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Author(s): Dia Zeglat and Krystin Zigan

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Dia Zeglat

The Hashemite University, Jordan

Krystin Zigan

Kent Business School, University of Kent, UK

Abstract

This paper aims to examine the relationship between intellectual capital and business performance in the Jordanian hotel industry. The data for this study were collected from 116 managers of four- and five-star hotels. Regression analyses were conducted to test different research hypotheses. The findings showed that all dimensions of intellectual capital have a positive and significant impact on the business performance of Jordanian hotels. In particular, structural capital as one of the intellectual capital dimensions had the strongest and largest contribution to business performance. The extended knowledge about the importance of intellectual capital and its impact on business performance enables practitioners to develop adequate strategies to better manage organisational performance. Not much research has investigated the importance of these resources in the hotel industry and even less research has been undertaken to explore their significance for Arabic countries. To our knowledge, this research is the first large-scale empirical study, which investigates this relationship in the Arab hotel industry.

Keywords

Intellectual capital, business performance, service sector, hotel industry, Jordan

Introduction

Due to increased global competition in many hotel industries around the world, achieving outstanding performance is one of the primary objectives of any hotel organisation. As a consequence, managers need to identify and manage the key drivers of performance in their organisations (Pike et al., 2005). We argue that, in order to strengthen their performance, hotels must start with an internal analysis and understand their resources and capabilities. Researchers and practitioners have found that in many organisations intangible resources (e.g. knowledge and customer relationships) are key performance drivers, and create intellectual capital (IC) (Edvinsson, 2013). IC is often referred to as the value that is created by three types of intangible resources, that is, human capital

(HC), such as knowledge, structural capital (SC), such as information and communication systems, and relational capital (RC), such as partnerships with stakeholders (Stewart, 1997). Knowledge on how to effectively manage IC is vital, in particular in industrial sectors that are service oriented and non-manufacturing, since these sectors possess more intangible than tangible resources (Bontis and Fitz-enz, 2002). The hotel sector is a service sector and hotel organisations possess IC resulting from the knowledge and skills of employees, processes and systems, and customer relationships. Tavitiyaman et al. (2012) claim that hotels

Corresponding author:

Dia Zeglat, Faculty of Economics and Administrative Sciences, The Hashemite University, P.O. Box 150459, Zarqa 13115, Jordan.
Email: Dia@hu.edu.jo

with strong resources can differentiate themselves from their competitors and survive in a competitive environment. For this reason, we use the resource-based view (RBV) of the organisation as a theoretical framework for this study. The RBV looks inside the firm for sources of superior performance with respect to competition and may result in organisational change in order to maintain or enhance effectiveness (Barney, 1991; Harrington and Ottenbacher, 2011). Kim et al. (2011) argue that the management of IC is a vital means of strategic business and high performance in the hotel industry. Consequently, hotel managers need to understand the relationships which exist between IC and the performance in their organisations (Pike et al., 2005). Dumay (2009) supports this view and claims that addressing intangible and qualitative elements of performance leads to better understanding of the company's performance. In this context, Zigan and Zeglat (2010) review existing measurement systems of performance in the hotel industry, and conclude that performance measurement systems do not fully capture the intangible drivers of performance. Tan et al. (2004) found that if companies do not consider intangible resources their control and prediction mechanism of performance might not be as effective.

Earlier research has explored the important role played by IC in the hotel industry (see e.g. Engström et al., 2003; Jerman et al., 2009; Krambia-Kapardis and Thomas, 2006). However, it is not entirely clear how the different elements of IC contribute to creating a performance advantage (Bontis and Fitz-enz, 2002). We follow Kim et al.'s (2012) notion that not enough attention has been paid to the interrelationships that exist among the different dimensions of IC and their impact on business performance (BP) in the hotel industry. Accordingly, the objectives of the paper are to determine the relationship between the IC and BP of hotels and the interrelationship between the three components of IC. This will then allow us to identify the most critical element of IC. Further, we aim to explore the importance of the IC concept for the hotel organisations studied and to provide recommendations for managers in the hotel industry so that they can improve their performance and gain a competitive advantage.

Therefore, we contribute to the hotel literature by offering insights into the relevance of IC elements for achieving superior hotel performance. We further advance existing research in this field by explicitly considering sector-specific factors that influence the relationship between IC and BP. This will provide researchers and managers with additional knowledge about factors that have to be taken into account when managing IC.

Methodologically, we contribute to existing research within the hotel industry by going beyond case study and secondary evidence (e.g. as undertaken by Engström et al., 2003) to a relatively large sample study. We test the applicability of an existing measurement instrument to a relatively unexplored setting by using a quantitative research approach. Therefore, this research further contributes to the measurement stream of IC by verifying a set of operational measures (as requested by Cabrita and Bontis, 2008), while applying it to a geographical region that has not yet obtained great attention by researchers and practitioners. Indeed, only a handful studies on IC have focused on the Arab region (e.g. Seleim et al., 2004; Sharabati et al., 2010) and researchers argue that more research is needed to allow for generalisability across different countries and industries in this region.

Thus, the rationale for conducting this research is to contribute to the research areas of IC and hotel business by focusing on one industry in the service sector (i.e. the hotel industry) and region (Arab region) where the elements of IC exist but are not well identified, examined and supported.

The paper is structured as follows: first, the concept of IC is considered. This is followed by a discussion of current research on the relationship between IC and organisational performance. Next, the model and method used in this research are described. This is followed by the results of the empirical research. Finally, the paper ends with a conclusion and summary, which includes suggestions for future research.

The concept of IC

Understanding the importance and the concept of IC provides researchers and practitioners with an indispensable source of information, which is highly valuable for the internal management of resources (Jerman et al., 2009). Marr et al. (2003) explained that knowledge about intangible performance drivers can help organisations develop, monitor and manage a business from an internal perspective.

Rastogi (2003: 230) offers a comprehensive definition and describes IC 'as the holistic or meta-level capability of an enterprise to co-ordinate, orchestrate, and deploy its knowledge resources toward creating value in pursuit of its future vision'. Multiple systems with regard to categorising IC have been suggested over the past years. Most researchers (e.g. Stewart, 1997; Zhou and Fink, 2003) have conceptualised the term 'intellectual capital' as a combination of customer/RC, organisational/SC and HC.

