CREATING VALUE FROM INTELLECTUAL CAPITAL IN PORTUGUESE BANKING INSTITUTIONS

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**Abstract**: Managing intellectual assets is an increasingly important part of running a successful business. Intellectual capital is increasingly identified as a key enabler of organisational value however it does not exist isolated. Intellectual resources are often internally generated, interrelated and interdependent, and their value is, therefore, context specific. The existing empirical evidence suggests that some sort of correlation exists between the ability to manage these assets and the creation of a competitive advantage. The focus on the ability of firms to create value provides a denominator for our work.

The aim of this study is to examine the interrelationships and interactions among intellectual capital components, within the Portuguese banking context, and to identify the paths driving to a superior banking performance. Models are assessed using a PLS (Partial Least Squares) approach, a non-parametric statistical alternative, given the advantages of treating with complex models and requiring less stringent assumptions. This study supports the proposition that intellectual capital is the driver of organizational value created and nurtured through the effective interaction of the three dimensions of intellectual capital. Empirical findings from this study also support that an approach based on the intellectual capital of the firm gives us a holistic picture of the organizational value creation.

**Keywords**: intellectual capital, human capital, structural capital, relational capital, value creation, business performance, Structural Equation Models (SEM), Partial Least Squares (PLS).

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1. Introduction

The determinants of prosperity and growth of organizations, and of national economies as a whole, is reliant upon their effectiveness and efficiency in gathering and utilising knowledge to solve problems and exploit opportunities (OECD, 1996). Three forces drive the knowledge economy:

- Knowledge – intellectual capital as strategic factor;
- Change – continuous, rapid and complex which generates uncertainty and reduces predictability;
- Globalization – in R&D, technology, production, trade finance, communication and information which as resulted in opening of economies, global hypercompetition and interdependency of business.

In this context, the fundamental building material and the engine of wealth of the modern corporation is the creation and utilization of knowledge and its real challenge is to understand how to accelerate the conversion of knowledge into money. It poses a problem at the management level, since the most powerful way to prevail in global competition is still invisible to many companies, although most of them have known intuitively that their future lies in the strength of their intellectual resources.

This profound change in the economy is setting a new agenda for markets, changing the nature of competition and wealth creation. This change has come about since intellectual capital has become the most important factor in production, and this shift is affecting how companies are managed and how they operate.

By understanding the critical components of intellectual capital that do in fact drive value – both creating today’s wealth, and also generating the capability for tomorrow’s wealth – we will be able to focus on what is strategically important. However, the ability to create economic value from intellectual capital is highly contingent on the management capabilities of individual firms and the ability to formulate and implement strategies which link knowledge to objectives. Undoubtedly, this will require new forms of working, new models of business and new approaches to management thinking (Sanderson, 1998).

The literature refers several attempts to make the concept of intellectual capital more accessible and understandable, though there is no universal definition on intellectual capital until today. The problem is that too much of the nature of intellectual capital is still unknown and hard to capture in explicit terms (Seetharaman et al., 2002), despite Chaharbaghi and Cripps (2006:30) advert that “it is impossible and undesirable to reduce intellectual capital to a calculable number that establishes whether an organization’s intellectual capital has increased or diminished”. As argued by Marr (2005), definition problems occur
when different people talk about the same concept from different perspectives, using the same language to describe different constructs. What is common amongst the different perspectives is the belief that intellectual capital is the key driver of organizational performance and the source of competitive advantages, and therefore it is the best indicator of actual worth of organizations (Roos and Roos, 1997; Bontis, 1998; Bontis et al., 2000; Cabrta and Bontis, 2008).

For the purpose of our study, intellectual capital can be described as all factors (resources, capabilities and competences) critical to the organizational value. It is important to notice that none of the elements of that set of intangibles is per se sufficient for successful performance since intangible assets seldom affect performance directly. Instead, they work indirectly through complementary and non-linear relationships of cause and effect (Ittner and Larcker, 1998; Kaplan and Norton, 2004). Sharing this perspective, recent studies have been placing much emphasis on the analysis of interactions and interdependencies of different intellectual capital components (e.g. Bontis, 1998; Bontis et al., 2000; Skoog, 2003; Marr et al., 2004; Bollen et al., 2005; Cabrta, 2005; 2009; Tsan and Chang, 2005).

2. Creating Value in the Knowledge Economy

According to the OECD, the knowledge-driven economy is more than just a set of high-tech industries based on scientific breakthrough or driven by the internet. Rather, value creation in companies is changing. Thus the knowledge-driven economy entails fundamental changes in the process of value creation and in the sources of competitive advantage.

