

# How Employee Portal Contributes for the Intangible Assets Value Creation

## Empirical Investigation and Theoretical Framework

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### Abstract

Today's increasingly business competition and the information technologies development led to huge corporate organizational changes and pulled intangible assets up in the value chain. Employees' skills, talent and know how, intellectual property, information, information systems, infrastructure, culture, teamwork capacity and other forms of non-physical assets are critical sources of value. But in order to generate value they must be integrated with each other and aligned with the objectives for the internal processes.

This position paper addresses organization concerns related to value creation and change management and highlights the importance of visual representation of "strategy" to provide an understanding on the cause-effect relationships that generate value, as well as providing top management and decision makers the information needed for a suitable top-down commitment and sponsorship – essential to perform appropriate change management and benefits realization.

The paper presents a theoretical multi-tier framework that shows the path and flows of value-creation, the relationships between "intangible assets" and the representation of "enabling changes projects". We've combined Strategy Map and Benefits Dependency Network, resulting in a stronger framework to help organizations enhancing their strategy knowledge, to reduce the risk of projects failure, and to capture real value from their investments.

This framework is being applied to an on-going Employee Portal case study, as a means to understand how a corporate employee portal contributes to the intangible assets value creation process.

**Keywords:** Change Management, Strategy Map, Benefit Management, Intranet, Employee Portal, Business Value, Strategic Readiness, Intangible Assets, Culture

### Introduction

Today's increasingly business competition and the information technologies development made intangible assets more important. Organizational capital complements and, in some cases, is essential to the success of Information and Communication Technology (ICT)<sup>1</sup> innovations. Studies carried out in this area show that organizational changes typically exceed the direct financial costs of the ICT investments they are related with (Brynjolfsson, Hitt, & Yang, Intangible Assets: Computers and Organizational Capital, 2002) and there are

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<sup>1</sup>In the reviewed literature we found references to Information Technology (IT), Information Systems (IS) and Information and Communication Technology (ICT). In this study we will use ICT as an extended synonym of IT and IS.

evidences that assets like leadership, talent and speed are the most relevant to the organization market value (Lev, 2004).

Human capital and organizational capital complement ICT capital and they are also important sources of business competitive advantage (Lev, 2004)(Kaplan & Norton, *Having Trouble with Your Strategy? Then Map It*, 2000). In fact, “success does not depend primarily on the size of the budget or the products supporting technologies. It really depends on employee’s attitudes, competencies and skills; their ability to generate commitment and trust, communicate aspirations and work in complex relationships”(Jassim, 2002, p. 1).

Over the years working as project managers we’ve noticed there are some problems and worries surrounding Intranet and Employee Portal projects that are simultaneously of great interest and concern to organizations: (1) it’s difficult to understand the real value and benefits of these solutions; (2) justifying ICT investments in these solutions it’s not an easy task; (3) being a solution that implies great changes in culture, behaviour and processes, it’s essential to build adequate change management programs; (4) since their value depend greatly on information, it’s essential to keep it updated, consistent, and with the proper orientation to profile and user responsibility.

Benefits Management plays an important role by enabling organizations to improve the value realized from specific investments and identifying the sources of change to be operated and managed (Ward & Daniel, 2006).

The “Benefits dependency network” is a diagrammatic technique used in Benefits Management that relates the ICT assets used by business processes with organizational changes necessary to reach the identified benefits. With the benefits, ownership and responsibility for each change has to be previously identified and agreement reached on the evidence needed to determine whether or not the changes and benefits have been successfully achieved (Ward & Daniel, 2006).

This technique provides comprehensive identification of ICT enablers, enabling changes, processes, benefits, business objectives and ownership and responsibility for each change, but, according to Ward and Daniel, it is more focused on ICT (Information Capital) assets as enablers of change.

“Strategy Maps” are essential tools to communicate organizations strategy. They clarify the way intangible assets are aligned with strategy to create value for the organization. “Conceptually, a strategy map links the organization high-level goals– its mission, values and vision – with meaningful and actionable steps each employee can take”(Kaplan & Norton, *STRATEGY MAPS - Converting Intangible Assets Into Tangible Outcomes*, 2004, p. 2).

Strategy maps relate intangible assets with value-creating internal processes but they don’t show how intangible assets relate with each other: (1) they don’t provide a detailed identification of the prerequisites for achieving the business changes (sometimes it impacts on Human Capital) which is relevant for an adequate change management and (2) they don’t show how internal process changes can provide feedback on to the Organizational Capital and Human Capital, thus generating more value.