This categorisation system is also applied in this research.

Human capital

'HC' can be defined as the combined knowledge, skills and the abilities of employees to deal with the tasks at hand (Edvinsson and Malone, 1997). Some of the key elements include practical knowledge, technical expertise, creativity, education and attitude, competence, experience and motivation (Marr, 2004). Nemec and Mihalic (2007) found that for hotel organisations, in particular, employee competence, attitudes and innovativeness were important elements of HC.

Structural capital

'SC' comprises supporting structures and conditions which enable HC to function. The term refers to the physical and non-physical infrastructure of the organisation, that is, operational systems, processes, databases, strategic plans, routines and information technology (IT) (Alwis, 2004; Walsh et al., 2008). Roslender and Fincham (2004) claim that SC also embraces key organisational attributes such as organisational culture, management structures and processes, knowledge networks and organisational philosophies. In the hotel industry, SC is created through tasks such as room operations and food and beverage operations (Walsh et al., 2008). Nemec and Mihalic (2007) found that culture, business processes and IT are significant parts of SC in a hotel organisation.

Relational capital

Some categorisation schemes treat customer capital as a separate category, while others regard it as part of RC (Pulic et al., 2009). As this research aims to investigate the broader spectrum of relationships which hotels have, the construct of RC will be applied. Solnet et al. (2010) state that the hotel industry consists of whole network of businesses which all contribute to the tourism sector. RC consists of all the business relationships an organisation has with its different stakeholders, which can either be formalised, such as partnering and distribution arrangements, or non-formalised, such as relationships with customers, investors, competitors or suppliers (MacDougall and Hurst, 2005; Marr et al., 2004). Customer relationships (customer capital) are consequently only one part of these relationships.

Development of the research model and the hypotheses

Interrelationships between components of IC

Since it is assumed that IC seldom directly affects performance (Cabrita and Vaz, 2006), several scholars (e.g. van der Meer-Kooistra and Zijlstra, 2001) emphasise the consideration of the interrelationships between the components of IC, that is, between HC, SC and RC. Some scholars (e.g. Alwis, 2004; Rastogi, 2003) argue that these components will only generate value through their mutually supportive combinations. They claim that, in particular, SC and RC cannot meaningfully exist without HC, and also that HC only creates value through the effective use of SC within an organisation. It is therefore regarded important to consider the integrative nature of IC (van der Meer-Kooistra and Zijlstra, 2001).

Previous research, conducted by Engström et al. (2003), Kim et al. (2012) and Sharabati et al. (2013) in the hotel and wider tourism industry, has identified a strong and positive impact and relationship between HC and SC. However, Bontis et al. (2000) found a non-significant relationship between HC and SC in the service sector and due to these contradictory results we aim to test this relationship once more in the Jordanian hotel industry. We argue that within the hotel industry, organisational structures, routines and their management and the behaviour of employees are interrelated. Kim et al. (2012) found that a well-trained workforce can, for instance, improve operational processes and therefore positively influence the creation of SC. We aim to test this relationship in the Jordanian context and hypothesise that

H1: HC has a positive and significant impact on SC

Van der Meer-Kooistra and Zijlstra (2001) claim that customers are attracted by good employees, that is, those who possess the relevant skills, knowledge and the right attitude and motivation. In this regard, Chen et al. (2004) find that a high level of employees' HC encourages customers and other stakeholders to deal with the company which in turn leads to more profit. Moreover, Cabrita and Bontis (2008) argue that the development of employees' HC of employees can result in higher job satisfaction and loyalty. Accordingly, we argue that, in particular in service organisations such as hotels, the relationship between HC and RC is particularly strong. Hsu and Fang (2008) explain that if employees possess the suitable knowledge and skills, they can better serve customers, for example, by providing more information to customers. Sharabati et al. (2013) tested the relationship

between HC and RC for the wider Jordanian tourism industry. Research on this relationship in hotel organisations is rather limited (e.g. Kim et al., 2012) and therefore we aim to test it in this specific sector by arguing:

H2: HC has a positive and significant impact on RC

The assumption that there is a positive relationship between SC and RC was proven in previous research (Kim et al., 2012). Moreover, Chen et al. (2004) argue that the mechanism and structure of the organisation can help in having better relationship between an enterprise with all stakeholders. Within the hotel industry, it can well be assumed that established routines, properly functioning IT systems and management procedures can contribute to the development of RC, for example, customer satisfaction and loyalty. A hotel's commitment to build SC by enhancing process efficiency and investing in information and communication systems can result in reduced transaction times with stakeholders such as customers, which will ultimately enhance their satisfaction and improve the perceptions of image and brand (Ham et al., 2005; Kim et al., 2012). Based on these arguments, we hypothesise the following:

H3: HC has a positive and significant impact on BP

Despite Chen et al.'s (2004) and Cabrita and Bontis' (2008) studies who confirmed the impact of SC on BP, there are only a small number of studies on the interrelationship between the different dimensions of IC and BP in the hotel industry. Engström et al. (2003), for instance, were among the first to test this interrelationship in the hotel sector and found a positive relationship between SC and BP. Their results were in line with Bontis et al.'s (2000) findings of the Malaysian service sector and Sharabati et al.'s (2010) findings who researched the Jordanian pharmaceutical industry. In their study on the Jordanian tourism industry, Sharabati et al. (2013), however, found that SC had the least significant impact on BP. Due to the contradicting findings of previous research, we aim to explore the relationship between SC and BP and hypothesise the following:

IC and BP

To date, only a small number of studies have measured the effect of IC on BP (see e.g. Cabrita and Bontis, 2008; Chen et al. (2004); Engström et al., 2003; Kim et al., 2012; Sharabati et al., 2010; Walsh et al., 2008). The reason for this may be due to the difficulty of measuring and visualising resources, which are neither physical nor exactly valuable. Bontis (1998), Bontis et al. (2000) and Cabrita and Bontis (2008) measured

the impact of IC on BP in service and non-service industries. Overall, Bontis and colleagues found that the nature of IC had a strong positive impact on BP. Furthermore, they found that, in most cases, HC was the most influential factor in the service sector with regard to BP (e.g. Cabrita and Bontis, 2008; Chen et al., 2004; Sharabati et al., 2010). Therefore, we infer that HC is also significantly relevant for achieving high BP in the hotel sector. Yet, empirical evidence by previous researchers shows contradictory results. While Engström et al. (2003) found a positive relationship between HC and BP in upper class hotels, Kim et al.'s (2012) findings did not confirm this relationship. Therefore, we aim to test this relationship again and hypothesise that:

H4: SC has a positive and significant impact on RC

Alwis (2004) states that all these complex interactions between the components of IC contribute to the organisation's IC which impact not only on innovation, customer relationships and brand management, but eventually on BP.

