



Evaluating intellectual capital in the hotel industry

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Abstract *A single embedded case study design was applied to evaluate the intellectual capital of 13 hotels in the Radisson SAS Hotels and Resorts hotel chain. By using the ICAP methodology and multiple source data the study investigated the knowledge and data produced by an intellectual capital evaluation, and explored the potential relationship between intellectual capital and business performance. The results conclude that it is possible to evaluate intellectual capital in a hotel chain, and the knowledge and data from the intellectual capital evaluation provide useful information regarding the areas of identifying focal areas, resource allocation, strengths and weaknesses, benchmarking, and managing the future. In addition, the findings indicate that it is useful to evaluate a hotel's intellectual capital due to its potential relationship with business performance.*

Introduction

The motivation for the present study is to make a contribution to the research field of intellectual capital by concentrating on an industry where it must be considered unfamiliar. The purpose of this paper is to explore the concept of intellectual capital in the hotel industry. Even though hotels are not primarily considered knowledge-intensive, they are providers of service. Both individual knowledge of the employees working in hotels and the organizational knowledge of hotels, expressed in routines, systems, customer databases etc. are considered important elements of effectively running a hotel in a competitive environment. This study particularly explores whether a hotel chain should evaluate its intellectual capital and, if so, why?

Literature review

Since other sources have extensively reviewed the literature on intellectual capital (Bontis, 1999, 2001, 2002; Bontis *et al.*, 1999; Choo and Bontis, 2002; Guthrie and Petty, 2000), we will turn to review areas that are relevant to the issues of this paper: what is intellectual capital and why should companies measure it?

No unified definition of intellectual capital is found in the literature; however, after reviewing some of the many definitions used, four major observations are presented:

- (1) There is no uniform definition of intellectual capital.
- (2) The concept of value creation occurs frequently. This suggests that intellectual capital is not useful unless it results in some form of increase in value to the organization.



- (3) Most of the definitions basically contain the same words: knowledge, skills, know-how, experiences, intangible assets, information, processes, and value creation.
- (4) The distinction between human capital, organizational capital, and customer capital is widely accepted.

A number of classification schemes divide intellectual capital into the categories of external (customer-related) capital, internal (structural) capital, and human capital (Bontis, 1996; Bontis and Fitz-enz, 2002; Edvinsson and Malone, 1997; Roos *et al.*, 1997; Stewart, 1997; Sveiby, 1997). The distinction has been widely accepted in facilitating the preparation of “intellectual capital accounts” which are employed differently in making decisions regarding organizational value that are more encompassing than decisions made previously (Guthrie and Petty, 1999; Sveiby, 1997).

Human capital

Human capital represents the individual stock of an organization as represented by its employees (Bontis, 1998; Bontis *et al.*, 2002). Roos *et al.* (1997) argue that employees generate intellectual capital through their competence, attitude and intellectual agility. Competence includes skills and education, while attitude covers the behavioral component of the employees’ work. Intellectual agility enables one to change practices and to think of innovative solutions to problems. Even though employees are considered the most important corporate asset in a learning organization, they are not owned by the organization. Edvinsson and Malone (1997) define human capital as the combined knowledge, skill, innovativeness, and ability of the company’s individual employees to meet the task at hand. It also includes the company’s values, culture, and philosophy.

Structural capital

Structural capital includes all the non-human storehouses of knowledge in organizations. Edvinsson and Malone (1997) define structural capital as the hardware, software, databases, organizational structure, patents, trade marks, and all organizational capabilities that support the employees’ productivity. Bontis (1999) also argues that structural capital includes process manuals, strategies, routines and anything whose value to the company is higher than its material value. Roos *et al.* (1997) describe structural capital as what remains in the company when employees go home for the night. According to Bontis (1998), if an organization has poor systems and procedures to track its actions, the overall intellectual capital will not reach its fullest potential.

