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Relating Successful Business Models to Intellectual Capital and Knowledge Management Practices

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Abstract: There are a number of natural links between the fields of business models and knowledge management. The contemporary understanding of business models is that they are concerned with describing and analyzing the methods of value creation and the alternative ways of delivering use value to customers that are applied by organizations. Similarly, knowledge management also has intricate connections with mechanisms of value creation, through the structuring and improvement of knowledge processes in a given organization. Ensuring that the right knowledge is present is an important part of any business model innovation exercise. By applying the lens of intellectual capital, a natural link between business models and knowledge management is established. From this link, it is possible to structure and describe key characteristics. This paper accounts for the relationships between business models and knowledge management, mediated by intellectual capital, and draws up a schema by which the relationships can be described and discussed. It concludes by synthesizing a future research agenda to further address these relationships and to strengthen our understanding of how they improve the value creation of organizations.

1. Introduction

Improving knowledge management is essentially about improving the value creation of organizations. So is improving business models. Sometimes the improvement of knowledge management practices creates improvements in business models, and at other times this relationship may be swapped around. From time to time, organizations may be faced with the prospect of having to change the business model altogether, and this will likewise affect the knowledge management practices in organization, and often in a more substantial manner.

According to Dane-Nielsen and Nielsen (2017) the foundation of value creation of any business model is its intellectual capital, and thereby, knowledge management becomes an important activity in any business model. Naturally, there will be variations in the importance, but also the type of knowledge management that takes place in a given business model. The relationship depicted here ascribes that business models provide enlightenment on the necessary IC in the organization and through this set out the managerial and strategic implications for knowledge management, as argued in the Danish guideline for intellectual capital (Mouritsen *et al.*, 2003), while further influencing the identification of relevant KPIs (WIRF, 2016).

However, in the recent literature on business models, specifically studying different business model recipes (Baden-Fuller and Morgan, 2010), also called business model configurations (Nielsen et al. 2017), it is suggested that some business models have knowledge management and intellectual capital as their key value drivers (Taran *et al.*, 2016). The research issue to be explained is that intellectual capital and knowledge are important for all business models, and that there are specific business model configurations where knowledge management is the key asset or value driver. Prominent examples of this are companies such as Google and Facebook, who apply data-driven business models. Both companies' value creation is founded on knowledge about the users of their products and services. Other examples of knowledge driven business models are the Infomediary configuration as applied by Edmunds.com in collecting and processing information for others in

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regards to markets, products, producers and consumers. Also, the Trusted Advisor configuration applied by McKinsey and Merrill Lynch, who strive to stay on top of information loops and provide customers with answers to complex questions.

1.1 Knowledge management

To imply that knowledge is either a very important resource, or even the most important resource and foundation of an organization's future competitiveness a common altruism. Nonaka (1994) provides a frequently applied method of differentiating between different types of knowledge at individual and organizational levels, and an additional dimension is that of differentiating between tacit and explicit knowledge (cf. Polyani 1966; Nonaka and Takeuchi 1995). Baxter and Chua (1999) argue that knowledge management is about creating appropriate organizational infrastructure(s) to facilitate the circulation of individual knowledge to potential users with the intent of reassembling, refocusing or reusing it (McNamara *et al.*, 2004). Examples of this could be knowledge transfer from one department to another or the implantation of tacit knowledge through mentoring.

According to Nielsen (2005), there exist organizational hindrances for the sharing and dispersion of knowledge both within the organization, but also in relation to external collaborators. The so-called horizontal borders of knowledge concern the organization's internal architecture for facilitating knowledge sharing and transfer. A company's advantage compared to free agents operating on the open market is that it contributes with formal and informal information channels and mechanisms making the development and transfer of knowledge resources and competences possible (Almeida *et al.* 2002, 155), which is in line with a transaction cost perspective on organizations. Kogut and Zander (1992, p. 383) explain that "what firms do better than markets is the sharing and transfer of knowledge of the individuals and groups within an organization".