H5: SC has a positive and significant impact on BP

The impact of RC on BP has been previously investigated in other contexts (e.g. service-profit chain, see Heskett et al., 1994). Elements of RC such as marketing activities and distribution channels are likely to positively affect BP (Chen et al., 2004; Sharabati et al., 2010; Smithson et al., 2011). For the tourism sector, Sharabati et al. (2013) found that RC had the most significant and positive impact on organisations' BP. We aim to test this relationship for the specific Jordanian hotel industry and hypothesise:

H6: RC has a positive and significant impact on BP

Moreover, the present study considers the impact of some control variables (size, location, method of operations and ranking of the hotel) on the relationship between the overall IC and BP. Since the size of an organisation is related to its organisational and managerial complexity (Madorran Garcia and de Val Pardo, 2004), this criterion was examined in terms of number of rooms offered at every single unit. The hotels were considered large enough to assume the need for hotel managers to address issues related to the management of intangible resources. We chose the location as a control variable since we assume that hotels being located in tourist areas require advanced management techniques due to the larger number of tourists and the required coordination of activities in comparison with hotels located in non-tourist areas. Further, we controlled for 'method of operations' since previous research has shown (e.g. by Yu, 2012) that being part of an international

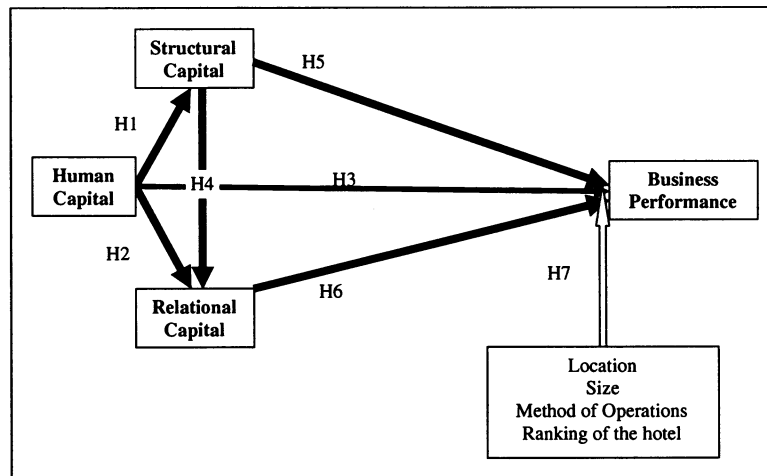


Figure 1. Research model and development of hypotheses.

hotel chain or operating the hotel independently might have an impact on the implemented management structures and BP. So, we argue that this factor also influences the activities surrounding the management of intangible resources. Lastly, we included the ranking of the hotel as a control variable arguing that upper class hotels have established advanced techniques, which would target the management of intangibles.

H7: The impact of IC on BP is controlled for by various contingent factors (i.e. size, location, methods of operations and ranking of the hotel)

Figure 1 provides an overview of the research model and the hypotheses developed for this research.

The context of the research

Bontis (2004) stated that more research is needed to investigate the importance of IC and its association and impact on current and future performance for establishments in the Arab region. As a result, recent research has focused on the Arab setting and investigated the relevance of the IC construct in the pharmaceutical sector (Sharabati et al., 2010) and the software industry (Seleim et al., 2004). However, the number of studies that investigated this topic in the Arabic countries is very limited. Furthermore, existing studies mainly provide a description of IC practices and implementation in the Arab region (e.g. Bontis, 2004) rather than understanding the benefits and consequences related to the business success. Thus, we argue it is essential to test and investigate the relationship between the two concepts (IC–BP) and the interrelationship between dimensions of the IC in this culture and setting.

To do that, this study aims to address the hotel industry in Jordan. According to the Jordan Tourism

Board (2010), the hospitality and tourism industry is the second largest employer in Jordan accounting for around 13% to Jordan's gross domestic product. According to the Jordan Hotel Association, in 2010 the hotel industry in Jordan comprised approximately 210 hotels (ranging from one- to five-star) and hosted more than 2.6 million guests (Jordan Tourism Board, 2011; Ministry of Tourism and Antiquities, 2011).

As a result, competition among enterprises within the hospitality and tourism industry has increased, which may influence hotels' success and prosperity. For this reason, hoteliers have to understand the value of IC and its elements drivers. Also, this study selected this sector (the hotel industry in particular) because, as Walsh et al. (2008) argued, studying a particular industry can offer more detailed insights into the subject matter of the research. Exploring whether, and to what extent, the hotel sector in Jordan understands the importance and relevance of IC and its impact on BP may result in different strategies being developed and adopted by practitioners.

In terms of whether using qualitative and quantitative approaches, the present study followed the quantitative approach as used in the majority of relevant studies such as Bontis et al. (2000), Cabrita and Bontis (2008), Peng et al. (2007), Sharabati et al., (2010, 2013) and Walsh et al. (2008). Saunders et al. (2003) support this approach due to the objective nature of the research process.

Research method

Population and sample

In this research, we focus on upper scale hotels because we follow Walsh et al.'s (2008) assumption

that in such hotels the elements of IC are even more important than in low cost hotels.

According to the Jordanian Ministry of Tourism and Antique (2010), there is a total of 53 hotels classified as four- and five-star hotels operating in Jordan, providing around 60% of all rooms available (about 10,400). Further, this group of hotels operate in the main tourist destinations, namely Amman, Petra, Aqaba and Dead Sea. It can be assumed that four- and five-star hotels have implemented advanced management techniques and therefore it can be expected that they also adequately manage IC.