Customer capital

Customer capital is both the current value of an organization’s relationship with its customers and the potential future value of these relationships. The essence of customer capital therefore lies in the knowledge embedded in the marketing

channels and customer relationships that an organization develops through the course of its existence (Bontis *et al.*, 2000). Customer capital represents the potential an organization has due to ex-firm intangibles (Bontis, 1999).

Why should companies measure their intellectual capital?

A range of “whys” to measure intellectual capital is presented in the literature. It is easily observed that most of these reasons are the meanings and hypotheses of academics and practitioners. Only a small amount of reliable research has been done on the actual effects of measuring a company’s intellectual capital.

A study conducted by the Danish Agency for Trade and Industry (1998) of ten firms working on measuring intellectual capital found that measuring and actively managing intellectual capital were important for a company’s long-term success. Companies measuring and managing their intellectual capital clearly outperformed other companies.

Bontis’ (1998) exploratory study of the relation between a company’s investments in intellectual capital and its business performance shows a significant and substantive causal link between dimensions of intellectual capital and business performance. This relationship supports the idea of investing resources in understanding and gaining knowledge about how these important intellectual assets can be further enhanced in organizations. Bontis *et al.* (2000) replicate this study using Malaysian data and find similar results.

Ferrier and McKenzie’s (1999) study of Australian companies and the benefits they experienced when focusing on intellectual capital is also important. They concluded with the following main areas of benefits:

- improvements in information provided to shareholders, supporting investment;
- increased information to support and guide decision making;
- support and provide guidance in the management of human resources;
- support and provide guidance in the management of customer relationship.

These benefits are information-intensive. They can be indirect results of focusing on intellectual capital and therefore difficult to logically explain as results of measuring a company’s intellectual capital.

Methodology

This research used a somewhat different approach to address the research question we asked – whether a hotel chain should evaluate its intellectual capital and, if so, why? An embedded case study strategy is chosen, including results from 13 hotels within the same chain. Further, actual intellectual capital evaluations (surveys) were conducted within the case study, in combination with an archival analysis and a history study. The use of multiple sources of evidence (construct validity) and the establishing of a chain of evidence that

can be reviewed and repeated by other researchers (reliability) are meant to strengthen the quality of the current research design.

Two analyses address the research question. First, an analysis of the information and knowledge provided through an evaluation provides insight into the potential usefulness of conducting an intellectual capital evaluation. Second, investigating intellectual capital's potential relation to business performance will indicate intellectual assets' relative importance for performing well in the hotel industry and therefore establish arguments whether resources should be invested in this process or not.

There exists a range of different methods aiming to measure or evaluate a company's knowledge (either stocks or flow). (See Bontis (2001) for a review of some of these methods and Sveiby (2001) for a comprehensive overview.) For the present study, the ICAP methodology developed by Teleplan AS was chosen. There were three main reasons for choosing this particular method:

- (1) they were a Norwegian-based company;
- (2) they had internally developed a tool for evaluating intellectual capital;
- (3) they had had solid experience from successful projects since 1998.

Teleplan AS is one of the world's leading privately owned companies in the fields of telecommunications and information technology. Further, Radisson SAS Hotels and Resorts (Radisson SAS) was chosen as a research object. This chain of hotels is represented in Norway with a total number of 19 hotels, including three franchise hotels.

The ICAP methodology

The ICAP methodology is a somewhat different approach to evaluate intellectual capital (for more details see Irgens *et al.* (2002)). First, it does not strive to measure but to evaluate intellectual capital, and by doing so it allows a much more subjective approach. Second, the ICAP model is not a shelf-application, but a tailor-made model that varies from organization to organization. The organization-specific model is based on each organization's value chain and an analysis of the intellectual capital needed for that value chain to work the best and generate the most income. By focusing on the value chain, the ICAP method emphasizes the strong link between intellectual capital and business performance.

The ICAP methodology is organized as a knowledge-focused project with consultant and client participation in all major processes. This collaboration is meant to produce the organization-specific ICAP model that reflects the organization's value creation through an identification of their strategic intellectual capital elements. The identification happens through an analysis of the organization's goals, strategies, and value-creating activities. The ICAP project workflow consists of five steps, where the first four are applicable to this study:

- (1) preparations;
- (2) creating the model;
- (3) evaluating the intellectual capital;
- (4) reporting; and
- (5) follow-up.

