Effects of human resource management on hotel performance using structural equation modeling

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ABSTRACT

The hotel industry is the largest and most rapidly growing industry in Jordan. Hotel management regularly seeks directions that enable them to sustain their competitive position. This study, therefore, investigates the impact of human resource management (HRM) practices, service quality, employee satisfaction, employee loyalty, customer satisfaction and customer loyalty on hotel performance in Jordan and then examines the relationships between these factors. A conceptual model is developed by proposing eleven hypotheses. Data are collected via a distributed survey to three-, four- and five-star Jordanian hotels. A total of 52 hotels in Amman responded to the questionnaires pooling 52 HR managers, 52 sales managers, 236 employees and 311 customers. The model is examined using structural equation modeling. The main results indicate that HRM practices, service quality, employee satisfaction, employee loyalty, customer satisfaction and customer loyalty have a positive influence on the improvement of hotel performance in financial and innovation domains. In conclusion, the methodology applied to measure the performance of hotel industry provides valuable information to top management and decision makers in Jordan regarding main factors that improve hotel performance and sharpen its competitive strength.

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1. Introduction

Tourism is the main productive sector in Jordan. It generates over 17% of Gross National Product. With its regional spread, tourism is an ideal industry to diffuse benefits across Jordan, and during the past few years, it has been responsible for generating a significant increase in foreign and domestic investment. A major part of the tourism sector is the hotel industry, which is the largest and most rapidly growing industry, employing over 14,690 people. It directly and indirectly employs over 37% of the total force in the tourism sector. Despite that, the hotel industry in Jordan is confronted with considerable challenges imposed by turbulent and rapidly changing external environment that it operates in.

Increased service quality, customer satisfaction, customer loyalty, employee satisfaction, employee loyalty, and hotel performance through human resource management (HRM) practices is a viable way for hotels to remain competitive (Lytras & Ordóñez de Pablos, 2008a, 2008b). Several studies have been conducted to examine the relationships between these factors. For example, Tortorella and Fogliatto (2014) presented a method for assessing the impact of HRM practices in a company under lean implementation in a case study from the automotive parts manufacturing sector. Zhai, Liu, and Fellows (2014) investigated the effect of HR practices

and organizational learning on firms' performance in Chinese construction industry using structural equation modeling. The results support organizational learning as a mediating variable of the relationship between HR practices and organizational performance. Longmore and Ronnie (2014) explored the key HR practices affecting doctors in a medical complex in South Africa using an open-ended questionnaire to gather data from 75 doctors in this setting. Results showed that the most important HR practices were paying salaries on time and accurately, the management of documentation, communication, HR staff showing that they respected and valued the doctors, and reimbursement for conferences and special leave requests. Sirca, Babnik, and Breznik (2013) studied the role of HRM climate in employees' attitudes through linking HRM climate perceptions to job satisfaction, job involvement and perceived organizational performance. The model was then tested on a sample of 574 Slovenian employees from the manufacturing sector. Yee, Yeung, & Cheng, 2010 examined the relationships among employee loyalty, service quality, customer satisfaction, customer loyalty and firm profitability, and the contextual factors influencing these relationships in 210 high-contact service shops in Hong Kong using Structural Equation Modeling (SEM). Chand (2010) investigated the effects of HRM practices on service quality, customer satisfaction and performance in Indian hotels. Ouyang (2010) used confirmatory factor analysis (CFA) and SEM to analyze the casual relationships between service quality, customer trust, customer satisfaction, and

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customer loyalty, and examined the mediator effects of customer satisfaction and trust. Chi and Gursoy (2009) investigated the relationship between employee satisfaction and customer satisfaction, and their impact on the financial performance of a hospitality company utilizing service-profit-chain framework. Further, they examined the mediating role of customer satisfaction on the indirect relationship between employee satisfaction and financial performance at three and four star hotels. Abdullah et al. (2009) examined the linkage between employee satisfaction and employee loyalty by developing the service profit chain in hotels in the Klang Valley area in Malaysia. Som (2008) examined the effect of innovative HRM practices on corporate performance during the change process through a multiple-respondent survey of 69 Indian organizations. Gržinić (2007) tested the importance of service quality in hotel industry from both the conceptual standpoint and that of service quality measurement. Matzler and Renzl (2006) tested the relationships between trust in management and trust in peers, satisfaction and loyalty of employees of an Austrian company in the energy sector using SEM with Partial Least Squares.

In Jordan, examining the factors that affect business performance has gained significant research attention. For example, Al-Refaie, Al-Tahat, and Bata (2014) examined effects of customer relationship management on banks performance and customer–bank relationship quality. Al-Refaie and Hanayneh (2014) studied influences of total productive maintenance, total quality management, and six Sigma practices on firms performance in Jordan. Al-Refaie, Li, and Ko (2012) investigated the factors that affect customer linking capabilities and customer satisfaction in Jordanian Hotels. Al-Refaie, Ghnaimat, & Li, 2012 examined the effects of ISO 9001 certification and KAAE on performance of Jordanian firms. Al-Refaie, Li, and Jalham (2012) examined the factors that influence repurchase and customer satisfaction in Jordanian Telecom Companies. Al-Refaie (2011) employed structural model to investigate factors that affect patient satisfaction and revisit intention in Jordanian hospitals. Al-Refaie, Ghnaimat, and Ko (2011) investigated the effects of quality management practices on customer satisfaction and innovation. Still, little published research has been directed to examine the factors that affect hotel performance in Jordanian hotels and investigate the relationship between them. Al-Rousan and Mohamed (2010) examined the impact of tourism service quality dimension in the Jordanian five star hotels. A self-administered questionnaire was used to measure the perceived tourism service quality of the hotel guests at three branches Marriott hotel in Jordan. Al-Refaie, Li, and Ko (2012) examined factors affect customer linking capabilities and customer satisfaction in customer relationship management in Jordanian hotels. This research aims at examining the relationships between service quality, HRM practices, employee satisfaction, employee loyalty, customer loyalty and customer satisfaction and examining their effects on hotel Jordanian performance. The results of this research are of prime importance to hotel managers in prioritizing the main factors, determining their effects on hotel performance, and planning future improvements that leads to increasing hotel competitiveness. The remaining of this research is outlined in the following sequence. Section 2 develops conceptual framework. Section 3 demonstrates the methodology of data collection and analysis. Section 4 discusses the empirical results of the measurement and structural models. Section 5 summarizes the main conclusions and recommendations.

2. Conceptual framework

2.1. Hypotheses development

2.1.1. HRM practices and service quality

Human resource management (HRM) practices are a distinctive approach to employment management which aims to achieve competitive advantage via the strategic deployment of a highly committed and capable workforce using an array of cultural, structural and personnel techniques (Storey, 2001). The HRM function includes a variety of activities, including determining staffing needs, recruiting and training the capable employees, performance measurement, managing ways of employee benefits and compensation, and employee records.

Schneider, 1994 found that employee perception of HRM practices significantly related to customer perception of service quality, which is a key factor for increasing hotel's competitiveness, effectiveness and flexibility. Hartline and Ferrell (1996) suggested that hotel contract employees should receive the necessary training in order to deliver high quality service. The relationship between HRM practices and service quality enhances the ability of hotel employees, provides better service, and improves the effectiveness in service delivery. Hence, the following hypothesis is proposed:

H1$_1$. HRM practices are positively related to improvement of service quality in hotels.