Although the size of the research population is not high, this population can be considered acceptable in comparison with previously conducted studies (see e.g. Cabrita and Bontis, 2008; Chen et al., 2004; Gil-Padilla and Espino-Rodríguez, 2008; Sharabati et al., 2010). In terms of the research sample, the authors of this paper contacted all four- and five-star hotels in Jordan listed in the Jordan Hotel Association's directory in order to improve the quality of results and the representativeness of the research.

Data collection

The unit of analysis selected for this study was a single unit (from the 53 hotels identified in the research population as mentioned earlier (Jordan Hotel Association, 2011)), that is, each single hotel (unit) was considered a single case for the purposes of the analysis. The present study has applied the simple random sampling technique by giving equal opportunities to all units in the research population to be selected for sampling. In order to collect data, four questionnaires were sent to each single unit to be filled in by key informants, namely the top and executive levels of managers of each unit, that is the general manager, the financial manager, the marketing manager and the human resource manager. Thus, each general manager and the three department managers were considered as a proxy and representative for his/her organisation. The rationale behind asking general and department managers was attributed to the literature recommending that focus is placed on managers and decision makers because they have the necessary

experience for assessing the relative importance of resources for ensuring high performance (Galbreath, 2005; Hariharan et al., 2004; Pike et al., 2005). Further, the interdisciplinary nature of intangible resources implied that a variety of different managers should be interviewed across the hotels (Roslender and Fincham, 2004).

Overall, 212 questionnaires were distributed to the research population and these were sent with the support of the Jordanian Ministry of Industry and Trade as well as the Jordanian Hotel Association, whose senior officers directly contacted the hotels of the research population to encourage their participation in this study. The questionnaire was supplemented by a covering letter developed by the researchers assuring the confidentiality of answers and outlying the purpose of this research. Over a period of 3–4 months, several reminding copies of the questionnaire, personal visits and direct phone calls were conducted and e-mail messages sent to remind potential respondents and encourage them to participate in the study.

Out of the 212 questionnaires, 116 were returned, which represents a response rate of 54%. From the 53 hotels in the research population, 31 hotels forming 58% of the research population accepted to participate in this research which covers more than half of the four- and five-star hotels that operate in Jordan. Table 1 shows some descriptive facts about the units (hotels) that participated in the present research throughout the main tourist locations and destinations in Jordan.

As shown above, the research sample has covered the majority of the four- and five-star hotels in Jordan; however, it is clear that a higher percentage of five-star hotels participated in the current study (i.e. 77%) compared with the four-star hotels (23%). One reason for the high participation rate of five-star units was probably their interest in learning about innovative management techniques. Moreover, five-star hotels in Jordan are encouraged to have best management practices and auditing systems due to their international franchising and affiliations. Table 3 further indicates that most of the participating hotels are located not only in the capital Amman (30 hotels, representing 57% of all four- and five-star hotels) but

Table 1. Descriptive data of units (hotels).

Ranking	No. of units participated	Percentage and from population	Amman	Petra	Aqaba	Dead Sea
Four stars	7	22.5%	3	2	2	0
Five stars	24	77.5%	12	6	3	3
Total	31	100%	15	8	5	3

Source: Developed by researchers.

also in other main tourist areas (Petra, Aqaba and Dead Sea).

This response rate satisfied the criteria and assumptions made by statisticians. In other words, to run multiple regression statistical analysis, research studies need to pass the possible ratio of observations to independent variables as mentioned by Hair et al. (2006). This rule of thumb offers a ratio implying that the sample size should be larger than the ratio of observations for every single independent variable. The minimum ratio of observations to independent variables is 5:1; but the preferred ratio is 15:1 or even 20:1, which leads to improve the generalisability of the study. In the present study, the sample size obtained was 116 observations or cases, while the number of independent variables was 3 (three dimensions). So, the research sample exceeded the popular ratio which requires 15 or 20 of observations for every single independent variable, that is $116 \geq 20:1$ (60:3) (for more information, see Hair et al., 2006).

Measurement of variables (research instrument)

Measurements of variables displayed in the research model were gained from different sources. For the IC variable, the IC questionnaire developed by Bontis (1998), Bontis et al. (2000) and Cabrita and Bontis (2008) offers a comprehensive set of items for measuring the three dimensions of IC. More specifically, Bontis' scale introduced 20 items for measuring HC, 25 items for measuring RC and finally, 16 items for measuring SC (see further details in the appendix). As a major amendment, the term 'customer capital' has been replaced in this study by 'relational capital' since the later concept provides more scope for the relationships between the company and its internal and external environments. Some items were re-worded in accordance with a more appropriate hotel language. Each item in the questionnaire has a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The BP variable was divided into operational performance and financial performance. Financial performance was measured by using indicators including return on investment and gross operation profit (GOP), while operational performance was measured by using key indicators in the hotel industry, such as occupancy rate and revenues generated from rooms available (RevPAR). All of these items are regarded as reliable key financial and operational indicators in the hotel industry (Engström et al. 2003; Gil-Padilla and Espino-Rodríguez, 2008; Harris and Mongiello, 2001).

The relevant literature shows that BP can be measured by using two different approaches: an objective

approach (i.e. using the actual data provided) and a subjective approach (i.e. using the manager's perceptions). Researchers (e.g. Dawes, 1999; Dess and Robinson, 1984; Pearce et al., 1987) have confirmed the validity and reliability of the subjective approach for measuring performance by having strong correlations between objective and subjective measures of performance. In the hotel sector, a large number of previous research studies have used the subjective approach and confirmed the validity of this approach (Chi and Gursoy, 2009; Kim et al., 2011). Accordingly, the present study relies on these findings and adopts the subjective method in order to measure the hotels' BP. Therefore, the four indicators of performance (i.e. GOP, revenues generated from all capital invested, Occupancy and RevPAR) were measured from the managers' subjective viewpoints in relation to competitors in the industry over the past 3 years. This 3-year period was chosen in order to reduce year-to-year variations in the financial results, as suggested by Covin et al. (2001). Respective questions were added using a five-point Likert scale. Responses ranged on a five-point scale from 'much worse than competitors' (1) to 'much better than competitors' (5).

Findings

Table 2 lists the demographic characteristics of the respondents.