Setting ambitious and realistic goals is a critical project activity (Irgens *et al.*, 2002). Together with top management at Radisson SAS decisions were made to pursue five project goals:

- (1) determine critical intellectual capital related to overall goals;
- (2) assess critical intellectual capital at hand;
- (3) make employee investments more efficient;
- (4) provide a management tool for handling intellectual capital systematically and effectively;
- (5) explore the intellectual capital needed to improve performance and reach business goals.

In creating the model, Radisson SAS' business plans, strategy documents, organizational charts, job descriptions, and value-creating activities were analyzed. Further, objectives and strategies pertaining to the future were examined.

Identifying the value chain was the next step. Value chain analysis was originally developed by Porter (1985) and was later widely adopted as a framework for analyzing value-driven activities in modern businesses. Value activities can be divided into two major categories: primary activities; and support activities.

Primary activities contribute to the actual creation of the product, its sale and transfer to the buyer and after-sales service. Support activities assist the primary activities and one another. Three main processes were decided to count for Radisson SAS:

- (1) delivering the room experience;
- (2) delivering the food and beverage experience; and
- (3) sales and marketing.

Activities directly involved in these processes were regarded as primary activities and all other support functions, such as accounting, yield management, janitor services etc., were considered to be support functions.

Once the value chain was identified, intellectual capital assets were found by exploring three questions:

- (1) Which systems and procedures are necessary for value activities? (Structural capital assets).

- (2) Which roles and tasks are necessary for value activities, and what are the demands on the person filling the role? (Human capital assets).
- (3) Which external relationships are necessary for value activities? (Customer capital assets).

Developing survey questions that were supposed to address the above questions should in the end result in a model for evaluating intellectual capital in the Radisson SAS. Further, the assets (questions) are organized into the model in the form of a hierarchy and given weights. Weighting is supposed to reflect any given asset's relative importance in optimizing the value chain.

Intellectual capital questionnaire

According to the ICAP methodology, evaluating individual capital (human capital) is supposed to be a non-anonymous survey. A pilot questionnaire was distributed to one of the hotels. Only 13 percent of the respondents responded non-anonymously. This indicated a potential problem and the preliminary questionnaire was rejected. A new questionnaire based on Bontis (1998) was developed.

For the new questionnaire to fit the purpose of the present study, changes were made based on the results from the value-chain analysis. The final questionnaire contained 46 statements, to which respondents indicated their agreement on a seven-point Likert scale (1 = strongly disagree and 7 = strongly agree). Combining the ICAP methodology and the Bontis format resulted in the Radisson SAS ICAP value scheme (Figure 1) and a set of accompanying measures (see Table I for a summary of these measures).

Within Radisson SAS, 16 hotels were included in the present research (total of 254 questionnaires). Owing to their knowledge about the hotel and their ability to