2.1.2. HRM practices, employee satisfaction, and customer satisfaction

Successful HRM results in employee satisfaction and loyalty. Employee satisfaction is a pleasurable or positive emotional state resulting from the appraisal of the job experiences of the employee (Grigoroudis & Siskos, 2010). Typically, satisfied employees are loyal and productive employees (Heskett, Sasser, & Schlesinger, 1997). Employee loyalty means that employees are committed to the organization success and believing that working for this organization is the best option, planning to remain with the organization, does not actively search for an alternative employment, and is not responsive to offers. Employee loyalty increases as these individuals become more satisfied with their jobs and are allowed to take care of customers (Reichheld, 1996). Employee's satisfaction and loyalty is considered to be one of the most important drivers of quality, customer satisfaction and productivity. Customer satisfaction is the emotional response of a customer to the perceived gap between prior experience and expectations of a product and organization, and the actual experienced performance as perceived after interacting with an organization and/or consuming its product. Loyal customers are satisfied customers who are not easily swayed by price inducement from competitors (Baldinger & Rubinson, 1996; Bowen & Shoemaker, 1998). In practice, satisfied and motivated employees produce satisfied customers and increase organizational revenue and profitability (Pugh, Dietz, Wiley, & Brooks, 2002). On this basis, it is hypothesized that:

H1$_2$. Effective HRM practices are positively related to customer satisfaction in hotels.

H1$_3$. HRM practices are positively related to employee satisfaction in hotels.

2.1.3. Employee satisfaction, service quality, and customer satisfaction

Satisfied employees are more likely to provide better services through organizational citizenship behaviors (Yoon & Suh, 2003) and they tend to be more involved in their employing organizations, and more dedicated to delivering high quality services. Thus, service quality is affected by employee satisfaction. Yee, Yeung, and Cheng (2008) revealed that job satisfaction perceived by customer-contact employees is associated with service quality. Moreover, service employees with a high level of job satisfaction will appear to the customer more balanced and pleased with their environment, which leads to positive influence on the level of customer satisfaction. Consequently, the following two hypotheses are proposed:

H1₄. Employee satisfaction has a positive influence on service quality.

H1₅. Employee satisfaction has a positive influence on customer satisfaction.

2.1.4. Service quality and customer satisfaction

Customer satisfaction is one of the most dominant themes in hospitality industry, which requires experience with the service, and is influenced by the perceived service quality (Anderson, Fornell, & Lehmann, 1994). Typically, customer judgment of a product or service would lead to customer satisfaction (Oliver, 1999), and consequently directly affects behavioral intentions of repurchases (Yee et al., 2008). Therefore, the following hypothesis is suggested:

H1₆. Service quality is positively associated with customer satisfaction in hotels.

2.1.5. Employee satisfaction and employee loyalty

Heskett et al. (1997) revealed a positive relationship between employee satisfaction and employee loyalty. Increasing employee satisfaction could actually result in an increase in employee participation and has the potential of making both the employee and employer equally loyal to the organization. Therefore, the following hypothesis is established:

H1₇. Employee satisfaction is positively related with employee loyalty.

2.1.6. Customer satisfaction and customer loyalty

Customer satisfaction is considered to act as an antecedent to loyalty behavior. Satisfied customers have potential to become loyal customers, who not only repurchase service, but also spread positive word-of-mouth of the organization (Min, Min, & Chang, 2002). In addition, they may be more tolerant for possible service failures. Hence, the following hypothesis is suggested:

H1₈. Customer satisfaction has a positive effect on customer loyalty.

2.1.7. Employee loyalty and customer loyalty

Employee satisfaction and loyalty result in improved customer retention (Bennett & Bove, 2002), which may leads to customer loyalty. Loyal customers build up good relationships with loyal employees. Consequently, the following hypothesis is suggested:

H1₉. Employee loyalty is positively correlated with customer loyalty.

2.1.8. Customer loyalty and hotel performance

Hotel industry is recognized as operating in a highly competitive environment. Hence, it is important that business maximizes customer satisfaction and loyalty. Customer satisfaction positively impacts firm profitability through higher levels of purchase, decreased price sensitivity, positive word of mouth and less likelihood of switching brands (Wilkins, 2010). Thus, the following hypothesis will be tested:

H1₁₀. Customer loyalty is positively correlated with hotel performance.

2.1.9. Employee satisfaction and hotel performance

Employee satisfaction plays a significant role in helping hotels achieve financial goals. Customers tend to have a better experience with hotels attaining higher levels of employee satisfaction. Satisfied employees are more likely to be motivated and harder working than dissatisfied ones (Chi & Gursoy, 2009). Hence, it is hypothesized that:

H1₁₁. The relationship between employee satisfaction and financial performance is mediated by customer satisfaction.

2.2. Factor measures and hypothesized model

The conceptual model is constructed then shown in Fig. 1. In this model, appropriate factor measures should be established.
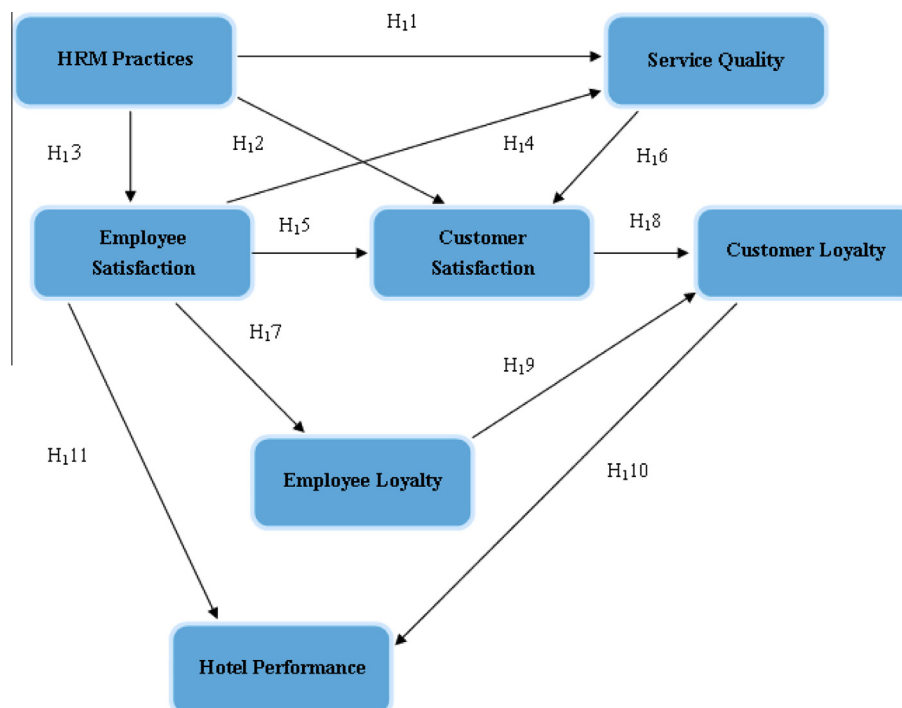

Fig. 1. The proposed conceptual model.

Table 1
Model factors and their related measures and questions.