The vertical borders of knowledge, Nielsen (2005) argues that the relationships and liaisons with adjacent organizations in the value chain can be characterized. For example, are alliances characterized by high interaction-levels and collaboration or are the relationships more like »Chinese Walls«? The handling of knowledge management in relation to the vertical borders depends on the type of relationships formed between the organization and its strategic partners. Sweet (2001) argues that it is the ability to manage the underlying strategic configurations of value creation between the organization and its strategic partners that is decisive for creating sustainable results. It is evident that knowledge management can be related to not only the knowledge of individuals, but also to the knowledge that has relations to technologies, processes and relationships with for example customers and strategic partners around the focal firm. In this sense, knowledge management can be viewed as actions relating to growing, creating, acquiring or discarding the intellectual capital which is embedded in the organization.

1.2 Intellectual capital

Consistent with such an idea of developing intellectual capital, Edvinsson (1997) initially divided intellectual capital into two types: human capital and structural capital. The latter was then sub divided into customer capital and organizational capital. Customer capital includes such assets as customer databases and distribution channels, together with the goodwill that employees have built up with customers over time, while organizational capital includes organizational structures and operating procedures. Over time, a number of large scale intellectual capital reporting initiatives have launched on both national and supra-national levels. Supra-national initiatives include the Meritum guideline (Meritum, 2002) and the Intellectual Capital Statements for Europe (InCaS) project (Mertins and Will, 2007; Mertins *et al.*, 2009), the latter of which coupled intellectual capital and knowledge management together specifically through a business process perspective. Prominent examples of national initiatives are found in Australia (Boedker *et al.*, 2005), Japan (Johanson *et al.*, 2006) and Germany (FMEL, 2004). In the latter case, Edvinsson and Kivikas (2007) point out that companies demand a more standardized Wissensbilanz with indicators in order to be able to use it as a management report in addition to the external reporting purpose of an intellectual capital report, hence coupling the needs for both reporting and managing.

In an attempt to create a pragmatic methodology for managing and reporting intellectual capital, a Danish project running from 1997 to 2002 created the Danish Guideline for Intellectual Capital Statements (DATI, 2001, Mouritsen *et al.*, 2003), depicting a relationship between knowledge management and intellectual capital. The model proposed by Mouritsen *et al.* (2003) includes the four elements: 1) Knowledge narrative, 2) Management challenges, 3) Activities and 4) Indicators. The purpose of the Intellectual Capital Statement was

to communicate the use value of the organizations product/service offering. The Intellectual Capital Statement highlights the ambition of the company's knowledge management, because it formulates a strategy for the company's know-how in the future. Mouritsen *et al.*'s (2003) Intellectual Capital Statement model is presented in Figure 1.

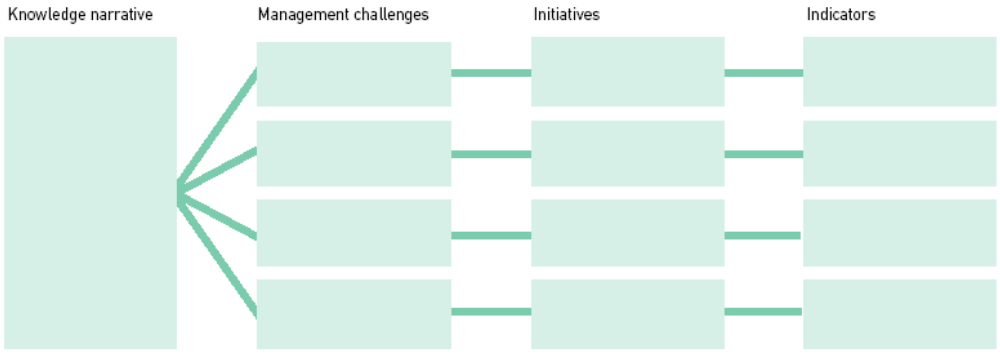

Figure 1: The Danish guideline for intellectual capital statements (Mouritsen *et al.*, 2003, 13)

According to Bukh *et al.* (2001), the knowledge narrative is a story about how the company creates value for its users through the utilization of its knowledge resources. The knowledge narrative pinpoints the ambition of the company's knowledge management, because it not only accounts for present performance, but also formulates a strategy for the company's know-how in the future. The knowledge narrative fulfills this objective by describing three elements: How the user is taken into account by the company's products or services, called use value; which knowledge resources – in the form of employees, customers, processes and technologies – it must possess in order to deliver the described use value; and lastly the particular nature of the product or service.