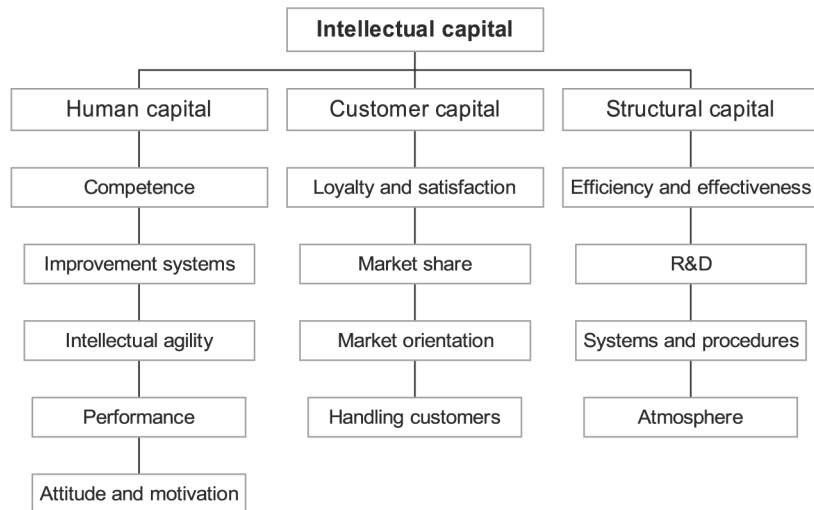


Figure 1.
Radisson SAS ICAP
value scheme

Level 1	Level 2	Level 3
Human capital	Competence Improvement “systems”	Competence ideal level
		Succession training programme
	Intellectual agility	Cross-departmental cooperation
		Upgrade employees’ skills
Performance	Attitude and motivation	Recruitment programme comprehensive
		Consequences if key employees left
		Come up with new ideas
		Employees voice opinions
		Individuals learn from one another
		Employees are best in industry
		Get the most out of employees
		Employee satisfaction
		Employees perform their best
		Employees think actions through
		Employees perform with “energy”
		Affect one another positively
		Employees give it their all
Customer capital	Customer loyalty and satisfaction	Customer satisfaction
		Customer loyalty
	Market share	Degree of customer repurchase
		Confident of future with customer
	Market orientation	Market share improving
		Market share is highest
	Handling customers	Hotel is market-oriented
		Meet with customer
		Customer information disseminated
		Understand target markets
Care what customer wants		
Launch what customers want		
	Reduce time to handle complaints	
	Value added service	
	Feedback with customer	
Structural capital	Efficiency and effectiveness	Most effective processes
		Improving cost per revenue
		Increase in revenue per employee
		Revenue per employee is best
		Transaction time decreasing
	Renewal and development	Hotel is efficient
		Implement new ideas
		Supports development of new ideas
	Systems and procedures	Develops most ideas in industry
		Procedures support innovation
Atmosphere	Systems allow easy info access	
	Hotel is not a bureaucratic nightmare	
	Not too far removed from one another	
	Atmosphere is supportive	

Table I.
Summary of
measures
(questionnaires)

give valid answers, only managers and middle managers were asked to answer the questionnaires. Of the 16 hotels, 13 involved qualified to be further analyzed. The final sample of 190 subjects resulted in a 75 percent total response rate.

Business performance

Business performance was divided into organizational performance and financial performance. Organizational performance was evaluated based on Radisson SAS's own focus areas; degree of sick-leave and working climate. Sick-leave was measured for total sick-leave (as at 31 December 2001) and consists of short-term sick-leave (< eight weeks) and long-term sick leave (> eight weeks). Working climate analysis is conducted annually throughout the chain of hotels, and the total working climate score is based on a 30-item questionnaire covering areas such as communication, cooperation, job satisfaction, empowerment, goals, and leadership.

Radisson SAS focus strongly on the economics of their business. The indicators used, gross operating profit (GOP) percent, RevPar, occupancy percent, rooms profit, F&B profit, and personnel cost, are reported periodically by all hotels in the chain and generally regarded as important and reliable key financial indicators in the hotel industry (Schmidgall, 1995) (see Table II for description of the key financial indicators).

Analysis

The ICAP reports

When analyzing data from the intellectual capital evaluation, the software-tool ICAP 2.1 was used to produce key figures, descriptive information and focal areas. The focal areas are of particular interest because they are combinations of assets with high weight and low scores. Therefore, they represent the areas

Indicator	Explanation
GOP percent	A measure of management's ability to generate sales and control expenses; calculated by dividing income before fixed charges by total revenue
RevPar	Revenue per available room. A combination of paid occupancy percentage and average daily rate. Room revenues divided by available revenues or, alternatively, paid occupancy percentage times average daily rate
Occupancy percent	A ratio indicating management's success in selling its product; calculating by dividing the number of rooms sold by the number of rooms available
Rooms profit	A profitability indicator comparing the cost of room sold with room sales
F&B profit	A profitability indicator comparing the cost of food sold with food sales
Personnel cost	A ratio of the cost of personnel in relation to revenue

Table II.
Key hotel financial performance indicators

that need the most attention in the future to improve the value-creating activities and create competitive power (Irgens *et al.*, 2002).