Latent	Measure	Question
Customer satisfaction (CS)	Degree of satisfaction (CS1)	The price is suitable with the provided services
		The service offered satisfies my needs
		The services provided meet my expectations
		Bath amenities and air conditioning are appropriate
		Housekeeping services are timely and efficient
		Food quality is excellent
		The room is clean, quiet and properly supplied
		Service on arrival and check in was suitable and courteous
		The location of this hotel is ideal
Customer loyalty (CL)	Attitude loyalty (CL1)	This hotel is my first priority for my next visit
		In my future visits, I would prefer to use many services in this hotel (*e.g.*, swimming pool, room service)
	Behaviour loyalty (CL2)	I would recommend this hotel to family and friends
		Complaints are thoroughly analyzed and quickly resolved
Service quality (SQ)	Tangibles (SQ1)	Up-to-date equipment (*e.g.*, business center equipment, hair dresser)
		Physical facilities are visually attractive (*e.g.*, health club, spa)
		Employees are well-dressed and neat (*e.g.*, uniform, personal hygiene)
	Reliability (SQ2)	When this hotel promises to do something by a certain time, it does so (*e.g.*, ordering food, room service)
		Accurate records (*e.g.*, customers' passports, check in information)
	Responsiveness (SQ3)	Employees are always willing to help customers
		Employees respond to customer requests immediately
	Assurance (SQ4)	Employees can be trusted with the items of guests
		Employees know well their jobs to help customers
	Empathy (SQ5)	Operating hours are convenient to all customers (*e.g.*, room service, laundry)
		Employees know what my preferences are
Employee loyalty (EL)	Sense of belonging (EL1)	I believe nowadays employees move regularly from one hotel to another one
		I consider it ethical to leave this hotel if I receive a better offer from elsewhere
		Commitment to the hotel is an important value
		This hotel deserves my loyalty
		I would recommend others to work in this hotel
Hotel performance (HP)	Financial issues (HP1)	High sales growth compared to hotel industry average
		High profitability compared to hotel industry average
		High market share compared to major competitor
	Innovation (HP2)	Frequent communication is encouraged among the hotel's various work departments
		Financial resources are available for the innovation process
		Employee's mistakes are treated as learning opportunities
		Formal training and development
	Quality circle (HRM5)	Staff involvement in objective settings
		Staff responsibility for service
		Attitude surveys are regularly used
	Pay system (HRM6)	Staff informed about market conditions and hotel performance
		Merit element in pay package and salaries determination
		Financial incentives
Human resources practices (HRM)	Recruitment and selection (HRM1)	The process of recruitment is controlled with harmonized conditions
		All the employees are treated equally during recruitment
		Specific rules are applied during promotions
		Using employment test criteria during recruitment
		Selecting employees according to merit element, skills and experience
	Manpower planning (HRM2)	Existing of a conducive working culture
		Career planning
		Involvement of all departments
	Job design (HRM3)	Clear and flexible job description
		Employees are involved in improving their jobs
		Employees work in a team work spirit
	Training and development (HRM4)	Need based specific training
Employee satisfaction (ES)	Working conditions (ES1)	My job is secure
		On special occasions, the hotel empathizes with employees (*e.g.*, urgent situations)
		My job does not cause unreasonable amounts of stress in my life
	Teamwork and cooperation (ES2)	Teamwork is encouraged and practiced
		Feeling part of a team working toward a shared goal
		Departments cooperate with each other in rush hour
	Relationship with supervisor (ES3)	I prefer to work with a specific supervisor
		Supervisor treats me with respect
		My supervisor always takes disciplinary action when I make a mistake
	Recognition and rewards (ES4)	When I do a good job, I receive the praise and recognition I deserve (*e.g.*, awards, recognition)
		Good work results in promotion and more benefits
		My salary equals my responsibilities

Based on expert experience and previous studies (Matzler & Renzl, 2006; Ouyang, 2010; Som, 2008; Yee et al., 2010), each factor with its related measures and questions, respectively, are shown in Table 1.

3. Analysis and discussion

3.1. Sampling and data collection

Prior to data collection, a pilot study was conducted with different professional workers in the hotel industry, in addition to regular customers in hotels. Upon completing the pilot study minor modifications were made to the questionnaires in order to improve their validity and readability. The final version of the questionnaires was then distributed in person and via emails. Data were collected from HR managers, sales managers, employees and customers in three-, four- and five-star hotels in Amman. Questionnaires were filled in each hotel and collected randomly as follows: one human resources questionnaire, one hotel performance questionnaire, five employee satisfaction questionnaires, and five customer satisfaction questionnaires. A total of 60 hotels were visited. A total of 52 hotels responded; which generates a response rate of 86.7%. Human resources and sales/general managers were asked to fill human resources and hotel performance questionnaires. While, service employees, staff members who are directly responsible for service in hotels, were responsible to answer the employee satisfaction questionnaire. Customers staying at the hotels were asked about their opinions by filling out the customer satisfaction questionnaire.

3.2. Analysis of characteristics of respondents

The collected demographic information for four types of respondents is analyzed as shown in Fig. 2. It is noted that:

(i) The ages of the largest portion (33%) of responding customers are within 18–29 years old. About 51% of them are female. For visit duration, 60% stays for at most 3 days. The main reasons for the visit are tourism (50%) followed by business (34%).

(ii) The ages of the largest portion (33%) of responding employees are within 25–30 years old. About 79% of them are female. The salary amount (100–299 JD) and years of experience (0–4 years) constitute the largest proportions of correspond to 44% and 45%, respectively.

(iii) The ages of about 30% of HR managers falls within 18–29 and 40–49 years. Whereas, 41% of the sales managers' ages ranges between 30 and 39 years. The largest portion of sales and HR managers are male of percentages 72% and 83%, respectively. Further, the salary of the largest portion of HR managers (36%) is more than 700 JD, whereas the salary of 90% of sales managers is more than 299 JD. Finally, 34% of HR managers gained more 5–9 years of experience, whereas 60% of sales managers gained more than 9 years of experience.

3.3. Data analysis for measurement and structural models

The items used to assess HRM practices, employee satisfaction, employee loyalty, customer satisfaction, customer loyalty, service
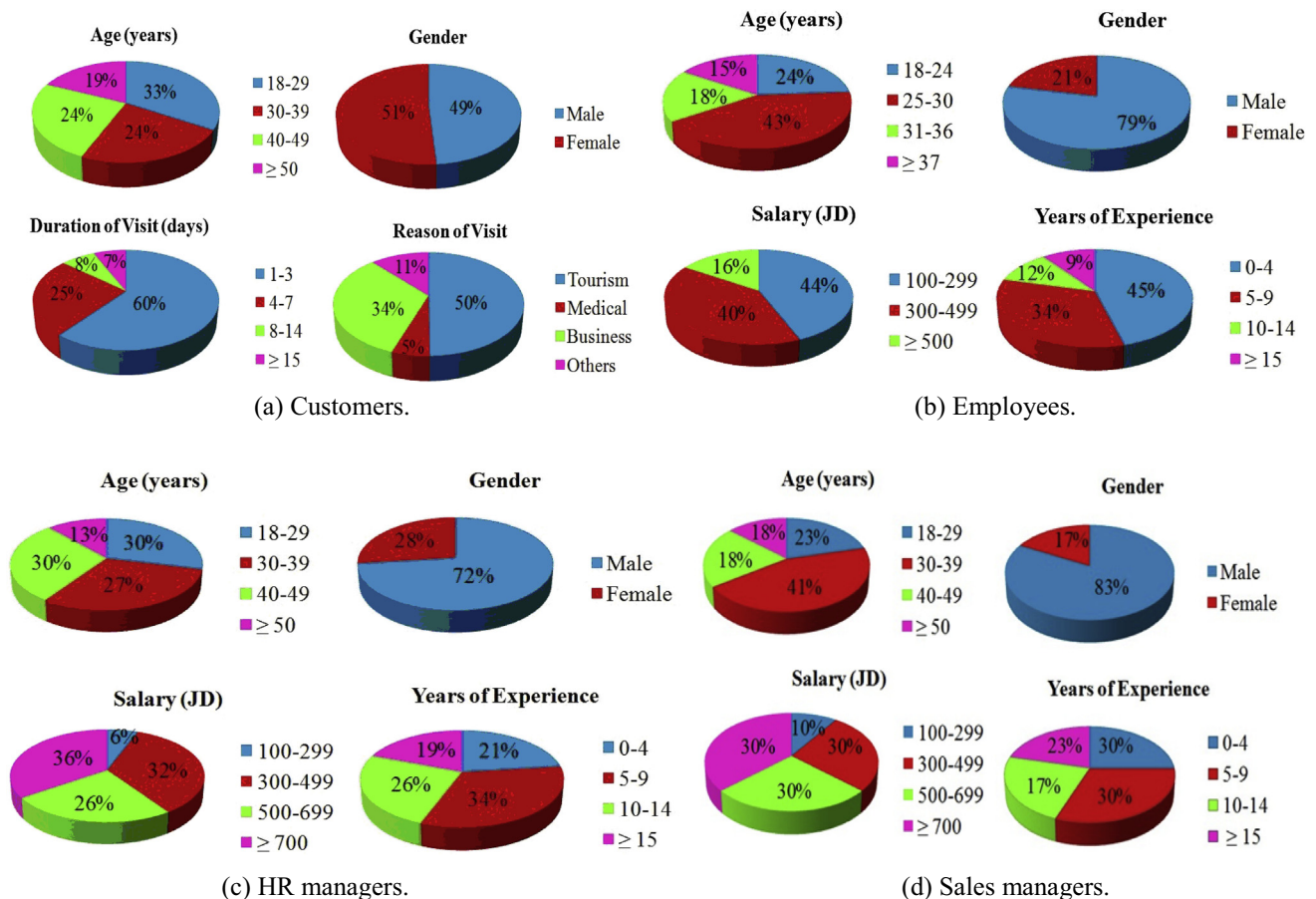