The pressure to develop products rapidly has increased; technology cycles have shortened accordingly, and business alliances, cooperation, human capital and cooperation agreements have become central to innovation and competitiveness. Introducing new technology into the business process often requires new working practices, organizational changes and training procedures in order to realise the economic and productivity potential of the technology.

Such profound changes have far-reaching implications for the economy and for business life, transforming the entire range of business opportunities, and companies’ strategies for creating value for themselves and their customers. The weight intellectual capital carries in this regard means that in practice new value and cost-drivers are continually being introduced with characteristics different from material and financial resources. One of the most relevant characteristic is that intellectual capital creates value through the interaction and combination of several factors, typically via networks and by direct involvement of customers. In such context, firms must become learning organizations,
continuously adapting management, organization and skills to accommodate new technologies and grasp new opportunities. Knowledge leads to organizational learning, which generates knowledge, and that, in turn, leads to the creation of value.

Increasingly, knowledge and other intangible assets (e.g. human competence, the ability to form strong relationships, and a capacity for mutually beneficial collaboration) are the foundations for an organization's success. In this scenario, firms will be increasingly joined networks, where interactive learning involving creators, producers and users in experimentation and exchange of information and knowledge drives innovation.

Strong value-creating relationships support breakthrough innovation at the operational, tactical and strategic levels. Consequently, we are in presence of dynamic, rapidly, adapting value networks that function as loose and complex configurations of industries, businesses, and business units within organizations (ALLE, 2003). Consequently, tools used in the past to analyse business value creation such as value chain are too mechanistic to address this new stage of complexity. This happens because intellectual assets by themselves neither create value nor generate growth. They need to be combined with other factors of production. For example, investment in training only generates value when combined with other factors such as improved business processes and the availability of the right information systems.

Empirical studies also show that focusing on intangible investments independently does not create a competitive advantage for the company. Only by coordinating with other components (tangibles and intangibles) can a company create superior performance. As stated by PENROSE (1963), it is the combinations and use of resources that generates value through the creation of other saleable resources or services. All resources in an organization are interconnected and value is created through the transformation of one resource into another.

3. Defining Intellectual Capital

From a conceptual point of view, in line with LEV (1997) the terms intangibles, knowledge assets and intellectual capital are interchangeable. As a result, there is an abundance of information on how to classify or value intellectual capital, but there is little knowledge how to successfully apply these terms and methods in practice.

The term “intellectual capital” has then been defined in different ways. For example, LYNN (1998) argues that intellectual capital represents knowledge transformed to “something” of value to the organization. ROOS and ROOS (1997) refers to intellectual capital as the sum of hidden assets of the company not
fully captured on the balance sheet, and thus includes both what it is in the heads of organizational members, and what is left in the company when they leave. Stewart (1997) defines intellectual capital as the intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create value.

An important point emphasized in the literature is the view that intellectual capital is essentially related to "knowledge applied to work to create value" (Edvinsson and Malone, 1997:3) or to "knowledge that can be converted into value" (Edvinsson and Sullivan, 1996:361). In the same vein, Marr and Moustaghfir (2005:1116) observe that "intellectual capital embraces any valuable intangible resource gained through experience and learning that can be used in the production of further wealth". There is also a consensus that IC relates to a set of intangibles (resources, capabilities and competences) that drive the business performance and value creation (Roos and Roos, 1997; Bontis, 1998; Andriessen, 2001; Viedma, 2004). European Commission (2006:4) defines intellectual capital as the combination of intangible resources and activities that "allows an organization to transform a bundle of material, financial and human resources in a system capable of creating stakeholder value" (European Commission, 2006:4).

The intellectual capital components recognized in most literature (Edvinsson and Malone, 1997; Bontis, 1998) are human capital (HC), structural capital (SC) and relational capital (RC).

Five major observations are presented after reviewing some of the many definitions and classifications of intellectual capital:

1. There is no universal definition of intellectual capital;
2. The tripartite distinction between human capital, structural capital, and relation capital is widely accepted;
3. 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;
4. Most of the definitions basically contain the same words. Knowledge, skills, competencies, experiences, processes, intangibles, attitudes, and value creation;
5. Intellectual capital is a phenomenon of interrelationships.