ICAP reports are meant to present the results of an intellectual capital evaluation. The report contains information about the hotels' available asset capacities on all three levels of the model. Capacity is calculated based on the average answers in the survey from each hotel. The assessment scale (Table III) shows that an average score of seven gives a capacity score of 120, which is the highest and best score a hotel can get for each asset (question).

Local weights are set on each asset according to their importance and relevance for optimizing the value-creating activities in the hotel chain.

The calculated value and priority in the report provide an understanding of strengths, weaknesses and focal areas. Each asset's value is calculated by subtracting the capacity score from max. score (120) and multiplying it with the asset's local weight. The higher the value score, the higher the priority.

Intellectual capital and business performance

The low number of n (13 hotels) and the nature of exploratory case study design make it difficult to perform statistical analysis of the potential causal relationship between intellectual capital performance and business performance. Therefore, this potential relationship has to be explored using a more qualitative approach, namely benchmark analyses. Each hotel's current status (intellectually, financially, and organizationally) is benchmarked in relation to the other hotels.

In order to explore whether the same relationship between the three components of intellectual capital exists for the present study as for earlier studies (Bontis, 1998), there is a need for analyzing their inter-relationship.

Focusing on intellectual capital will improve the value-creating activities and finally the financial results (Irgens *et al.*, 2002). GOP includes all value-creating activities in the hotel (room, F&B, and sales and marketing) and, therefore, the present study will explore whether there are indications of a relationship between the total ICAP score and GOP.

Further, rooms' profit is a financial term that excludes all other activities not related to delivering "the hotel room product". Therefore, exploring the potential relationship between this objective efficiency-indicator and structural capital might give an idea of how structural capital is related to effectively delivering "the room product". The same argument can be built on food and beverage profit to explore how structural capital relates to delivering these products.

Occupancy rate is considered a good indicator of how well the hotel is visited and can to a certain degree be influenced by customer loyalty and willingness to return. It is therefore interesting to explore whether there exists a potential

Likert-scale	1	2	3	4	5	6	7
Capacity	0	20	40	60	80	100	120

Table III.
Assessment scale

relationship between this performance indicator and customer capital, which is argued as representing customer loyalty and satisfaction, market share, how the hotel is handling customers, and their market orientation. RevPar is based on paid occupancy percentage and average daily rate and will follow the same pattern as occupancy rate. Hence, an analysis of one of the variables will in reality give the same result as for the other variable.

Sick-leave is often explained by two different and competing perspectives; the push or pull theory (Mykletun, 2001). The push theory argues that employees are “pushed” into sick-leave by elements in the social setting external to employee control. The pull theory, on the other hand, argues that employees are “pulled” out in sick-leave by rational individual choices. Further, the pull theory argues that, if an employee is highly motivated and enjoys working, and provided that the financial compensation for taking sick-leave is relatively below going to work, an employee prefers working. By relying on the pull theory, work motivation and sick-leave should to a certain degree be related. Further, motivation is included as a construct in the theory of human capital and, therefore, this study intends to explore whether there might be a potential relationship between sick-leave and human capital.

If motivation affects sick-leave, then what affects motivation? It depends on a range of variables and affecting conditions. Working climate can be argued to affect the employee’s motivation in certain ways, but also vice versa. Therefore, this study intends to explore whether there might be a potential relationship between working climate and total ICAP.

Personnel cost is a ratio describing the cost of personnel in relation to total revenue. It can therefore be argued that it is an indicator of employee efficiency in a hotel. A range of factors affecting personnel cost and human capital might be one of them. This study intends to explore this by analyzing whether there might be a potential relationship between these two performance indicators.

Table IV presents an overview of the analyses performed.