Fig. 2. Analysis of demographic information about respondents.

quality and hotel performance latent were measured on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) (Chi & Gursoy, 2009). Two tests were conducted, to ensure the validity of the model's content. The first test is multicollinearity between the items, whereas the second is the test of the reliability of the measurement variables. The two tests are described as follows.

(1) Multicollinearity test

Multicollinearity means that some predictors are correlated with other predictors. It can be assessed by calculating the correlation coefficient (Al-Refaie, Li, & Ko, 2012; Al-Refaie, Ghnaimat, & Li, 2012; Al-Refaie, Li, & Jalham, 2012). The correlation coefficient measures the degree to which two things vary together or oppositely. The correlation coefficient ranges is from −1 to 1. Zero correlation means that the two things vary separately. The correlation coefficient was calculated between the questions of each latent. The correlation matrix for the hotel performance and service quality are shown in Tables 2 and 3, respectively.

(2) Reliability test

The Cronbach's alpha (α) is a tool for the assessment of the reliability of scales. It is a measure of internal consistency, that is, how closely a set of items are related as a group. The α value varies from 0 to 1; the higher values suggest higher internal consistency. The values of alpha was calculated then displayed in Table 4. All alpha values are above the recommended value 0.70 which indicates reliability (Al-Refaie, 2011; Al-Refaie et al., 2011).

3.4. Empirical results for the measurement model

To analyze the proposed model, two evaluations should be performed. The first evaluation is for the measurement model to test the validity of indicators. The measurement model defines relations between the observed and unobserved variables. The second evaluation is for the structural model, which defines relations among unobserved variables. Accordingly, it specifies the manner by which particular latent variables directly or indirectly cause changes in the values of certain other latent variables in the model

Table 2
Hotel performance correlation matrix.

Question	HP1	HP2	HP3	HP4	HP5
HP2	0.609				
HP3	0.735	0.471			
HP4	0.074	0.391	0.277		
HP5	0.323	0.260	0.336	0.438	
HP6	0.061	0.102	0.008	0.500	0.417

Table 4
Cronbach's α values.

Latent	Cronbach's α
HRM	0.8757
HP	0.7118
CS	0.8893
CL	0.8319
SQ	0.9080
ES	0.7570
EL	0.8550

(Byrne, 2001). Fig. 3 shows the first trial of the measurement model. The model was analyzed and the fit results were shown in Table 5. A significance level of 0.05 is adopted to test all hypotheses. A *P*-value (Probability Level) less than the recommended value of 0.05 indicates a good fit model. Three measures will be adopted to decide the fitness of measurement and structural models. The first measure is the relative chi-square ratio over the degrees of freedom (DF). Ratio of three or less indicates an acceptable fit between hypothetical model and the sample data. The second measure is the Goodness of Fit Index (GFI), which can be classified as an absolute index of fit because it basically compares the hypothesized model with no model at all. The GFI ranges from zero to one, with values close to one being 0 indicative of good fit. Finally, the Root Mean Square Error Approximation (RMSEA) takes into account the error approximation in the population, and it is recognized as one of the most informative criteria in covariance structure modeling, values less than 0.05 indicate a good fit, and values as high as 0.08 represent reasonable errors of approximation in the population (Al-Refaie, 2014; Al-Refaie & Al-Tahat, 2014; Al-Refaie, Foud, & Eteiwi, 2013) (see Table 6).

In Table 5, the ratio (=1.826) is smaller the recommended value 3, which indicates a good model fit. However, the GFI (=0.694) indicates the need for modification in. An improvement can be made by utilizing the Modification Index (MI) values for covariance and regression weights. The largest MI values for covariance of error covariance parameters are shown in Table 7. Thus, these parameters are freely estimated by indicating covariance between each error pairs.

A review of MI values for regression weights (*i.e.*, factor loadings) reveals five parameters indicative of cross-loadings. For example, HR12 was repeated 16 times as shown in Table 7, hence it will be omitted. Five more parameters (ES3, ES10, EL4, SQ8, HR1) were also omitted due to cross-loading. Fig. 4 illustrates the final measurement model. The values of fit indices are listed in Table 8. These values indicate the overall fit of the measurement model.

After completing the analysis of the measurement model, a convergent validity test is established from a review of the *t*-tests for the factor loadings between each latent and its measures. A convergent validity test is used to prove if the constructs that theoretically should be related to each other are, in fact, observed to be related to each other. Table 9 shows that *t* values are greater than

Table 3
Service quality correlation matrix.