The pattern above enhances the relevance of causal relationships between intellectual capital and organizational value. Some authors (Marr et al., 2004; Marr and Roos, 2005; Cabrita and Vaz, 2006; Cabrita, 2009) highlight the dynamic interaction among the different components of intellectual capital to deliver organizational performance. In fact, it is the interaction among the different types of capital that creates value within an organization. For example,
human capital can improve relational capital and structural capital. On the other hand, structural capital and relational capital can improve the quality of human capital. The synergy effects generating from these components of intellectual capital can really create performance, rather than produce results independently. In this sense, intellectual capital should be viewed as potential, not an object and it emphasizes the idea that intellectual capital is mainly about capabilities and relationships.

An important point for understanding abstract concepts as such of the intellectual capital is to categorize the concept into their components. A classification is a heuristic device, a means of facilitating and promoting understanding. A good classification regarding intellectual capital enables the readers to understand and react upon the knowledge management activities in a company.

In this sense, for the purpose of our study intellectual capital is classified into the categories of human capital (HC), structural capital (SC) and relational capital (RC).

![Fig. 1 - Operationalization of intellectual capital](image_url)

Human capital represents the individual stock of an organization as represented by its employees (Bontis et al., 2000). Human capital is important as the foundational source of innovation, strategic renewal of a company and the company can thus realize and create value in the knowledge-based economy. Roos et al. (1997) argue that employees generate intellectual capital through their competence, their attitude and their intellectual agility. Competence includes skills and education, while attitude covers the behavioural component
of the employees’ work. Intellectual agility enables one to change practices and to think of innovative solutions to problems.

Structural capital deals with the system and structure of an enterprise. It is the business routines. A company with strong structural capital will create favourable conditions to allow human capital to realize its fullest potential and then to boost its relational capital. Structural capital comprises company culture, organizational structure, operational processes, and information systems.

Relational capital is the knowledge embedded in the network of relationships that an organization develops by conducting its business. Therefore, firms are forming different relationships between partners, such as networks, cross-boundary teams, supply chain partnerships and strategic alliances to diffuse knowledge and increase innovation.

4. Banking Environment

Banks operate in a complex and dynamic environment. All over the world, banks are under increasing pressure from regulators, competition, cost pressure and shrinking margins. Rigorous competition and market requirements dictate bank’s operations and strategies which are further restricted and regulated by several national and international authorities who demand constant and prompt reporting and auditing to assure supervisors and stockholders of stability. Currently, all international banks and national banks of most countries are implementing, or make plans and preparations to implement the Basel II accord. The implementation of Basel II accord relies heavily on the bank’s IT infrastructure and professional competencies. So, it is vital for banking system to understand how intellectual capital can improve its performance, credit quality and overall conditions.

Xerox Europe conducted a survey of banking and financial institutions which was reported as finding (Cross, 2001) that “2/3 of European banks fail to exploit their intellectual capital by not having a knowledge management strategy in place,” and a study in Australian financial institutions, using the same framework, produced similar results (Burstein et al., 2002).

Banks say too little about their intangible assets because they do not want to divulge any competitive advantages and also because there is still no generally received vocabulary for intangibles. Greater influence of intangibles on company analysis hinges on authoritative knowledge of how to value intangible assets. Without tested and generally established methods, confidence will not be created on the capital market, they will not receive greater recognition in accounting regulation, and no liquid markets that would have facilitated their valuation will emerge.
5. Research Models and Hypotheses

Based on the literature review, the hypothesis of our research will be tested using three models. Model 1 represents simple relationships between the three components of intellectual capital and business performance. Model 2 shows interrelationships amongst intellectual capital components and business performance. Finally, model 3 adds to model 2 the interaction term of the three components of intellectual capital, in order to evaluate its impact on business performance.

Model 1

\[ H_1: \text{Structural capital is positively associated with business performance;} \]
\[ H_2: \text{Human capital is positively associated with business performance;} \]
\[ H_3: \text{Relational capital is positively associated with business performance.} \]

Model 2

\[ H_1: \text{Human capital is positively associated with structural capital;} \]
\[ H_2: \text{Human capital is positively associated with business performance;} \]
H_1: Human capital is positively associated with structural capital;
H_2: Human capital is positively associated with relational capital;
H_3: Human capital is positively associated with business performance;
H_4: Structural capital is positively associated with business performance;
H_5: Relational capital is positively associated with business performance;
H_6: Relational capital and structural capital positively moderate the relationship between human capital and business performance.