Results

ICAP reports

An example of the ICAP report is presented to highlight the data and knowledge produced by an ICAP evaluation. The degree of details is different

Human capital	↔	Customer capital	↔	Structural capital
Total ICAP		↔		GOP
Total ICAP		↔		Total climate
Human capital		↔		Total sick-leave
Human capital		↔		Personnel cost
Structural capital		↔		Room profit
Structural capital		↔		F&B profit
Customer capital		↔		Occupancy

Table IV.
Overview of the
analyses performed

at each level in the ICAP report (see Figure 2 for an example, Hotel 106). Level three (3) is the most detailed level and presents the average response from each hotel to each question in the survey. The results in the different intellectual capital components are listed in order of priority. Low capacity score equals high value, and leads to high priority (priority 1).

Intellectual capital and business performance

An overview of the benchmarking results is presented in Figure 3. A score of 1 is the best and score of 13 is the worst a hotel can get on the benchmarking scale. The benchmarking results are divided into three different grey scale- and score categories: light grey is good (score 1-3), medium grey is average (score 4-10), and dark gray is poor (score 11-13).

IC components. There are tendencies towards a tight relationship between human, structural, and customer capital. Out of the 13 hotels, 11 show internal consistency between all three aspects of intellectual capital. When calculating an absolute value between the three different components, it is found that the relationship is closer between human and structural capital than between any of the two other combinations of intellectual capital components.

ICAP and GOP. There are tendencies towards a weak relationship between ICAP and GOP. The link is seen in six out of the 13 hotels where the score is very high, average, or very low on both variables.

Total ICAP and total climate. Six hotels with an average or low rank of total ICAP also have an average or low ranking of the total climate. The three best scores in any of the variables represent the most extreme differences and do not indicate any relationship with one another.

Human capital and total sick-leave. Eight out of the 13 hotels show a pattern between human capital and total sick-leave. This indicates a possible relationship.

Human capital and personnel cost. A pattern (nine out of 13 hotels) indicates that there might be a relationship between human capital and personnel cost.

Structural capital and rooms profit. Apart from the extremes represented in three out of the 13 hotels there is a tendency towards a high score on structural capital, indicating a high rooms profit, contrary to low scores.

Structural capital and F&B profit. There are tendencies towards a possibly tight link between the benchmark score for structural capital and F&B profit (nine of the 13 hotels).

Customer and occupancy. A pattern (nine out of the 13 hotels) indicates that there might be a relationship between customer capital and the occupancy rate.

Discussion

The Radisson SAS ICAP evaluation model is, like all evaluation models based on the ICAP methodology, organization-specific. However, there are reasons to believe that most full-service hotels' value chains are more or less similar. This

