. Work –life balance has been got the highest effect on the perceived innovation (see Figure 4) followed by the innovation importance knowledge predictor, key sustainable indicators, the four demographic factors respectively.

This study has some limitations as it was designed for upscale hotels in Egypt and was restricted to Cairo and Sharm El-Sheikh five–star hotels. Therefore, further research may investigate the proposed model in other hotel categories or in the restaurant sector. Also it is useful to involve all hotel staff positions into account rather than the management level.

Further research will be needed to gain better support for the proposed final model especially in a comparative study between different hotel employees in different hotels and in different countries, regarding their level of management might be of paramount to be considered for further research. As well as studying the entire innovation predictors and their relationship to innovation behaviour.

Giving that, the limited amount of research available on the innovation behaviour in the hotel industry has limited the opportunity to gather content-rich information from previous studies. Additionally, this study used different scales to measure innovation behaviour and its key



determinants as there was no one composite scale for each of them. Therefore, the validation of innovation scale or its predictors were based entirely on hotel managers of whom psychometric properties of the used scales may not be generalizable to different positions. For that reason, further validation of this study measures requires the use of samples from diverse occupations across different sub-cultures in the region. Further research may include some control and context variables such as hotel ownership type, position level, experience level that were not included in this research.

In this study, through a cross-sectional survey that was distributed and collected in about two months (from 15 November 2015 to 27 January 2016), a number of models were tested. However, a longitudinal study is suggested to further explore this issue

### **Acknowledgement**

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### **Appendix1**

#### **1. Perceived innovation behaviour.**

- i1: We often are the first to introduce a new product (service) to the market
- i2: We often create and sell products whose functions are completely new
- i3: We often create and sell products that are new in both style and service
- i4: The hotel invests in the development of new creative products
- i5: The hotel always gets the first position among competitors to introduce new methods of production
- i6: The hotel seeks to use new techniques in marketing, technology and management
- i7: Our services matches our guest expectations
- i8: Our standard enables staff to be more efficient to raise quality and standards
- i9: The hotel develops new events to use of new research based knowledge
- i10: We institute new forms of collaborative/organizational structure such as alliances, clusters and networks
- i11: The hotel uses new ways of organising business processes
- i12: The hotel improves the workplace satisfaction
- i13: The hotel compensates good work
- i14: The hotel invests in R&D initiatives
- i15: The hotel innovates in marketing by using loyalty programs

#### **2. Work –life balance scale measures**

- W1: I have to change my life plans because of work stress
- W2: I could not get entertained with my family in my spare times due to my work in this hotel
- W3: my ability of family matters decreases due to my work here in this hotel
- W4: I often work late or at weekends to deal with paperwork without interruptions
- W5: My family are missing out on my input, either because I don’t see enough of them/am too tired
- W6: My relationship with my partner/ family is suffering because of the pressure or long hours of my work

W7: Relaxing and forgetting about work issues is hard to do

**3. Usage of sustainability indicators**

<b>3.1 Energy</b>	
Ksi1	The hotel uses occupancy sensors\key card
Ksi2	The hotel uses LED lighting
Ksi3	The hotel uses solar panels
Ksi4	Energy saving equipment are used in the hotel
<b>3.2 Waste</b>	
Ksi5	Hotel uses paperless technology
Ksi6	We are reusing printed paper, guest soaps
Ksi7	We are refilling cartridge
Ksi8	Hotel recycles its materials and products
Ksi9	Hotel uses an alternative for paper towels in hand washing
Ksi10	Hotel uses biodegradable plastic bag
Ksi11	Hotel uses environmentally friendly materials
Ksi12	We are sorting the waste separately
<b>3.3 Water</b>	
Ksi13	The hotel has water toilets of low- volume
Ksi14	The hotel has low flow toilets and showerheads
Ksi15	The hotel uses the rainwater in harvesting
Ksi16	The hotel uses grey water for irrigation
Ksi17	Washing machines uses electromagnetic washing cards
Ksi18	The hotel supports water saving campaigns in the kitchen , room service and laundry
<b>3.4 Sustainable food</b>	
Ksi19	The hotel depends on local food sources
Ksi20	The hotel uses organic food and beverages
Ksi21	Menus are based on ingredients that are in season.
<b>3.5 Corporate social responsibility</b>	
Ksi22	The management supports equal employment opportunity
Ksi23	The hotel invests more in employee training
Ksi24	The hotel gives financial support for the local community
Ksi25	The hotel donates for saving community against crises
Ksi26	The hotel involves community in nature saving program
<b>3.6 Greening</b>	
Ksi27	The hotel buys products from green supplier
Ksi28	The hotel uses green chemical products
Ksi29	The hotel wins green certification
Ksi30	The hotel providing at least one vegetarian meal on the menu
Ksi31	Encouraging employees to ride bicycles to work instead of driving cars

**4. Innovation importance knowledge**

Ik1: Developing and applying new products or ideas add value to this hotel
Ik2: Innovation has a positive impact on hotel performance
Ik3: Creating new products , ideas, processes ensure a hotel competitive advantage
Ik4: Newness helps to meet our guest expectations
Ik5: Practicing innovation helps to meet the quality standards
Ik6: Future sales are related to marketing innovations

**5. Demographic factors**

<b>Age:</b> Ratio variable in categorical stance( 1=20-34, 2= 35-44, 3= 45-55, 4= 56 and over)
<b>Gender:</b> Nominal variable(1=male,2=female)
<b>Marital status:</b> Nominal variable(1=single ,2=married, 3=divorced, 4= widower)
<b>Level of education:</b> Nominal variable(1=secondary school,2=college diploma/professional qualifications, 3= undergraduate degree, 4= postgraduate degree,5= others)

The used Likert-type scale: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly disagree.