6. Research Methodology

Our study is exploratory in nature. Conceptual models specification was based on the literature and previous works (BONTIS, 1998; BONTIS et al. 2000; TSAN and CHANG, 2005; CABRITA and VAZ, 2006; CABRITA et al. 2007).

6.1. Measurement instrument

A questionnaire developed by BONTIS (1997), already administered in Canada and Malaysia, was used. Eight more items, extending the concept of relational capital, were added to the 63 original items. Those new items were included after being submitted to the recommendation of the author’s original questionnaire. As independent assessment of validity enhances the quality of measures, the 63 original items were validated again following Churchill’s (1979) recommendations.
The questionnaire was distributed with a letter from the President of the Portuguese Institute of Banking Management explaining the aims of the study (academic purpose) and assuring confidentiality. All questions are perceptual. The subjective approach has been used extensively in empirical studies, based on executive’s perceptions, and has been justified by several researchers.

6.2. Data Collection

Data were collected from a sample of 53 banks, given a population of 62 banks operating in Portugal. Those 53 banks are all affiliated members of the Portuguese Bankers Association.

Intellectual capital is a complex concept and given its strategic nature the survey instrument was piloted using a convenience sample of 178 members (including first, second, third and fourth-tier executives). Authors’ studies of Canada and Malaysia emphasize the importance of using a convenience sample, demonstrating the respondents’ representativeness. A total of 151 questionnaires were returned.

Despite the limitations of the “key informant” methodology (Phillips, 1981), we used this method of data collection because the organizational characteristics we intend to measure are known only by a selected set of members.

Final test was administered following Chin’s (1998) recommendation: an analytical sample resulting in a response rate of at least 150 was sought, to ensure sufficient statistical power. To attain a sample of 150 observations, 430 executives (chief, first and second tier) were drawn from a list of 1081. Questionnaires were personally delivered (54) or sent by mail (376). After three weeks, 42 questionnaires had been returned. The total number returned (253), after 8 weeks represents a response rate of 58.8%.

6.3. SEM/PLS Overview

Our models were estimated using Partial Least Squares (PLS), specifically, PLSGRAPH v.3.00. PLS is an analytical alternative to Structural Equation Modelling (SEM) techniques. SEM (e.g. LISREL), sometimes described as an example of a “second generation of multivariate analysis” (Fornell, 1987:408), comprises a set of multivariate techniques that allows the researcher to model and examine a series of dependence relationships simultaneously, evidencing advantages over the first-generation techniques where relationships are examined in a single basis at a time. For this reason, SEM is considered a powerful tool in social and behavioural sciences where theories are formulated in terms of hypothetical constructs, which are theoretical creations that cannot be observed or measured directly.
The basic distinction between LISREL and PLS, as causal modelling methodologies, rests on the researcher's objectives (Barclay et al., 1995). LISREL is parameter-oriented, better suited for testing theory (confirmatory sense), while PLS is prediction-oriented, better suited for construction theory (explanatory sense). Therefore, PLS is an alternative for situations where theory is weak (as it is in our case) or when the available measures would not conform to a rigorously specified model. Under PLS approach all measured variance is useful variance to be explained, the primary concern being the prediction of dependent endogenous variables.

Conceptually, PLS is an iterative combination of principal components analysis relating measures to constructs (outer relations), and path analysis allowing a causal-chain system of constructs (inner relations). PLS estimation does not require assumptions of metric data, multi-normality (which our data do not satisfy) or independence of observations. Moreover, it works well with small samples and is better suited to exploratory researches. For this reason, Wold (1982) labelled this approach as “soft modelling”. Because PLS considers all path coefficients simultaneously (allowing analysis of direct, indirect, and spurious relationships) and estimates multiple individual item loadings in the context of a theoretically specified model, rather than in isolation, it allows the researcher to avoid biased and inconsistent parameter estimates for such equations. These advantages have encouraged PLS applications in an increasing number of fields, such as information systems (Chin and Gopal, 1995), strategic management (Cool et al., 1989; Fornell et al., 1990), marketing (Fornell et al., 1985), and intellectual capital (Bontis, 1998; Bontis et al., 2000; Cabrita, 2005; Cabrita et al., 2007)

Although PLS estimates parameters for both the links between measures and constructs (i.e., loadings), and the links between the constructs in the model (i.e., path coefficients) simultaneously, PLS proceeds in two stages. The first stage is to assess the measurement model i.e., the relationships between the constructs and the indicators used to measure them. The second stage requires the evaluation of the structural model, i.e., to assess the explanatory power of independent variables and examine the size and significance of path coefficients.