ICAP REPORT

Hotel 106

Level	Asset	Capacity	Value	Priority
1		86,72		
	Total IC			
	Human capital	83,49	9,128	1
	Customer capital	86,71	8,323	2
	Structural capital	89,96	7,510	3
2				
	Human			
	Competence	40,00	4,704	1
	Performance	80,00	2,352	2
	Attitude and motivation	80,00	2,352	3
	Intellectual agility	86,67	1,960	4
	Improvement "systems"	96,00	1,411	5
	Customer			
	Customer loyalty and satisfaction	75,00	3,002	1
	Market share	80,00	2,668	2
	Handling customers	86,67	2,223	3
	Market orientation	96,67	1,556	4
	Structural			
	Efficiency and effectiveness	80,00	2,856	1
	Renewal and development	80,00	2,856	2
	Systems and procedures	85,00	2,499	3
	Atmosphere	100,00	1,428	4
3				
	Human			
	Competence ideal level	40,00	4,704	1
	Employees voice opinions	60,00	3,528	2
	Effect one another positively	60,00	3,528	3
	Employees perform with "energy"	80,00	2,352	4
	Upgrade employees' skills	80,00	2,352	5
	Employees are best in industry	80,00	2,352	6
	Employee satisfaction	80,00	2,352	7
	Employees perform their best	80,00	2,352	8
	Consequences if key employees left	80,00	2,352	9
	Get the most out of employees	80,00	2,352	10
	Employees give it their all	80,00	2,352	11
	Come up with new ideas	100,00	1,176	12
	Succession training programme	100,00	1,176	13
	Employees think actions through	100,00	1,176	14
	Recruitment programme comprehensive	100,00	1,176	15
	Individuals learn from one another	100,00	1,176	16
	Cross-departmental cooperation	120,00	0,000	17
	Customer			
	Customer loyalty	60,00	4,002	1
	Degree of customer repurchase	60,00	4,002	2
	Market share improving	60,00	4,002	3
	Confident of future with customer	80,00	2,668	4
	Launch what customers want	80,00	2,668	5
	Understand target markets	80,00	2,668	6
	Meet with customer	80,00	2,668	7
	Value added service	80,00	2,668	8
	Reduce time to handle complaints	80,00	2,668	9
	Hotel is market-oriented	100,00	1,334	10
	Feedback with customer	100,00	1,334	11
	Market share is highest	100,00	1,334	12
	Customer satisfaction	100,00	1,334	13
	Customer information disseminated	120,00	0,000	14
	Care what customer wants	120,00	0,000	15
	Structural			
	Not too far removed from one another	60,00	4,284	1
	Procedures support innovation	60,00	4,284	2
	Atmosphere is supportive	80,00	2,856	3
	Systems allow easy info access	80,00	2,856	4
	Implement new ideas	80,00	2,856	5
	Develops most ideas in industry	100,00	1,428	6
	Hotel is not a bureaucratic nightmare	100,00	1,428	7
	Supports development of new ideas	100,00	1,428	8
	Transaction time decreasing	100,00	1,428	9
	Revenue per employee is best	100,00	1,428	10
	Increase in revenue per employee	100,00	1,428	11
	Hotel is efficient	100,00	1,428	12
	Improving cost per revenue	100,00	1,428	13

Figure 2.
ICAP report example

	Intellectual capital			Organizational		Financial						Personnel cost
	ICAP total	Human capital	Structural capital	Customer capital	Total climate	Total sick-leave	GOP	Rooms profit	F&B profit	RevPAR	Occupancy	
Hotel 100	8	4	6	10	3	9	5	8	6	8	9	10
Hotel 101	5	7	3	6	6	4	4	7	12	7	8	2
Hotel 102	10	8	9	11	1	8	2	10	9	12	12	5
Hotel 103	9	9	8	12	8	12	6	1	8	4	4	7
Hotel 104	6	5	7	9	5	xx	2	3	3	2	4	3
Hotel 105	13	10	12	13	2	6	11	13	2	11	11	12
Hotel 106	1	1	1	2	7	11	1	5	1	1	1	1
Hotel 107	12	13	13	7	13	5	8	1	11	6	6	6
Hotel 108	4	6	5	4	12	3	9	6	5	3	2	7
Hotel 110	2	2	2	5	4	2	13	13	13	13	13	13
Hotel 111	11	12	11	8	9	1	10	9	7	10	10	9
Hotel 112	7	11	10	1	11	7	12	11	1	9	7	11
Hotel 115	3	3	4	3	10	10	7	4	3	5	3	4

Figure 3. Benchmarking results overview

means that, even though the model is tailor-made for Radisson SAS, it will also work for other similar chains of hotels. There might be good reasons to change the weighting of the assets according to their relative importance to the chain's goals and strategies, but still the structure can remain the same.

The present model has received a somewhat neutral weighting. If the weightings had been slightly different, different results would appear. It is therefore important to be aware of how weighting affects the end result. How to weight the assets is decided through value chain analysis, but most of all by the consultant's subjective feelings, ideas about right and wrong, and "gut feeling". It can therefore be argued that this kind of weighting of assets weakens the truthfulness of the intellectual capital evaluation. However, it can, on the other hand, be argued that it is better to know something about an organization's intellectual capital, even though it is not the accurate description of reality, than nothing at all.