In the Intellectual Capital Statement, the company's management challenges are a set of meaningful and lasting elements in the managerial agenda that provide continuity in handling the development and composition of knowledge resources (Nielsen *et al.*, 2007). Thus, these management challenges relate to the needs for knowledge management which can be derived from the knowledge narrative and which the company must address in order to fulfill the ambition defined in it. This activity involves a number of strategic choices in implementing the knowledge narrative.

By taking on the form of a coherent narrative, the knowledge narrative and management challenges constitute the company's strategy for knowledge management, which thereby communicates the company's ambition for knowledge management and how it intends to realize this. To develop and compose knowledge resources and the key management challenges, a series of initiatives are constructed around the four knowledge types: employees, customers, processes and technologies. Lastly, the effects of the efforts and management challenges described above are monitored via indicators e.g. about staff turnover and job satisfaction, in-service training, turnover split on customers, customer satisfaction, precision of supply etc. (cf. Bukh *et al.* 2001; Mouritsen *et al.* 2001), thus indicating to which extent these have been implemented.

The final external Intellectual Capital Statement is a report that via text, figures and illustrations presents the organizations knowledge management effort (Mouritsen *et al.*, 2001). The purpose of the report is to communicate the knowledge narrative and management challenges and to document that the appropriate actions have been implemented.

1.3 Business models

As is evident in the above section, 'use value' is at the core of the Intellectual Capital Statement. Use value reappeared in the management literature a few years later as the central notion of business models thinking; most prominently in the widely-disseminated Business Model Canvas (Osterwalder and Pigneur, 2010). The concept of business models offers a novel perspective from which to understand how companies become profitable, efficient, competitive and sustainable. Contemporary foci in the field of business models discuss definitions, delimitations and constructing frameworks for analysing business models (Wirtz *et al.*, 2016) or innovating them (Foss and Saebi, 2017). Despite lacking unified theoretical groundings, at least according to Zott *et al.* (2011), many of these frameworks and ontologies have proven to be successful in practice.

For any company, it is important to be aware of the business model being applied for two reasons: First, the business model is the platform for executing corporate strategy. Therefore, if the business model is poorly configured or implemented, then the company will have difficulties in carrying through the strategy, including its strategy for knowledge management, and ultimately then also meeting the non-financial and financial targets. Second, the business model affects the managerial processes of the organization because it directs the focus of how the firm does business. If the business model of a given firm relies on close ties with customers and the continuous involvement of strategic partners, then the managerial focus is expected to differ drastically from a situation where all customer interaction is web-based and all functions are in-house.

Baden-Fuller and Morgan (2010) argue that business models are distinct recipes of doing business that can be classified by how they are configured. Sometimes the naming of the specific business model is done through the example of a well-known company. Five good examples of this are the eBay business model, the Dell business model, the Ryanair business model, the Gillette business model and the Skype business model. Through their 5-V ontology, Taran *et al.* (2016) provide a complete overview of 71 business model configurations that can help companies to seeing alternative ways of designing their value creation, value delivery and value capture mechanisms.

2. Synthesizing the relationships

Because intellectual capital is at the heart of all business models (Dane-Nielsen and Nielsen, 2017) and intellectual capital and business models are central themes in contemporary manners of reporting about value creation (IIRC, 2013), the remainder of this article analyses the relationships between knowledge management, intellectual capital and business models according to three output dimensions: 1) Creating innovation in organizations, 2) managing organizations and 3) reporting about organizations' value creation. We analyze the three intertwined concepts according to concerns of A) doing the right things, and B) doing things right. Future research perspectives are provided in the concluding remarks.

2.1 Innovating

Creating innovation is important for growth prospects as well as for the long-term sustainability of organizations and innovation and renewal were already recognized as important constituents of value creation in Edvinsson's (1997) Skandia Navigator. Innovation in a given organization is expected to affect its intellectual capital resources positively. However, innovation will also the effect of activities performed in the company to build intellectual capital in relation to employees, customers, strategic partners, processes, technologies and business models. The role of the knowledge management strategy is to ensure that these activities are aligned with overall vision of the organization. Hence, the causality can flow two ways. Either, the innovation of technologies, processes etc. can lead to the necessary innovation of the existing business model, or the innovation of the existing business model, as the starting point, may lead to the necessity of acquiring new types of knowledge and intellectual capital resources.