Descriptive analysis

The mean and standard deviation values for all constructs (HC, RC, SC and BP) were calculated, see Table 2. Data gathered in this study can be considered normally distributed (see Hair et al., 2006) as skewness and kurtosis did not exceed normal levels as shown in Table 3:

As Table 3 shows, RC obtained the highest positive ranking and assessment (mean: 3.80, SD: .472)

Table 2. The demographic profile of the sample.

Characteristics	Frequency
Level of education	
Undergraduate degree	59.5%
Postgraduate degree	16.5%
Professional qualification	15.0%
No higher education	7.0%
Years of experience in the hotel	
More than 5 years	38.0%
Between 3 and up to 5 years	33.6%
Up to 3 years	23.4%

Table 3. Descriptive statistics of the research constructs and dimensions.

Dimension/Construct	Mean	SD	Skewness	Kurtosis
Intellectual capital	3.75	.486	-.515	-.433
Human capital	3.68	.523	-.604	-.216
Relational capital	3.80	.472	-.451	-.327
Structural capital	3.75	.542	-.187	-.390
Business performance	4.04	.660	-.210	-.936

Table 4. Reliability analyses of the research constructs and dimensions.

Construct/ Dimensions	Number of Items	Cronbach's alpha	Result
Human capital	20	.891	Accepted - Reliable
Relational capital	25	.871	Accepted - Reliable
Structural capital	16	.874	Accepted - Reliable
Business performance	4	.816	Accepted - Reliable

compared with the other two dimensions (HC: mean: 3.68, SD: .523 and SC: mean: 3.75, SD: .542).

Statistical analyses

Cronbach's alpha was applied to test the reliability of measures and to assess the quality of the measurement instrument (Churchill, 1979). Cronbach's alpha coefficients for the four constructs were above 0.81, and therefore exceeded the threshold level of 0.7 as suggested by Nunnally (1978). Thus, all constructs and dimensions passed the reliability test as shown in Table 4.

Ordinal least square (OLS) regression analysis technique was applied to test the relationship between the dimensions of IC and BP and the interrelationships between the dimensions of IC. Table 5 summarises the results obtained (path analysis).

Table 5 shows that all paths depicted and assumed in the research model were supported and confirmed. In terms of the relationship and impact of dimensions of IC on BP, all dimensions of IC, by using the R^2 value which shows the predictive power of the IC constructs to BP, have a positive and significant impact on the BP of hotels. Therefore, the three related hypotheses (H3, H5 and H6) were accepted and supported. SC had the most powerful impact on BP and explains most of its variance.

In terms of the interrelationship between dimensions of IC (H1, H2 and H4), Table 5 shows a positive and significant impact for all dimensions of IC (HC, RC and SC).

Table 5. Path results.

Path	Hypotheses	Beta	R^2	Sig.	Direction	Result
HC→SC	H1	.815	.665	.000	Positive	Supported
HC→RC	H2	.848	.720	.000	Positive	Supported
HC→BP	H3	.573	.329	.000	Positive	Supported
SC→RC	H4	.844	.713	.000	Positive	Supported
SC→BP	H5	.691	.478	.000	Positive	Supported
RC→BP	H6	.567	.321	.000	Positive	Supported

Table 6 shows the impact and influence of IC on BP after controlling for a number of additional variables by using the hierarchical multiple regression technique.

As shown in Table 6, two models were calculated to explore the possible effect of the control (dummy) variables. The first model indicates that the four control variables alone have a significant impact on BP through having a relatively moderate R^2 (.353) and significant model (.000). However, the second model which tests the ability of the independent variable (IC) to influence the dependent variable (i.e. BP) after controlling or removing the effect of the four control (dummy) variables is significant (Sig. .000) but higher through having better R^2 value (.584).

Table 7 shows the contribution power of every single independent variable reported in Model 2 since this model includes all independent variables through calculating the coefficients value (beta).

Table 7 shows that the IC variable had the strongest significant power and contribution to BP (i.e. beta: .584; Sig: .000). Moreover, the ranking of the hotel (five- or four-star hotels) had the second significant contribution power to BP (i.e. beta: .412; Sig: .000). For the location of the hotel (tourist/non-tourist area), the table indicates that hotels located in tourist areas (e.g. Petra, Dead Sea and Aqaba) have a positive and significant influence on BP (i.e. beta: .305; Sig: .000) rather than non-tourist areas. Surprisingly, the methods of operation for hotels (whether the hotel was internationally affiliated or independently operating) had a negative but significant impact on BP (beta: -.367; Sig: .000). Finally, we found that the hotel size (room numbers) did not have any significant impact on BP (Sig: .085) which means that the actual number of rooms in hotels did not improve or diminish the performance of hotels under investigations.

Discussion

In this study, on the hotel sector in Jordan, we analysed the impact of various components of IC on BP. Using OLS as a regression technique, we

Table 6. Controlling variables impact.

Model	Variables included in the model	R ²	Sig.
1	Location (tourist area – non-tourist area) Methods of operation (international affiliation/independent) Size (room numbers) Ranking of the hotel (five/four stars)	.353	.000
2	Intellectual capital and the above four control variables	.584	.000

Table 7. Contribution power of independent variables.

Model 2	Standardised coefficients		
	Beta	Sig.	Contribution
Location (tourist area – non-tourist area)	.305	.000	Significant
Methods of operation (international affiliation/independent)	–.367	.004	Significant
Size (room numbers)	.140	.085	Insignificant
Ranking of the hotel (five/four stars)	.412	.000	Significant
Intellectual capital	.584	.000	Significant

Significant level at p -value < 0.05.

demonstrated that IC strongly affects the performance of Jordanian four- and five-star hotels (R^2 : .584).

Results derived from path analysis showed that each of the three sub-constructs of IC has a positive and substantive association with the other sub-constructs which is similar to the findings of previous studies. The strongest relationship was found to exist between HC and RC (tested in H2). In such service intensive industries as the hotel sector the establishment of RC depends very much on the employees, their motivation, attitude and knowledge, which are elements of HC. More specifically, it can be argued that in the investigated upper class hotels, the potential of HC to establish RC has been realised by the hotel managers. Therefore, investing in the development of staff competencies and skills can result in improving brand image and customer satisfaction and in better servicing all kinds of stakeholders who are consequently encouraged to maintain and intensify their connection with the hotel organisation. Although this finding is not in line with the findings of Engström et al., (2003), it is in line with those of Bontis et al. (2000) and Kim et al. (2012) who also found a significant and positive relationship between these two elements of IC.