The measurement model is assessed by examining:

1) Individual item’s reliabilities i.e., the loadings or simple correlations of the measures with their corresponding constructs. A rule of thumb is to accept measures with standardized loadings of 0.707 or more. However, this “rule of thumb” should not be as rigid at early stages of scale development. Loadings of 0.5 or 0.6 may still be acceptable if there exist additional indicators in the block for comparison basis” (Chin, 1998);

2) Internal consistency and discriminant validity.
The structural model is assessed by examining:

1) R-squares for each endogenous construct, to assess the proportion of variance in the endogenous constructs that can be accounted for by the antecedents;
2) Estimated path coefficients interpreted as standardized beta weights in the regression analysis, and;
3) Statistical significance of structural paths, or t-statistics using the jack-knifing procedure, a nonparametric test of significance.

7. Data Analysis

Measurement instrument was pilot tested in order to refine the measures and retain the reliable items. Cronbach’s alpha coefficients for each of the four constructs are fine, since the alpha values are greater than 0.93, exceeding the level of 0.7, considered good for exploratory research (NUNNALLY, 1978).

A principal components factor analysis (Varimax rotation) was performed. Following Hair et al.'s (1992) recommendations, items that loaded at least 0.50 in their corresponding constructs were retained. To confirm our factor findings, the PLSGRAPH 3.0 was applied to assess individual item’s reliabilities. A total of 48 items from 71 original items were used in our final test. It is also important to note that comparing studies in the three different international contexts (Canada, Malaysia and Portugal), 15 items are simultaneously reliable in the three studies and 18 are reliable in, at least, two contexts.

To assess the convergent validity two measures were used: (i) the Cronbach alpha and; (ii) the internal consistency measure developed by Fornell and Larcker (1981). These authors argue that this measure is similar to Cronbach’s alpha, but is preferable to Cronbach’s alpha since it uses the item loadings obtained within a nomological network (or causal model). As this measure is not influenced by the number of items in the scale and does not assume that each item contributes equally to the construct, it is considered more general than Cronbach’s alpha. However, the interpretation is similar and the guidelines suggested by Nunnally can be adopted for both situations. As demonstrated in Table 1, internal consistency values for the four constructs exceed the 0.70 recommended by Nunnally, a benchmark for “modest” composite reliability, applicable for exploratory works.

Discriminant validity was assessed by examining the correlation matrix of the constructs. Satisfactory discriminant validity amongst constructs is obtained when the diagonal indicating the square root of the average variance extracted (AVE) is greater than all other entries in the corresponding rows and columns. This implies that the variance shared between any two constructs is less than the variance shared between a construct and its indicators, which is our case.
Table 1 – Measurement model

<table>
<thead>
<tr>
<th>Items</th>
<th>Number of items</th>
<th>Cronbach Alpha</th>
<th>Internal consistency (Fornell and Larcker)</th>
<th>Discriminant validity (*) (Correlation of constructs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>14</td>
<td>0.9505</td>
<td>0.9319</td>
<td>0.783</td>
</tr>
<tr>
<td>Structural</td>
<td>10</td>
<td>0.9406</td>
<td>0.9498</td>
<td>0.755 0.809</td>
</tr>
<tr>
<td>Relational</td>
<td>14</td>
<td>0.9501</td>
<td>0.9563</td>
<td>0.697 0.700 0.782</td>
</tr>
<tr>
<td>Performance</td>
<td>10</td>
<td>0.9416</td>
<td>0.9507</td>
<td>0.568 0.634 0.592 0.812</td>
</tr>
</tbody>
</table>

As the measurement model satisfies the criteria for convergent and discriminant validity, our next step was to evaluate the structural models. As PLS does not make any distributional assumption, traditional parametric tests are inappropriate. So, to assess the statistical significance of the loadings and the path coefficients (i.e., standardized β’s), a jackknife analysis was performed.

Model 1

![Diagram](attachment:image.png)

Note: Top number is path, t-values in brackets, *** significant at p-value<0.001; ** p-value < 0.05

R² indicates that 45.2% of the variation in the business performance (i.e. value created) is accounted for in the model. In line with Bontis’ work for Canada, the relationship between human capital and business performance is not significant, though positive.
In model 2, while structural capital and relational capital impact directly and significantly the business performance, human capital substantively influences the business performance only indirectly. Once again, the direct relationship between human capital and business performance proves to be not significant, although $R^2$ is almost the same.