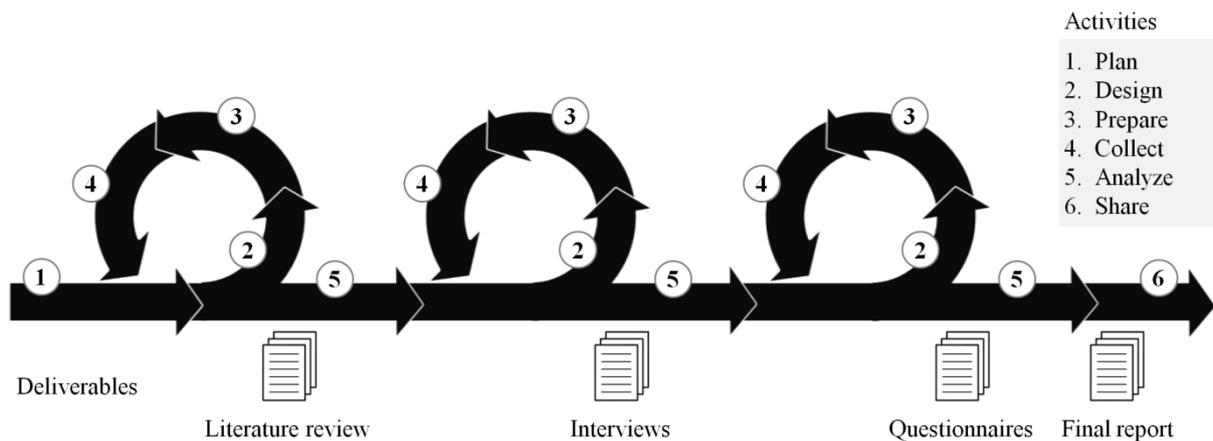
It’s our objective, and the main contribution of this paper, to propose a theoretical framework that helps organizations dealing with these concerns through de use of two known techniques together to improve the success of investments in ICT projects geared to the creation of intangible assets. This framework is being applied and tested in a case study, in order to validate if it covers the limitations identified in those which are combined into it.

## Research approach

This position paper addresses extensively the reported concerns of organizations around the unsuccessfully projects implemented with ICT and focuses in Employee Portals because of its known strategic importance on business information management.

The methodology used in the research began with a literature review of research/academic papers, books and specialized websites. This literature review was organized around and related directly to the themes: strategy communication; strategic alignment; organizational change; intangible assets; intranets and portals; and intangible benefits. The overall research process contains the main activities depicted in figure 1.

**Figure 1:** Case Study research process



As can be seen from figure 1, this research is mainly based on an ongoing case study where we are testing the framework, which will allow a clear understanding on how an Employee Portal contributes for the intangible assets value creation process. The research process also includes a questionnaire to pre-selected employees, a set of semi-structured interviews with managers and an extensive consultation to documents and to financial reports on possible impacts from the employee portal usage in the business units' activities. In terms of results validation these sources will allow an alignment and consistency between concepts and to realize triangulations between different sources of information.

### Literature review

#### **The importance of intangible assets**

Intangible assets – skilled workforce, patents and know-how, software, strong customer relationships, brands, unique organizational designs and processes, and the like – generate most of corporate growth and shareholder value (Lev, 2004). In fact these intangible assets may be just as real as other assets in their ability to generate value (Brynjolfsson & Yang, Intangible Benefits and Costs of Computer Investments: Evidence from the Financial Markets, 1999).

The significant growth of intangible assets is clear by the change in tangible and intangible asset structure in modern organizations. According to Ocean Tomo, an intellectual property merchant bank, the average market value of a Standard & Poor's 500 company in 1975 consisted only of 17% intangible assets whereas it has grown up to 80% by 2010 (Ocean Tomo, 2011).

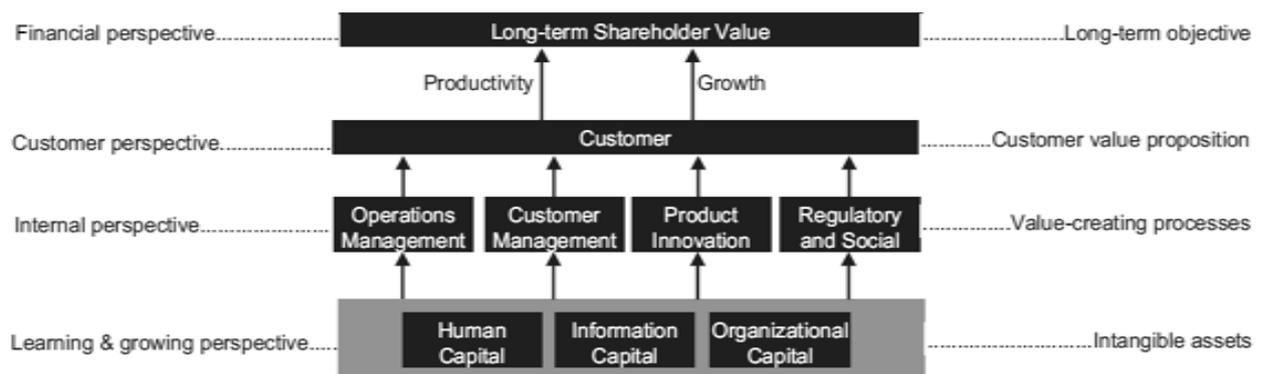
## Strategy Map, a tool to capture the organization's strategy