Furthermore, our research found that the relationship between HC and SC (tested in H1) was the weakest, indicating that the existing staff competencies, skills and qualifications in Jordanian upper class hotels are not well applied for operating, for example,

data systems and communication technologies and the development of effective processes. It can be assumed that operating procedures are not based on staff's experience and knowledge and innovative capabilities are not well used. Therefore, it could be argued that the hotels' organisational culture and structure would have to be changed in order to make better use of HC. The knowledge and expertise of hotel staff has to be effectively utilised to improve operations and service quality (Yeung and Leung, 2007). One method to achieve this could be to implement knowledge management practices which support the transformation of employees' tacit knowledge into explicit organisational knowledge (Nonaka and Takeuchi, 1995). Yet, such recommendations have to be made with care, because research has shown that management practices in Jordan are rather difficult to change and tend to be very bureaucratic (Sawalha and Meaton, 2012).

To compare our findings with other studies, we found that our result was not in line with the findings of Bontis et al. (2000) who showed that there was a positive but not significant relationship between HC and SC in the service industries in Malaysia. Apparently, differences among service sectors exist in deploying staff's competences, their motivation and innovativeness for effectively operating the business and for enhancing the quality of services. Since our finding is consistent with Kim et al.'s (2012) finding who found a significant and positive relationship

for the Korean hotel industry, we strengthen existing evidence on that hotel businesses around the world are able to use employee's HC for using and developing SC.

The results relating to H4 showed that there is a relationship between SC and RC. The impact appears to be strong and positive. Apparently, SC is an important driver of RC. This is in congruence with the findings of Kim et al.'s (2012) research and indicates that in upper scale hotels, the existence of an effective data system, Customer Relationship Management software and a functional organisational structure supported by a comfortable atmosphere strongly support the development of RC, and affect the satisfaction of stakeholders and the reputation of the hotel.

In terms of investigating the generalisability of these findings among other industries but within the same geographical setting, our results are comparable to those of Sharabati et al. (2010). They also identified the relationship between HC and SC to be the weakest and with a very strong relationship between SC and RC.

In their study on the impact of national culture on organisational culture, Sawalha and Meaton (2012) found that in Jordanian organisations it is often not clear what employees and managers roles and responsibilities are with the consequence that tasks are often poorly handled, and decisions are made inadequately. Further, Sawalha and Meaton (2012) found that Jordanian managers are hesitant to delegate tasks which results in an ineffective information exchange process. Applying this knowledge to your research, we could argue that HC is not well transformed into SC because of the lack of clarity about the job description, gaps in service provision or duplication of tasks, and due to the lack of information and knowledge sharing, inefficient processes and procedures are hardly identified and addressed. It can further be assumed that the culture in Jordanian organisations is not very conducive to involving staff in decision-making processes, to which they could contribute by using their knowledge, skills and innovative capability. Therefore, using the staff's potential to effectively establish and deploy SC might be difficult due to the underlying cultural impacts.

The analysis and empirical findings further showed that there is a significant positive relationship between all three elements of IC and BP in terms of both financial and operational performance. In particular, SC had a very strong impact on BP. This finding indicates that elements such as organisational structure, effective operations management and advanced software applications are highly important for achieving high performance. Therefore, efforts of managers to invest in the elements of SC could be highly effective in improving BP and achieving competitive advantage.

This finding corroborates results of other research studies conducted in the hotel industry, for example, obtained by, Engström et al. (2003) and Kim et al. (2012) who found that SC is positively associated with BP. Yet, it contradicts findings of research that was conducted in other Jordanian business areas. Sharabati et al. (2010, 2013), for example, found that SC had no significant effect on BP. This implies that the geographical areas in which businesses are located might not have an influence on the relationship between SC and BP.

Surprisingly, the impact of HC on BP was rather moderate, indicating that the value and significance of HC for BP have not been recognised yet by Jordanian hotel managers. This finding implies that upper scale hotel managers in Jordan seem not to have recognised yet the importance of HC for their businesses. Apparently, the other forms of IC are regarded as more important in creating a differentiation strategy that provides superior performance. In their study on Korean upper scale hotels, Kim et al. (2012) came to the same results as this study did. We assume that the relationship and impact of HC on BP is moderated and mediated by other factors such as cultural issues, employees commitment and satisfaction, for example. This issue could be usefully investigated in future studies in order to gain a better understanding of the human resource-BP link and what other variables mediate this relationship.

The relationship between RC and BP was found to be positive, indicating that investments in relationship management are important for achieving high BP in Jordanian upper scale hotels. This finding confirms the general assumption that stakeholders, above all customers, and their effective management are one of the key performance drivers. Yet, in contrast to the studies of Nemec and Mihalic (2007), Kim et al. (2012) and Sharabati et al. (2013), we did not find that RC had the strongest direct impact on BP. It might be that the relationship between RC and BP is mediated by other variables, such as customer satisfaction, customer loyalty and market share (Heskett et al., 1997).

Regarding the contingent factors that come into play and influence the relationship between IC and BP, we found that the quality of the service provided, the location of the organisation and the way of running the business had an impact on performance.

Finally, we can conclude that IC seems to be positively associated with BP in Jordanian upper scale hotels, which confirms other studies (e.g. Kim et al., 2012, Sharabati et al., 2013). All forms of IC contribute to BP and therefore require attention by hotel managers. Attention is also required regarding the factors that influence related management activities.

Conclusion

The analysis of IC and its elements currently constitutes a topic of considerable academic interest as it facilitates the development of performance-driving strategies of organisations. This study contributes to extant research by analysing the relationship between IC and BP. It contributes to the IC literature by confirming an existing operational model of IC and considering it in the hotel industry in a country (Jordan) which the literature has not hitherto explored in great depth. In addition, by testing the relationship between IC and organisational performance in the Jordan hotel industry, this study offers insights into a not well-explored arena, the Arab world. To our knowledge, only a few studies (e.g. Sharabati et al., 2010, Sharabati et al., 2013) have investigated the importance of IC in the Arab world and none of them has studied the importance of IC in the Arab hotel industry.