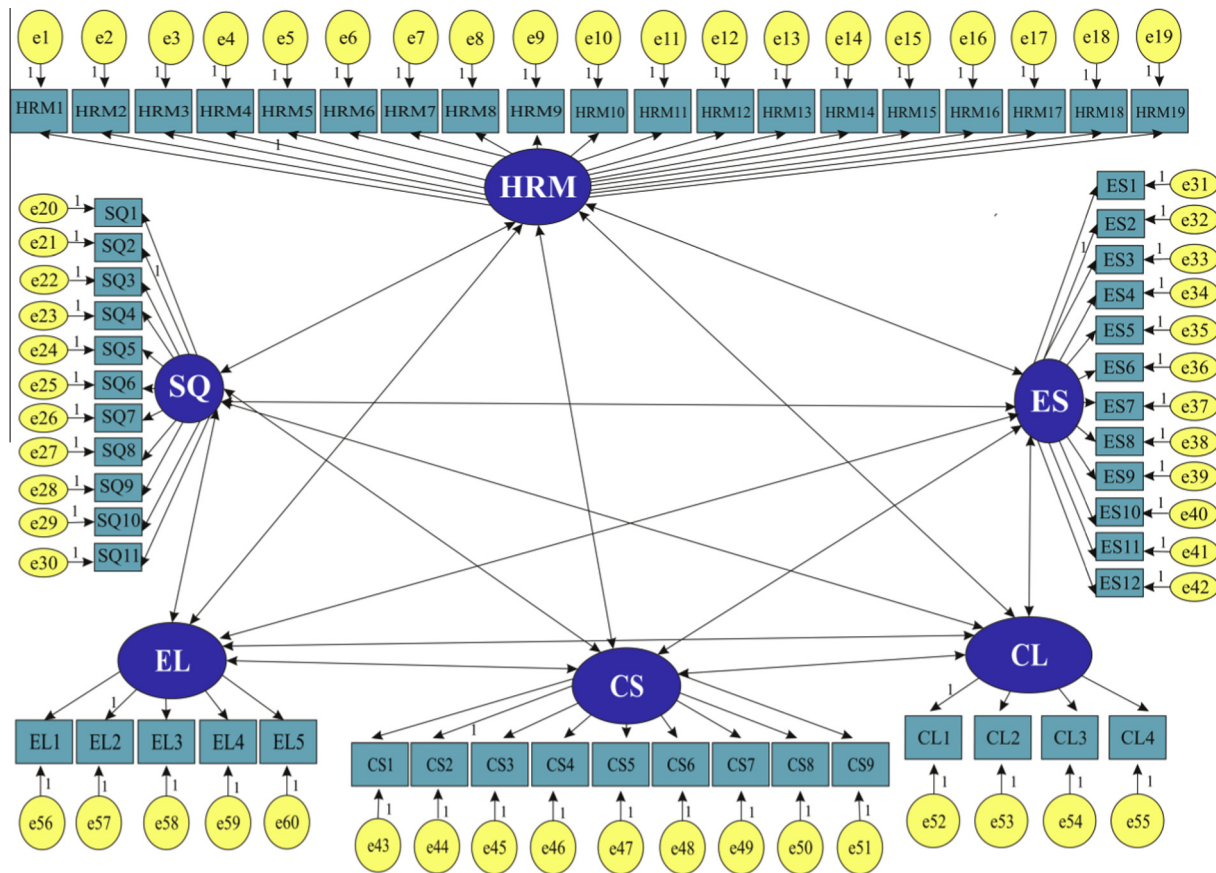|	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	SQ9	SQ10
SQ2	0.591									
SQ3	0.351	0.381								
SQ4	0.269	0.259	0.624							
SQ5	0.275	0.238	0.680	0.618						
SQ6	0.300	0.267	0.704	0.591	0.691					
SQ7	0.177	0.156	0.602	0.598	0.649	0.841				
SQ8	0.151	0.152	0.604	0.589	0.612	0.638	0.595			
SQ9	0.216	0.201	0.627	0.615	0.643	0.729	0.711	0.673		
SQ10	0.237	0.216	0.552	0.585	0.511	0.567	0.530	0.560	0.533	
SQ11	0.163	0.143	0.544	0.604	0.586	0.617	0.659	0.554	0.704	0.609

Fig. 3. First trial of the measurement model.

Table 5
Fit indices for the first trial of the measurement model.

Model	χ^2	DF	P-value	χ^2/DF	GFI	RMSEA
Default model	3094.715	1695	0.001	1.826	0.694	0.059

Table 6
Covariance with large MI values.

Covariance			MI
e20	↔	e21	68.877
e34	↔	e35	58.723
e44	↔	e45	51.158
e25	↔	e26	45.862
e35	↔	e36	27.827
e37	↔	e38	26.387
e8	↔	e14	21.995
e6	↔	e15	16.674
e9	↔	e16	15.231
e5	↔	e16	15.116
e38	↔	e39	15.030

Table 7
Sample of full results of MI values for regression weights.

Regression			MI
HR12	←	CS	5.624
HR12	←	CL	5.478
HR12	←	SQ	6.807
HR12	←	CS7	9.113
HR12	←	CS3	4.932
HR12	←	CS2	4.330
HR12	←	CL2	4.641
HR12	←	SQ10	4.611
HR12	←	SQ8	9.698
HR12	←	SQ7	9.623
HR12	←	SQ6	10.332
HR12	←	HR17	6.804
HR12	←	HR11	11.465
HR12	←	HR10	8.274
HR12	←	HR7	7.670
HR12	←	HR1	7.642

2.0 and significant at P-value < 0.05. For illustration, when SQ goes up by one, SQ3 goes up by 0.90. The t-value equals 18.19 which is significantly larger than 2.0. These results support the convergent validity of almost all measures for the corresponding latent.

After ensuring the validity of indicators in the measurement model, the structural model is evaluated by adding the hotel performance latent (model output) to the measurement model. The model is evaluated to draw conclusions regarding the research hypotheses. The structural model is shown in Fig. 5. The maximum likelihood estimates for the various parameters of the overall fit in the structural model are given in Table 10. The fit statistics indicate that the hypothesized structural model achieves an acceptable fit that justify no further interpretation.

4. Research results

This study aims at investigating empirically the relationship between the HRM practices, service quality, employee satisfaction, employee loyalty, customer satisfaction and customer loyalty, and examining their effect on hotel performance using SEM. Fig. 6 shows a sample of the obtained results. It illustrates the estimated weight for both customer satisfaction and employee loyalty
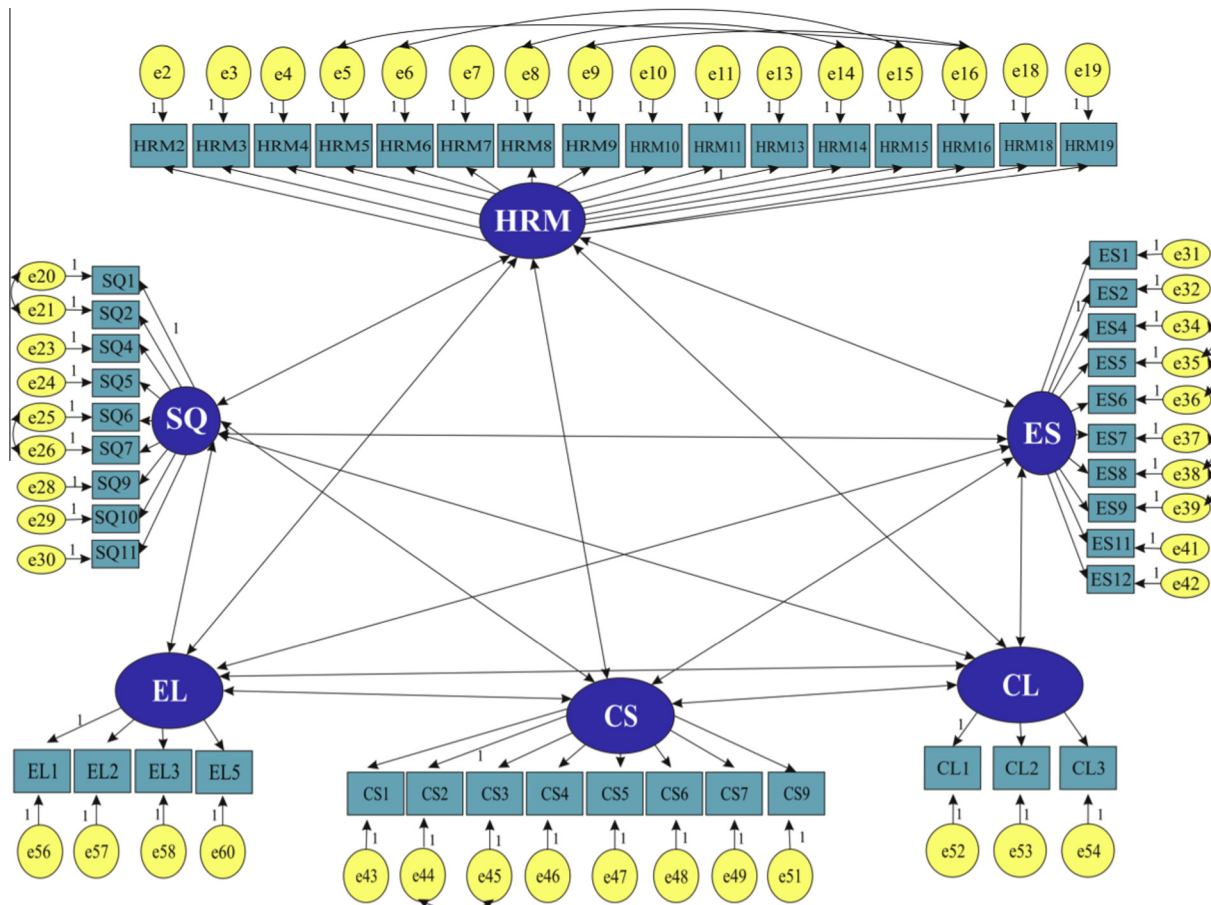
Fig. 4. Revised measurement model.