Innovating organizations is primarily concerned with *doing the right things* and business model innovation is an important mechanism for capturing value when new knowledge and intellectual capital is either developed our bought. Once the right things are being done, knowledge management becomes an important mechanism for the ensuring of *doing things right*.

2.2 Managing

Different business models require different management foci and perhaps even different management styles (Brøndum *et al.*, 2015). The same goes for different types of intellectual capital. Managing intellectual capital is about translating the identified management challenges into activities and a set of indicators that can assist in providing direction. A seminal method of contemplating the management of knowledge is Nonaka's (1994) four processes of knowledge conversion in the knowledge spiral, also denoted the SECI model (Socialization, Externalization, Combination and Internalization). This model describes mechanisms of knowledge management according to the movement between tacit and explicit knowledge types and might involve passing knowledge on through silent practices, codification and embedding into social practices. These practices should be attuned to the business model, and from this also the organizations intellectual capital.

Once an organization has found its core focus, for example through an innovation process, the management of the organization is primarily concerned with *doing things right*. Here the managerial attention provided by the knowledge management strategy is an important driver of improving the resource-base of the organization, in turn building intellectual capital and the performance of the business model.

2.3 Reporting

In reporting about value creation, the notions of *doing the right things* and *doing things right* are combined. In the past decade, new forms of organization and ways of creating value have appeared. In conjunction with this, new technologies have also emerged. Together, these mechanisms of organization and technology leverage combinatorial innovations (Varian, 2010) by creating new spaces for value creation, new ways of serving customers, and sometimes entire new products. Consider Uber's disruption of the taxi industry, how Airbnb currently challenges the hotel industry, and the way in which Skype set the standards for Internet-based phone services over a decade ago. Such disruptions (Christensen and Raynor, 2013) might radically alter the value creation in any given industry. Hence, this is also expected to alter the performance measurement information that is relevant for guiding managers' decision-making and for disclosure to external stakeholders. In general, innovation is problematic in a reporting context, because it emerges as an expense or a liability and not something "of value" *per se*.

The Intellectual Capital Statement's focus on use value means that it provides an early example of how the characteristics of business models might be injected into an accountability perspective (Nielsen and Roslender, 2015) as suggested by Jenkins (AICPA, 1994). More recently, the IIRC (2013) suggests that business models are at the core of an Integrated Reporting effort, together with a clear link to intellectual capital resources. The IIRC has been criticised for introducing its model of six different capitals and its idea of business models with a vague conceptualisation of how these elements fit together. It is especially difficult to commensurate the notions of value in Integrated Reporting with a broader understanding of value creation than to that of the shareholder (Tweedie *et al.*, 2018).

While the Intellectual Capital Statement provides a link to knowledge management through the knowledge narrative and management challenges, by using narratives, figures and numbers, the connection to business models is more complex. At present, performance and KPI identification rests on the level of management models and frameworks such as the Balanced Scorecard or other performance scorecards (Nielsen and Roslender, 2015). One solution is to apply an ontology, like the 5-V ontology developed by Taran *et al.* (2016), to help organizations identify which exact business model configurations they are using. Different business models have different value drivers and thus their performance is distinct, and different from one another, according to their particular configuration. This will allow the identification of KPIs that are capable of communicating the performance of a given company, a notion that is forwarded by Nielsen *et al.* (2017) in their essay about *Killing the Balanced Scorecard*.

In assessing the notions of *doing the right things* the role of the business model disclosure is to judge whether the right business model is chosen for delivering a given value proposition to users. Assessing the *doing things right* dimension, is concerned with measuring how well is the business model performing, and how good the current knowledge management practices are at supporting that particular type of business model and in building the intellectual capital resources of the organization. The business reality of today verifies a value creation shift to intellectual capital and intellectual assets. Global companies such as Apple, Google, Facebook, Weibo, Spotify, Uber and Airbnb are all good illustrations of a trend going from the trading of products and services onto the trading of ideas and concepts within networks via new business models. Edvinsson (2013) argues that Apple is a tangible illustration of IC business transformation of this sort in that the company is making more revenue out of the trade on its network than sales of its actual devices. In this context, updated reporting models will be in growing demand.