Research into the meaning of IC in the Jordan hotel industry is a contribution and limitation at the same time: it is a contribution because this research investigates an unexplored area, but because we have examined only one service sector context, it is certainly a limitation. The specific context of this research does not allow us to generalise the findings of this research. The generalisability of the results is further restricted due to the fact that the sample population was composed of upper scale hotels only. Further, regarding the research design, another limitation may refer to the application of subjective performance assessment and future research could complement this subjective approach by objective performance measures (Morgan and Strong, 2003). The instrument applied in order to measure the relationships between the elements of IC and those elements and BP may represent another limitation as this instrument has not been specifically designed for the hotel industry. Due to the focus of upper scale hotels, it might well be that items included in the survey instrument might not be relevant and others missing when investigating, for example, lower scale hotels.

The results of this study have different implications for both academics and practitioners in the hotel industry. Academics have traditionally been very interested in how IC affects the performance of organisations. Future academic research is needed to verify the rationality of the applied research instrument for different types of hotel organisations. Although we applied a research instrument that has shown high reliability and validity in several previous contexts, testing it in different settings may result in its refinement. In order to test the degree to which the findings can be generalised to other industries and nations, we recommend that this study is replicated in other Arab countries and other service industries. Insights may be

gained into the diverging importance of the elements of IC when testing the research instrument in different geographical and industrial settings.

We think that investigating contingent factors, for example, the location of the business, might be appropriate, even when looking at one country and one industry only. It might well be that these contingent factors are present in other Arab countries, which would enhance the generalisability of our findings. Having investigated a specific setting of the Jordanian hotel context, we support Haktanir and Harris' (2005) assumption that contingent factors such as national and organisational culture may not only affect the relationship between IC and BP and the relationship between the IC elements but also the entire IC management process. Expanding this line of research could further provide insights into different contingent factors that come into play and affect the relationship between IC and BP.

From a practical point of view, we recommend managers to pay increased attention to the potential of IC in improving BP. Not only the measurement, but above all the management activities that are established in a hotel organisation in order to manage valuable intangible resources can help achieve superior BP. This research suggested that applying a sound measurement tool to evaluate the impact of HC, SC and RC on BP allows managers to gain information about key performance drivers. This information can be used for more informed judgement on management decisions such as investment paths. Since this study found that relational and SC had a significant impact on BP, managers could focus on investments that increase the value of both types of capital. Managers could work on developing more effective distribution channels and introducing latest technology to allow effective communication with stakeholders. Overall, we argue that managers can greatly benefit from developing a holistic approach around the active management of the organisation's IC.

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Author Biographies

Dia Zeglat is an assistant professor at Business Administration Department, the Hashemite University in Jordan. Dia got his PhD from University of Surrey in UK in services marketing. Dia's research interest is in services marketing including service quality, customer satisfaction and loyalty (i.e. service profit chain). Also, Dia is interested in exploring the relationship between the marketing activities with business performance in the hotel industry. Dia has participated and presented several papers in international conferences.

Krystin Zigan is Lecturer in Applied Management at Kent Business School, University of Kent. She graduated with a PhD from the School of Management, University of Surrey, UK. Before pursuing an academic career, Krystin worked in national and international companies in various fields of business administration and strategic management. Her research interest is in intangible resources and their consideration in performance measurement systems.

Appendix

Dear General Manager

This research aims to investigate the relationship between IC and BP in the Jordanian Hotel Industry. The IC concept refers to non-physical and non-monetary assets of a hotel (e.g. knowledge, experience and competencies) not captured in financial statements but provide important source for competitive advantages and hotel's wealth.

In order to answer this questionnaire, please keep in mind that your answer should represent the overall status of the hotel you manage and are working in. In other words, since this study concentrates on the hotel (unit) level, you are asked to fill in the questionnaire as a representative of the *whole* hotel you manage.

It should take you only a small amount of time to complete the questionnaire. Your response and participation form a critical part of the success of this research. I would like to reassure you that your response will be kept strictly confidential and will only be used for the purposes of this academic research. Moreover, the answer will only be presented in aggregate and over all level and no single hotel's results will be disclosed.

Your support is highly appreciated.

Kind Regards

Part I – Intellectual capital

The statements presented in this part refer to your perception of dimensions of IC implemented in your hotel. There are five numbers ranged from (1) to (5) used to capture your opinion and perception. The higher the number (5) means the more you agree with the statement. The lower the number (1) means the more you disagree with the statement. If you feel your agreement is between these two extremes, please pick any answer from within the scale.

Statement	Strongly disagree				Strongly agree
1. The hotel's culture and atmosphere is supportive and comfortable	1	2	3	4	5
2. Our hotel frequently discusses strengths and weaknesses of our competitors	1	2	3	4	5
3. The hotel gets the sense that it is getting the most out of its employees	1	2	3	4	5
4. The competence of our employees as a whole is equal to the most ideal level we could ever hope to achieve	1	2	3	4	5
5. The time it takes to complete one whole transaction has been DECREASING over the past few years	1	2	3	4	5
6. Information from sector associations is considered important	1	2	3	4	5
7. Our hotel always comes up with great new ideas	1	2	3	4	5
8. When someone comes up with a great idea, we do not share the knowledge within the hotel as much as we should ^a	1	2	3	4	5
9. The hotel gets the most out of its employees when they cooperate with each other in team tasks	1	2	3	4	5
10. Our market share has been continually improving over the past few years	1	2	3	4	5
11. Our hotel has continually been improving our costs per revenue, that is, reducing costs comparing with revenues	1	2	3	4	5
12. Our employees are widely considered as the best in the whole industry	1	2	3	4	5
13. Our hotel maintains regular contact with the sector associations-domestic and non-domestic aiming to share sector's information	1	2	3	4	5
14. Most employees in this hotel generally understand our targeted market segments and customer profiles	1	2	3	4	5
15. The employees of our hotel are considered creative and bright	1	2	3	4	5
16. Our hotel's structure keeps employees close to each other	1	2	3	4	5
17. Our customers are loyal to our hotel, more so than to any other in the industry	1	2	3	4	5
	1	2	3	4	5

(continued)

Continued.