Table 8
Fit indices for the revised measurement model.

Model	χ^2	DF	P-value	χ^2/DF	GFI	RMSEA
Default model	886.145	714	0.01	1.241	0.854	0.032

relationships with customer loyalty. The estimated weight indicates that when customer satisfaction goes up by 1, customer loyalty changes by 0.84. Also, the estimated weight implies that when

employee loyalty goes up by 1, the customer loyalty goes down by 0.08.

The estimated path coefficients and t-value between the latent are shown in Table 11, where the following results are obtained:

– The acceptance of the hypotheses H1$_1$, H1$_2$, and H1$_3$. Thus, there are significant direct relationships between HRM practices and service quality (estimate = 0.97; t-value = 4.38; P-value < 0.05),

Table 9
Estimates and t-values (in parentheses) from CFA.

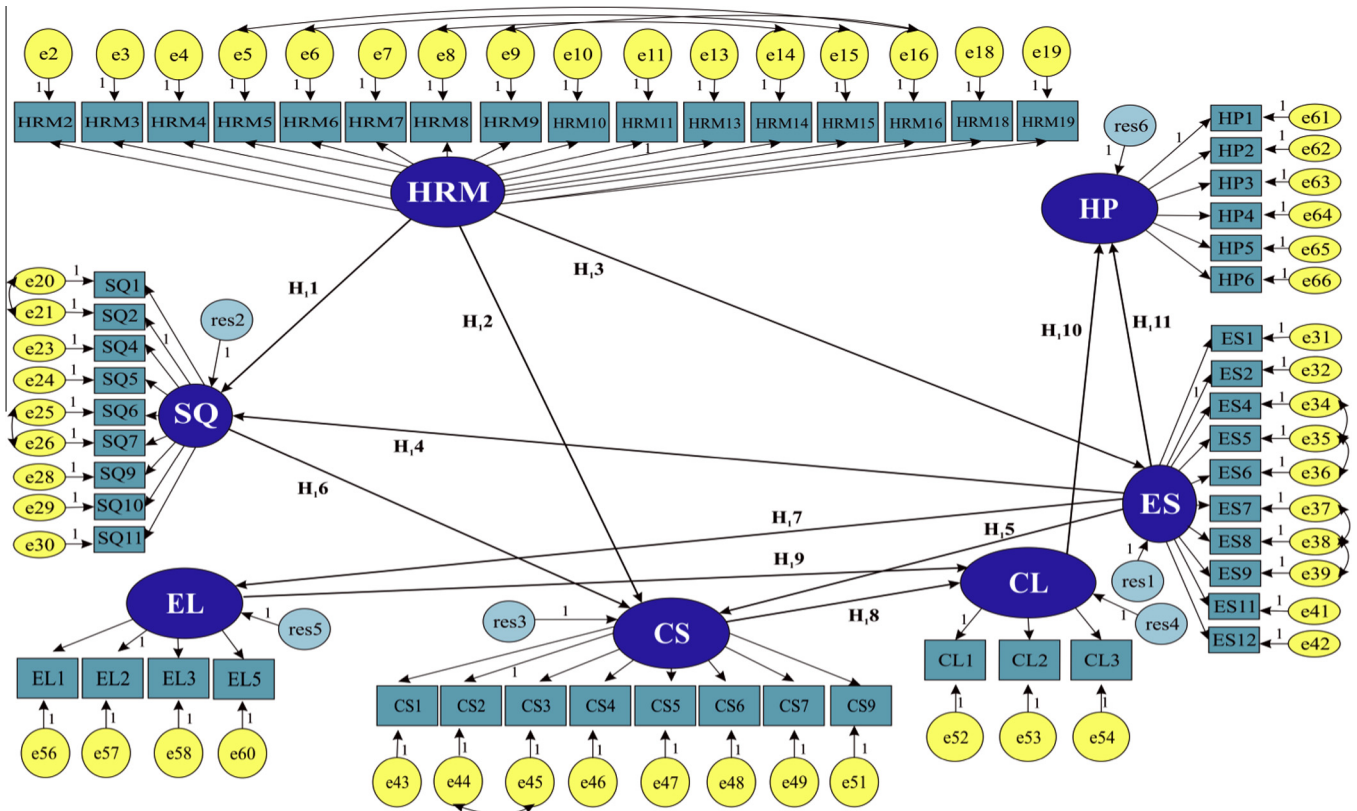|	HRM	HP	CS	CL	SQ	ES	EL
HRM1	0.91(4.47)						
HRM2	0.93(4.25)						
HRM3	0.90(5.24)						
HRM4	0.93(2.57)						
HRM5	0.90(3.42)						
HRM6	0.67(1.71)						
HP1		0.73(6.20)					
HP2		0.29(1.70)					
CS1			0.69(13.48)				
CL1				0.85(14.50)			
CL2				0.79(14.94)			
SQ1					0.83(6.02)		
SQ2					0.99(15.33)		
SQ3					0.90(18.19)		
SQ4					0.97(15.31)		
SQ5					0.92(13.25)		
ES1						0.92(9.34)	
ES2						0.65(7.36)	
ES3						0.60(3.95)	
ES4						0.69(8.85)	
EL1							0.86(12.94)

Fig. 5. Structural model.

Table 10
Overall fit indices for the structural model.

Model	χ^2	DF	P-value	χ^2/DF	GFI	RMSEA
Default model	1231.266	965	0.01	1.276	0.842	0.034

customer satisfaction (estimate = 0.75; t-value = 3.33; P-value < 0.05), and employee satisfaction (estimate = 0.98; t-value = 5.44; P-value < 0.05). Hence, in order to gain competitive advantage hotel managers should continually enhance HRM practices by providing quality services and improving customer and employees' satisfaction.

– The H1$_4$ and H1$_5$ suggest that employee satisfaction positively affects service quality (estimate = 0.99; t-value = 8.92; P-value < 0.05) and customer satisfaction (estimate = 0.82; t-value = 8.43; P-value < 0.05). This result highlights the importance of employees' satisfaction and its effect on customer satisfaction and service quality. Consequently, hotel management is urged to adopt effective approaches and policies that guarantee a working environment that effectively results in satisfied employees. Importantly, employees should be trained on how to deliver high quality service that leads to customer satisfaction and improving hotel's performance.

– The service quality has a positive influence on customer satisfaction (estimate = 0.84; t-value = 8.91; P-value < 0.05), supporting H1$_6$. That is, service quality is a key factor that strengthens hotel's competitiveness. Therefore, managers should regularly assess the service quality levels and evaluates customer feedback and reviews regarding the offered services. A customer relationship management system can provide great assistance in identifying customer wants and providing services that meet or exceed customer expectations.

– The H1$_7$, which proposes the direct relationship between employee satisfaction and employee loyalty, is supported (estimate = 0.64; t-value = 5.47; P-value < 0.05). Moreover, there is a significant direct relationship between customer satisfaction and customer loyalty exists, H1$_8$ is supported (estimate = 0.84; t-value = 10.29; P-value < 0.05). This result encourages management to maintain effective systems; such as, rewarding, training, incentives systems, that extends employees' satisfaction to loyalty. Doing this will surely lead to improving customer satisfaction.