Model 3 shows the interaction effect of the three components of IC (i.e. the term $HC*SC*RC$). $R^2$ increases to 46.3%, the most important of the three models. A significant $R^2$ change here indicates that human capital, structural capital and relational capital interact to influence business performance.
Indeed, relational capital and structural capital positively moderate the relationship between human capital and business performance. Evidence of moderation exists when the interaction term accounts for the significant residual variance in the dependent variable.

The true effect of the interaction term can be calculated through the effect size:

\[ f = \frac{R^2 (interaction \ model) - R^2 (main \ effects)}{R^2 (interaction \ model)} \]

The interaction effect, therefore, produces an effect size of 0.028. We should take into account, however, that the interaction estimate, in particular, would generally represent the worst amongst the estimations, since its reliability is the product of the reliabilities of its predictor and moderator indicators. As CRONBACH (1987:417) has mentioned: “further investigation of statistical power in studies of interaction and invention of more sensitive research strategies are much to be desired”.

All in all, the measures and models developed have been proven to be valid and reliable in addition to significant and substantive and the results provide empirical support for the assumption that organizational value is created in the interaction of the three dimensions of the IC. These results reinforce the perspective that the management of intellect lies at the heart of value in the current “knowledge era” of economy.

8. Conclusion and Managerial Implications

A structural equation modelling (SEM), specifically a partial least squares (PLS), is proposed to assess the relationships between the constructs together with the predictive power of the research model. PLS is an analytical alternative for situations where theory is weak and the available manifest variables or measures would be likely not to conform to a rigorously-specified measurement model. We have used the PLS technique because this tool is primarily intended for predictive analysis in which the explored problems are complex, and theoretical knowledge is scarce. As stated by Wold (1985), “PLS comes to the fore in larger models, when the importance shifts from individual variables and parameters to packages of variables and aggregate parameters (...) In large, complex models with latent variables PLS is virtually without competition”.

Empirical findings from this study support that banks recognize that effective use of knowledge can provide strategic advantage, and that IC is a driver of organizational value, however, not all combinations of intangibles produce a significant value. In fact, intellectual resources are often internally generated, interrelated and interdependent, and their value is, therefore, context specific.
Given the uniqueness of each firm’s configuration of resources, capabilities and competencies, it is not possible to specify a single set of organizational arrangements conducive to IC management. The study does suggest that there are a variety of routes to success. To move to an IC system would help managers to gain deeper insight into their firm’s value creation process.

This study also provides evidence that human capital is practically useless without the supportive structure of an organization, meaning that a focus on knowledge workers alone does not necessarily guarantee a significant impact on performance. Despite banks recognize the importance of employee competence, it is not enough for an organization to hire and promote the brightest individuals it can find. Without the support of organizational resources individuals have no ability to do anything with their ideas. Organizations should also support and nurture bright individuals into sharing human capital through organizational learning and form a culture that promotes interrelationships between their members. Therefore, structural capital is the infrastructure that supports people in the organization to make use of their intellectual potential, which suggests that structural capital should be designed to maximize intellectual output.

All banks recognizes the importance of customer knowledge and have implemented some form of customer relationship management system to gather and analyze customer information making it available to customer facing as well as product development knowledge workers. Similarly, all are conscious of the importance of maintaining positive brand recognition and that it can easily be affected by breach of compliance in the case of breach of confidentiality on customer information, in accuracy in dealing with customer financial transactions, or being seen to gouge huge profits at the expense of customer service. In general, the banks are missing opportunities to capitalize on knowledge from their partners and suppliers. There is no evidence that any of the banks evaluate the intellectual capital achieved through any of their endeavours.

We argue that examining each component within the IC perspective provides managers with a better understanding of how distinct organizational elements systematically combine and interact in order to create wealth. In particular, organizations have to embrace a systematic and structured process of identifying those resources that are not only results-oriented but which, above all, focus on the cause-effect connection between specific investments in intellectual capital and their related results. Once managers realize the importance of developing, measuring and managing their IC, they will invariably want to increase it, since it affects organizational performance positively and significantly. Developing IC systems would help managers to identify and focus on combinations of IC components, contributing to a firm’s superior performance.
The most important limitation of this research is the fact that it is confined to a single industry. This study should be extended across further industries in the future. Much more research is needed to fully understand the effects of each of the components of IC on business performance. It should also be compared with other countries’ banking IC using similar assessments and measurements. The significant differences between distinct settings can be explored through case-study methodology.

References