Statement	Strongly disagree				Strongly agree
18. This hotel supports our employees by continually upgrading their skills and education whenever each of them feels it is necessary					
19. Our hotel's culture supports the sharing of information from sector associations	1	2	3	4	5
20. Our hotel benefits from our customers' wants and needs by continually working hard to make them satisfied	1	2	3	4	5
21. Our employees generally give it their all which makes this hotel different from the others in the industry	1	2	3	4	5
22. Our hotel has the lowest costs per transaction of any in the industry. Note: a transaction is defined as a completed unit of business exchange (e.g. completing procedures at front-desk to get the room booked)	1	2	3	4	5
23. This hotel is a 'bureaucratic nightmare' ^a	1	2	3	4	5
24. Our hotel does not encourage the development and maintenance of internal relationships among various groups ^a	1	2	3	4	5
25. We continually meet with customers to find out what they want from us	1	2	3	4	5
26. Our hotel is proud to be efficient	1	2	3	4	5
27. This hotel has greatly reduced the time it takes to resolve a customer's problem	1	2	3	4	5
28. Our employees always perform at their best	1	2	3	4	5
29. When an employee leaves the hotel, we do have a succession training programme for his/her replacement	1	2	3	4	5
30. The systems and procedures of the hotel support innovation	1	2	3	4	5
31. If certain individuals in the firm unexpectedly left, we would be in big trouble ^a	1	2	3	4	5
32. Our business planners are continually on schedule with their new business development ideas	1	2	3	4	5
33. Our hotel gets as much feedback out of our customers as we possibly can under the circumstances	1	2	3	4	5
34. Employees are excited to voice their opinions in group discussions	1	2	3	4	5
35. Our hotel generally does not care about what the customer thinks or wants from us ^a	1	2	3	4	5
36. Our hotel develops more new ideas and services than any other hotels in the industry	1	2	3	4	5
37. Our employees are satisfied with our hotel	1	2	3	4	5
38. Our competitors are considered a source of innovation	1	2	3	4	5
39. This hotel succeeds on maintaining the most positive value-added service of any hotel in the industry	1	2	3	4	5

(continued)

Continued.

Statement	Strongly disagree				Strongly agree
40. Our data systems make it easy to access relevant information	1	2	3	4	5
41. Our recruitment programme is comprehensive; we are dedicated to hiring the best candidates available	1	2	3	4	5
42. Information about competitors is shared across the hotel.	1	2	3	4	5
43. Certain individuals in this hotel seem to bring others down to their level in terms of performance ^a	1	2	3	4	5
44. Our hotel supports the development of new ideas and services	1	2	3	4	5
45. Employees in this hotel rarely think about their actions while doing their work ^a	1	2	3	4	5
46. Our hotel is proud of being market oriented	1	2	3	4	5
47. Employees generally just do things without much energy ^a	1	2	3	4	5
48. Information from sector associations is considered in our strategic decisions	1	2	3	4	5
49. The ratio of the revenue earned per employee in the hotel is the best in the industry	1	2	3	4	5
50. Data on customer feedback are disseminated and circulated throughout the hotel	1	2	3	4	5
51. Our hotel implements a large portion of our great new ideas	1	2	3	4	5
52. When it comes to new business, our customers have increasingly selected us vs. <i>our competitor's customers</i> over the past few years	1	2	3	4	5
53. Individuals in this hotel learn from others	1	2	3	4	5
54. Our hotel often launches something new only to find out that our customers do not want it ^a	1	2	3	4	5
55. The time it takes to complete one whole transaction is the best in the industry	1	2	3	4	5
56. A poll of our customers would indicate that they are generally satisfied with our hotel	1	2	3	4	5
57. We feel confident that our customers will continue to do business with us	1	2	3	4	5
58. The ratio of the revenue earned per employee in the hotel has been INCREASING over the past few years	1	2	3	4	5
59. The long-term relationships we have with our customers are appreciated by others in the industry	1	2	3	4	5
60. If a competitor launches an intensive campaign targeted at our customers, our hotel implements a response immediately	1	2	3	4	5
61. Our market share is the highest in the industry	1	2	3	4	5

^aNegative items: have been recoded.

Part II – Business performance

The following questions aim to measure the BP of your hotel through comparing the performance results of your hotel on average over the last (3) years *against other competitor hotels of similar category in your city or town*. Rating (1) indicates much worse than similar hotels and rating (5) indicates much better than similar hotels. If you feel your agreement is between these two extremes, please pick any answer from within the scale. To do that, please click or circle the answer that best describes your assessment of your hotel's performance. *If you have not been at your hotel since 2008, please give your best estimation.*

Business performance indicators	Much worse				Much better
	1	2	3	4	5
How would you rate your hotel's <i>occupancy</i> ^a in the last 3 years <i>compared with</i> similar hotels in the same city or town?	1	2	3	4	5
^a <i>Occupancy rate refers to percentage of rooms sold to rooms available at a given period</i>					
How would you rate your hotel's revenue per available room (REVPAR) ^b in the last 3 years <i>compared with</i> similar hotels in the same city or town?	1	2	3	4	5
^b <i>REVPAR shows revenues generated from available room</i>					
How would you rate your hotel's gross operation profit (GOPF) in the last 3 years <i>compared with</i> similar hotels in the same city or town?	1	2	3	4	5
^c <i>GOP means hotel's revenue from sales in a given period of time less its cost of sales</i>					
How would you rate your hotel's profitability measured by Return on Capital Employed (ROI) ^d in the last 3 years <i>compared with</i> similar hotels in the same city or town?	1	2	3	4	5
^d <i>ROI indicates revenues generated from all capital invested in this hotel</i>					

Part III – About you and your establishment**Q.1 What is your educational level?**

- Secondary school Undergraduate degree (i.e. Bachelor)
 College Diploma Postgraduate degree (e.g. Master, PhD)

Q.2 How many years have you been working in this hotel?.....**Q.3 How would you categorise the location of your hotel?**

- Tourist area Non-tourist area

Q.4 How would you categorise the method of operations of your hotel?

- Independent operations (i.e. domestic brand name)
 Franchised and affiliated with international group (i.e. international brand name)

Q.5 How would you categorise the ranking for your hotel?

- Four stars
 Five stars

Thanks for your time