– H1$_9$ proposes that there is a significant direct relationship between employee loyalty and customer loyalty, but the results (estimate = −0.08; t-value = −1.53; P-value > 0.05) provide no evidence for a significant relationship between these two factors. That is, employees' loyalty is not the only determinant for customer loyalty. Other factors have great influence on customer loyalty, for example service quality.

– There is a positive effect of customer loyalty on hotel performance (estimate = 0.80; t-value = 6.46; P-value < 0.05). Hence, the hypothesis H1$_{10}$ is accepted. That is, hotels are managed adopt effective systems that achieves customer satisfaction. Nevertheless, the H1$_{11}$ which suggests that employee satisfaction has a positive influence on hotel performance (estimate = 0.01; t-value = 0.14; P-value > 0.05) provides insignificant relationship between employee satisfaction and hotel performance. Consequently, hotels management is found deficient in adopting real system to improve employees' satisfaction and limited their focus on improving customer satisfaction and hotel performance. Consequently, managers should direct more efforts on improving the efficiency of their internal systems.
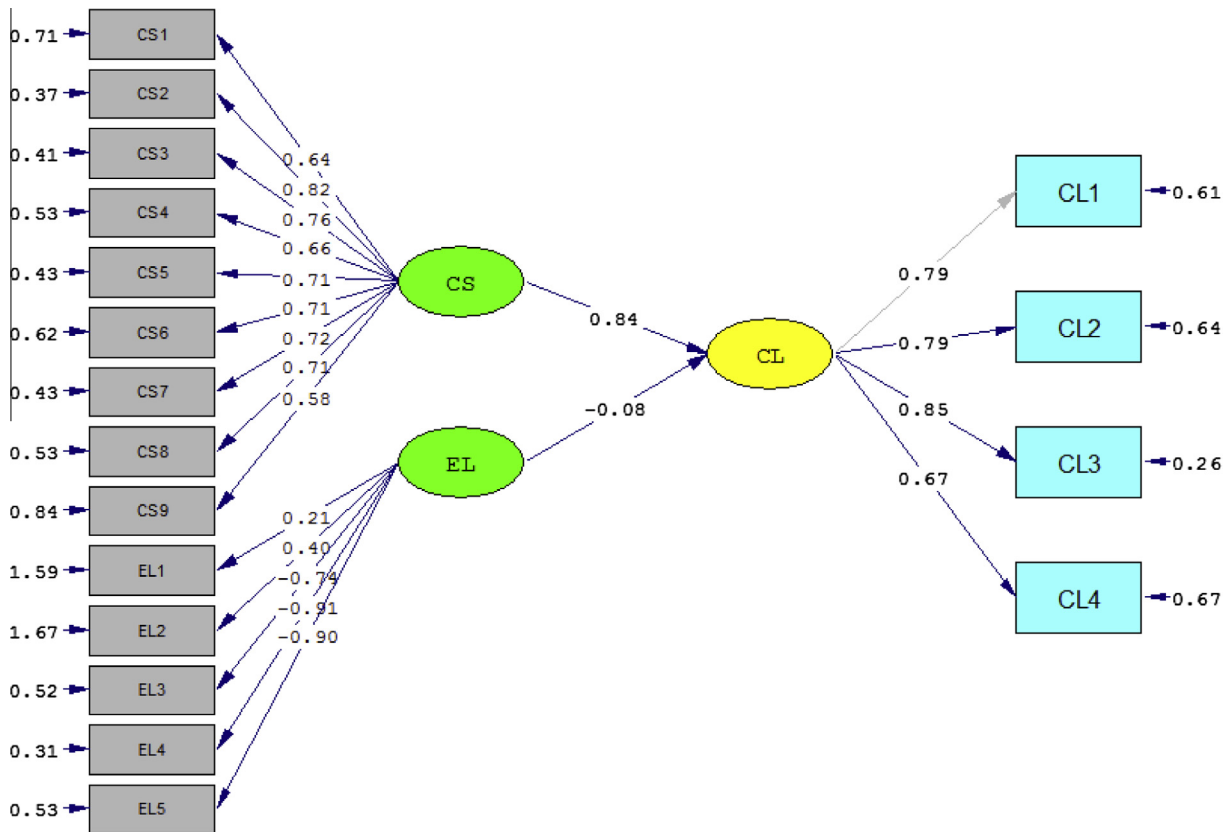
Fig. 6. Estimates for the relationships between CS and El with CL.

Table 11
Results of SEM hypotheses.

Hypothesis	Estimate	t-value	Decision
H1$_1$: HRM practices and service quality	0.97	4.38	Supported
H1$_2$: HRM practices and customer satisfaction	0.75	3.33	Supported
H1$_3$: HRM practices and employee satisfaction	0.98	5.44	Supported
H1$_4$: Employee satisfaction and service quality	0.99	8.92	Supported
H1$_5$: Employee satisfaction and customer satisfaction	0.82	8.43	Supported
H1$_6$: Service quality and customer satisfaction	0.84	8.91	Supported
H1$_7$: Employee satisfaction and employee loyalty	0.64	5.47	Supported
H1$_8$: Customer satisfaction and customer loyalty	0.84	10.29	Supported
H1$_9$: Employee loyalty and customer loyalty	−0.08	−1.53	Rejected
H1$_{10}$: Customer loyalty and hotel performance	0.80	6.46	Supported
H1$_{11}$: Employee satisfaction and hotel performance	0.01	0.14	Rejected

5. Conclusions

This research investigated the relationships between service quality, HRM practices, employee satisfaction, employee loyalty, customer loyalty and customer satisfaction and in investigating their effects on Jordanian hotel performance using SEM. The main results including: (1) HRM practices is positively related to service quality, employee satisfaction, and customer satisfaction, (2) employee satisfaction has a positive effect on customer satisfaction and employee loyalty, and service quality, whereas it has insignificant impact hotel performance, (3) service quality has a positive impact on customer satisfaction, (4) customer satisfaction is positively related to customer loyalty, which is significantly affects hotel performance, finally and (5) employee loyalty has insignificant impact on customer loyalty. This study recommends that hotel managers should focus more on implementing efficient

HRM practices by improving works skills, providing up-to-date training for employees, improving service quality, improving employee satisfaction and loyalty by proper rewarding system and encouraging teamwork, serving customers' requirements and exceed their expectations to increase customers' satisfaction and loyalty through effective customer relationship management. All these factors will improve Jordanian hotel performance in financial and innovation domains.

6. Managerial implications

In today's sharp competition in Jordanian hotels industry, managers should continually strengthen hotels performance by providing better service quality, enhancing employee satisfaction, and establishing effective HRM practices. The findings of this research indicate that enhancing customer satisfaction can be achieved

through improving perceived service quality. In order to meet or exceed tourist expectations, managers should continually enhance their service quality by focusing great attention on tangibles, reliability, responsiveness, empathy, and assurance. Moreover, HRM practices are found positively related with customer satisfaction. This indicates that human resources managers should strengthen HRM practices mainly in recruitment and employee selection, manpower planning, job design, and training and development. Finally, employee satisfaction plays a significant role in improving customer satisfaction. Consequently, employees should be considered valuable assets in hotels industry. To achieve employee satisfaction, managers should provide working conditions, encourage teamwork and cooperation, establish relationship with supervisor, and develop effective recognition and rewards system. Employee satisfaction enhances employees' sense of belonging to their hotel and hence they become committed to achieve hotels' goals. This leads to better service quality and higher level of customer satisfaction. Typically, customer satisfaction leads to customer loyalty represented by attitude and behavior loyalty. On the other hand, staff participation in setting hotels' goals and procedure through quality circles and by effective pay system can significantly improve hotel performance.