There are still unanswered questions about the model:

- Do the questions in our model really reflect the constructs it is meant to operationalize?
- Does the model represent the essential of intellectual capital?
- What is the truthfulness of our model?
- Can we measure or control whether we succeeded in developing the model?

In general, these questions represent some of the basic criticisms stated against intellectual capital as a concept. They are difficult to answer, if not impossible.

The reports

It is argued that the reports are good devices for managing intellectual capital (Irgens *et al.*, 2002). This, however, assumes that the model is correct and provides valid information. It is the same rule for the ICAP reports as for any software report tool: garbage in = garbage out.

The report is structured in a clear and easy to follow manner, pointing out the focal areas that need future attention to presumably improve the value-creating activities. Each hotel should be given the opportunity to allocate their resources according to the priority given in the reports. The hotels should also receive benchmark ratings for all the hotels in their chain in order to follow up their relative position in the benchmark test. Further, the value of the knowledge provided by the reports can increase if the hotels use the ICAP tool as a management tool where they set accurate goals for each individual. This provides the opportunity to reach organizational goals in a more controlled manner.

Intellectual capital and business performance

When analyzing the relationship between the three intellectual capital components, indications of a relationship between them were found. However,

a stronger relationship between human capital and structural capital was found than between human capital and customer capital or customer capital and structural capital. The latter is a contradiction of the empirical study within two industry sectors in Malaysia conducted by Bontis *et al.* (2000). They detected a significant relationship between human capital and structural capital for non-service industries, and a not significant but positive relationship for the service industries, implying that it is more difficult to transform individual employee knowledge into non-human knowledge for service industries. However, even though hotels are not primarily considered knowledge intensive, they are providers of service. Both individual knowledge of the employees working in hotels and the organizational knowledge of hotels, expressed in routines, systems, customer databases etc., are considered important elements of effectively running a hotel in a competitive environment.

A weak relationship between the benchmarking results of total ICAP and GOP was detected. However, the relationships between structural capital and financial performance figures that are elements of GOP – rooms profit and F&B profit – were much stronger and more plausible. Contrary to the Malaysian study, the current study used objective financial data and non-subjective financial data based on answers from a survey. Still, both studies represent similar findings; there is a positive relationship between structural capital and business performance. To sum up, the current study's findings related to business performance indicate that hotels with both high human and structural capital will yield a greater profit.

Support is also found for the motivational construct of pull and human capital theory. The results indicate a relationship between human capital and total sick-leave, meaning that hotels that score high on human capital have more motivated employees, which again leads to a low sick-leave rate.

According to Bontis *et al.* (2000), a customer-focused and market-driven organization will ultimately create efficient organizational routines and processes that service their clientele well. This relationship between customer capital and structural capital that leads to higher business performance is supported by the current study's findings, which state that hotels with a high customer capital also achieve a high occupancy rate.

No indications of a relationship between the total ICAP score and the total climate score were found. This was unexpected, especially since one of the ICAP evaluations' intentions was to supplement the hotels' annual climate analysis. One possible explanation is that the climate analysis does not focus on the organization's relationship with customers, while total ICAP does. This argument is supported by the fact that the three best hotels in total climate are ranked, respectively, as numbers 13, 11, and 10 on customer capital.

Conclusion

Conclusion can be made that, even though the actual truthfulness of the ICAP method can be questioned, it is possible to evaluate intellectual capital in a hotel chain. Further, a model for evaluating intellectual capital in a hotel chain has been built and can be put to use with the supposition that the weightings are properly adjusted to each organization.

As mentioned earlier, there exists a range of methods to measure or evaluate intellectual capital. None of these methods, nor the one used in the current study, have been properly validated for research purposes. It is therefore difficult to state with certainty that the hotel's actual intellectual capital is successfully captured. But, whether it was or not, confidence rises that steps have been made in the right direction.

Further, reports have been produced that give information about a hotel's current intellectual capital status. These reports consist of valuable data that give each hotel an opportunity to consciously work with and improve their intellectual capital. Working with intellectual capital is in theory argued to improve business performance and the current study's findings support this relationship.

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