3. Concluding remarks

According to Dane-Nielsen and Nielsen (2017), intellectual capital is central to all business models. Further, the Intellectual Capital Statement provides a robust link between intellectual capital and knowledge management which makes for a pragmatic methodology (see Nielsen *et al.*, 2007). In order to detail these links, the prior discussions concerning innovation, management and reporting have been structured in Table 1, which thereby

summarizes the potential relationships between knowledge management, intellectual capital and business models.

Table 1: Overview of the relationships

	Innovating	Managing	Reporting
Doing the right things	The point of departure here is business model change, leading to different intellectual capital and thereby also adjusted knowledge management practices.	Concerned with producing adequate processes of sharing, building and measuring business models, intellectual capital and knowledge.	The role of business models, intellectual capital and knowledge management in value creation. Is it the right business model for the existing value proposition?
Doing things right	Incremental improvements to the business model through knowledge management and intellectual capital practices. Here knowledge management is the main driver.	Knowledge management is the driver of the resource-base in the organization, building intellectual capital. Managerial attention is on the processes relating to intellectual capital and business models.	How well is the business model performing, and how good are the current knowledge management practices at supporting the business model and in building intellectual capital?

Table 1 illustrates that the relationship between knowledge management and business models has different characteristics depending on the whether the focus is on innovating, managing or reporting and also across the concerns of *doing the right things* or *doing things right*. The role of intellectual capital likewise differs. In some instances, intellectual capital acts out a mediating role between knowledge management and business models, and in others it is the affecting or affected part. As these relationships are conceptually derived, their main purpose here is to provide a basis for further scrutiny, discussion and testing. They represent a number of propositions, which should be tested, validated or rejected, and thereby they offer a number of potential research directions.

3.1 Future directions related to innovating

Radical business model innovation may involve the development and utilization of new knowledge or new technologies. However, when depicted from a *doing the right things* perspective, it is typically a given business model innovation that affects the organization's intellectual capital, which again affects the knowledge management focus. Future research should aim to study this causation as well as studying how different business models are contingent upon differences in knowledge management practices. Business model differences could be measured according to an ontology like the one developed by Taran *et al.* (2016). According to the Skandia Navigator approach for IC (Edvinsson, 1997), innovation is at the core of any business bottom line. Consequently, this dimension and its unique metrics are critical to bridge to management practices.

3.2 Future directions related to managing

In relation to the management perspective, *doing the right things*, is concerned with producing adequate processes of sharing, building and measuring both business models, intellectual capital and knowledge. Here the value driver perspective of business models (Nielsen *et al.*, 2017) and the management challenge perspective of the Intellectual Capital Statement (Mouritsen *et al.*, 2003) are important prerequisites for focussing the knowledge management effort. The research effort here should focus on identifying relationships between management processes and benchmarking processes that can create performance management systems which not only instigate control, but also create energy, inspiration and direction in the organization.

3.3 Future directions related to reporting

The mediating link applied in this paper, namely that of the Intellectual Capital Statement, was precisely concerned with depicting the organizations strategy for knowledge management and creating accountability around this effort. However, intellectual capital reporting has since failed as a vehicle for such disclosures (Roslender & Nielsen, 2017; Nielsen *et al.*, 2017). One reason might be that intellectual capital reporting missed to integrate with innovation on the one hand and navigating the knowledge of organizations on the other. It is important that business stakeholders be alerted towards areas of lacking knowledge, as well as how to address such aspects. Currently new reporting vehicles such as EU-mandated business model reporting and the voluntary Integrated Reporting (IIRC, 2013) model, which also stresses the importance of business models, are entering the scene. Our knowledge of the pitfalls in intellectual capital reporting (Schaper *et al.*, 2017)

coupled with the recent insights into benchmarking-oriented business model mappings (Tweedie *et al.*, 2018; Taran *et al.*, 2016) can help us understand how to overcome the problems that these new reporting vehicles will face.

Future research should focus on identifying whether organizations are applying the right business models for their cause, and then also how that business model is performing, both in terms of financial outcomes as well as a broader set of societal impacts. In here lies the true acknowledgement of the global importance of intellectual capital as a pivotal factor in the evolution of business practices, namely to create value for money products and services for customers, embed this in profitable business models, hence creating stable business ecosystems that over time lead to wealth creation for the good of society.

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