References

Abdullah, R. B., Abdul Karim, N., Abdul Patah, M., Zahari, H., Nair, G., & Jusoff, K. (2009). The linkage of employee satisfaction and loyalty in hotel industry in Klang Valley, Malaysia. *International Journal of Business and Management, 4*(10), 152–160.

Al-Refaie, A. (2011). A structural model to investigate factors affect patient satisfaction and revisit intention in Jordanian hospitals. *International Journal of Artificial Life Research, 2*(4), 43–56.

Al-Refaie, A. (2014). Factors affect companies' safety performance in Jordan using structural equation modeling. *Safety Science, 57*, 169–178.

Al-Refaie, A., & Al-Tahat, M. D. (2014). Effects of knowledge management and organization learning on firms' performance. *Journal of Nature Science and Sustainable Technology, 8*(3), 269–290.

Al-Refaie, A., Al-Tahat, M. D., & Bata, N. (2014). CRM/e-CRM effects on banks performance and customer–bank relationship quality. *International Journal of Enterprise Information Systems, 10*(2), 62–80.

Al-Refaie, A., Foud, R., & Eteiwi, D. (2013). Examining factors affect passenger's satisfaction and loyalty: A comparative analysis from Jordan airport. *Advances in Information Sciences and Service Sciences – An International Journal of Research and Innovation, 5*(3), 641–650.

Al-Refaie, A., Ghnaimat, O., & Ko, J.-H. (2011). The effects of quality management practices on customer satisfaction and innovation: A perspective from Jordan. *International Journal of Productivity and Quality Management, 8*(4), 398–415.

Al-Refaie, A., Ghnaimat, O., & Li, M.-H. (2012). Effects of ISO 9001 certification and KAAE on performance of Jordanian firms. *Jordan Journal of Mechanical and Industrial Engineering, 6*(1), 45–53.

Al-Refaie, A., & Hanayneh, B. (2014). Influences of TPM, TQM, Six Sigma practices on firms performance in Jordan. *International Journal of Productivity and Quality Management, 13*(2), 219–234.

Al-Refaie, A., Li, M.-H., & Jalham, I. (2012). Factors influencing the repurchase and customer satisfaction: A case of Jordanian telecom companies. *International Journal of Productivity and Quality Management, 10*(3), 374–387.

Al-Refaie, A., Li, M.-H., & Ko, J.-H. (2012). Factors affect customer linking capabilities and customer satisfaction in CRM: Evidence from Jordanian Hotels. *International Journal of Customer Relationship Marketing and Management, 3*(4), 16–30.

Al-Rousan, M., & Mohamed, B. (2010). Customer loyalty and the impacts of service quality: The case of five star hotels in Jordan. *International Journal of Business and Economic Sciences, 2*(3), 202–208.

Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share and profitability: Findings form Sweden. *Journal of Marketing, 58*, 53–66.

Baldinger, A. L., & Rubinson, J. (1996). Brand loyalty: The link between attitude and behaviour. *Journal of Advertising Research, 36*(6), 22–34.

Bennett, R., & Bove, L. (2002). Identifying the key issues for measuring loyalty. *Australian Journal of Market Research, 9*(2), 27–44.

Bowen, J. T., & Shoemaker, S. (1998). Loyalty: A strategic commitment. *Cornell Hotel and Restaurant Administration Quarterly, 2*, 12–25.

Byrne, B. (2001). In *Structural equation modeling with AMOS: Basic concepts, applications and programming*, pp. 173–199). Lawrence Erlbaum Associates Publishers.

Chand, M. (2010). The impact of HRM practices on service quality, customer satisfaction and performance in the Indian hotel industry. *The International Journal of Human Resource Management, 21*(4), 551–566.

Chi, C. G., & Gursoy, D. (2009). Employee satisfaction, customer satisfaction, and financial performance: An empirical examination. *International Journal of Hospitality Management, 28*, 245–253.

Grigoroudis, E., & Siskos, Y. (2010). In *Customer satisfaction evaluation: Methods for measuring and implementing service quality*. Springer, p. 72.

Gržinić, J. (2007). Concepts of service quality measurement in hotel industry. *Economic Thought and Practice*, 81–98.

Hartline, M. D., & Ferrell, O. C. (1996). The management of customer-contact service employees: An empirical investigation. *Journal of Marketing, 60*(4), 52–70.

Heskett, J. L, Sasser, W. E, Jr., & Schlesinger, L. A (1997). In *The service profit chain: How leading companies link profit and growth to loyalty, satisfaction and value*. New York Free Press.

Longmore, B., & Ronnie, L. (2014). Human resource management practices in a medical complex in the Eastern Cape, South Africa: Assessing their impact on the retention of doctors. *SAMJ South African Medical Journal, 104*(5), 368–371.

Lytras, M. D., & Ordóñez de Pablos, P. (2008a). Competencies and human resource management: Implications for organizational competitive advantage. *Special Issue on Competencies Management: Integrating Semantic Web and Technology-Enhanced Learning Approaches for Effective Knowledge Management, Journal of Knowledge Management, 12*(6), 48–55.

Lytras, M. D., & Ordóñez de Pablos, P. (2008b). The role of a "make" or internal human resource management system in Spanish manufacturing companies: Empirical evidence. *Human Factors and Ergonomics in Manufacturing, 18*(4), 464–479.

Matzler, K., & Renzl, B. (2006). The relationship between interpersonal trust, employee satisfaction, and employee loyalty. *Total Quality Management, 17*(10), 1261–1271.

Min, H., Min, H., & Chang, K. (2002). Dynamic benchmarking of hotel service quality. *Journal of Services Marketing, 16*, 302–321.

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*, 33–44.

Ouyang, Y. (2010). A relationship between the financial consultants' service quality and customer trust after financial tsunami. *International Research Journal of Finance and Economics, 36*, 75–86.

Pugh, S. D., Dietz, J., Wiley, J. W., & Brooks, S. M. (2002). Driving service effectiveness through employee–customer linkages. *Academy of Management Executive, 16*, 73–85.

Reichheld, F. F (1996). In *The loyalty effects: The hidden force behind growth, profits and lasting value*. Boston: Harvard Business Review Press.

Schneider, B. (1994). HRM – A service perspective: Towards a customer-focused HRM. *International Journal of Service Industry Management, 5*, 64–76.

Sirca, N. T., Babnik, K., & Breznik, K. (2013). Towards organisational performance understanding human resource management climate. *Industrial Management and Data Systems, 113*(3), 367–384.

Som, A. (2008). Innovative human resource management and corporate performance in the context of economic liberalization in India. *The International Journal of Human Resource Management, 19*(7), 1278–1297.

Storey, J. (2001). *Human resource management: A critical text* (2nd ed.). London: Thomson.

Tortorella, G. L., & Fogliatto, F. S. (2014). Method for assessing human resources management practices and organisational learning factors in a company under lean manufacturing implementation. *International Journal of Production Research, 52*(15), 4623–4645.

Wilkins, H. (2010). Using importance-performance analysis to appreciate satisfaction in hotels. *Journal of Hospitality Marketing and Management, 19*(8), 866–888.

Yee, R., Yeung, A., & Cheng, T. C. (2008). The impact of employee satisfaction on quality and profitability in high-contact service industries. *Journal of Operations Management, 26*(5), 651–668.

Yee, R., Yeung, A., & Cheng, T. C. (2010). An empirical study of employee loyalty, service quality and firm performance in the service industry. *International Journal of Production Economics, 124*, 109–120.

Yoon, M. H., & Suh, J. (2003). Organizational citizenship behavior and service quality as external effectiveness of contact employees. *Journal of Business Research, 56*(8), 597–611.

Zhai, X., Liu, A. M. M., & Fellows, R. (2014). Role of human resource practices in enhancing organizational learning in Chinese construction organizations. *Journal of Management in Engineering, 30*(2), 194–204.