The concept of Balanced Scorecards was introduced in 1992 to understand value creation through the measurement of the organization performance in four perspectives (financial, customer, internal process and learning and growth).

But to capture the organization's strategy in a visual form – to facilitate communication and discussion of the company strategy as it describes how an organization creates value for its shareholders, customers and/or citizens – Kaplan and Norton developed Strategy Maps (Kaplan & Norton, STRATEGY MAPS - Converting Intangible Assets Into Tangible Outcomes, 2004). These maps provide “a visual framework for an organization's strategy – how it intends to create value” (Kaplan & Norton, STRATEGY MAPS - Converting Intangible Assets Into Tangible Outcomes, 2004, p. 2) and they clarify all cause-effect relationships between the same four perspectives of Balanced Scorecard so that an effective strategy can be developed and then optimized over time (Kaplan & Norton, STRATEGY MAPS - Converting Intangible Assets Into Tangible Outcomes, 2004).

Kaplan and Norton developed a standard template to provide “a common framework and language that can be used to describe any strategy” (Kaplan & Norton, Having Trouble with Your Strategy? Then Map It, 2000, p. 2).

**Figure 2:** A simplified Strategy Map (Kaplan & Norton, STRATEGY MAPS - Converting Intangible Assets Into Tangible Outcomes, 2004)



Reading the map “from bottom to top, the template shows how employees need certain knowledge, skills, and systems (learning and growth perspective) to innovate and build the right strategic capabilities and efficiencies (internal process perspective) so that they can deliver specific value to the market (customer perspective), which will lead to higher shareholder value (financial perspective)” (Kaplan & Norton, Having Trouble with Your Strategy? Then Map It, 2000, p. 5).

## The creation of value from intangible assets

According to Ward and Daniel, “IT, of itself, delivers few benefits. It is the complementary business and organizational changes that produce the majority of benefits” (Ward & Daniel, 2006, p. 212). Brynjolfsson and Yang, based on empirical evidences, state that up to nine-tenths of the costs and benefits of computer capital are embodied in otherwise unobserved intangible assets (Brynjolfsson & Yang, Intangible Benefits and Costs of Computer Investments: Evidence from the Financial Markets, 1999).

Intangible assets are very important because of their ability to generate value. According to Kaplan and Norton, for this to occur they must be adequately aligned with the organization strategy and integrated programs must be undertaken to enhance all intangible assets in a coordinated way.

Hughes & Morton's research show that the "productivity gains and competitive advantage to be gained from IT lie not in the technology per se but in the way that assets such as organizational processes, embedded know-how, people skills and new organizational structure innovations all can lead to new products and processes creating further sources of sustainable competitive advantage"(Hughes & Morton, 2006, p. 52).

Intangible assets can be grouped into three main categories: Human capital (the skills, talent, and knowledge that a company's employees possess); Informational capital (the network, databases, information systems, and infrastructure of the organization); Organizational capital (culture of the corporation, leadership of the company, how aligned the employees are with the strategy of the organization, and the ability of the employees to share knowledge) (Kaplan & Norton, STRATEGY MAPS - Converting Intangible Assets Into Tangible Outcomes, 2004).

### **The role of the Employee Portal**

Intranets, central document repositories and knowledge databases are important information capital assets and perform an important role in the corporation strategy when used effectively (Armitage & Scholey, 2006).

These tools are essential to promote communication, collaboration and sharing information within the organization(Urbach, Smolnik, & Riempp, 2009), they contribute to the corporate performance improvement and they seek to improve the ability to deliver the right information to the right people at the right time(Stancich & Curry, The intranet - an intrinsic component of strategic information management?, 2000).

But to be qualified as a source of sustained competitive advantage they must add value to the organization, must be rare, inimitable and non-substitutable (Gomes, et al., 2012 referring to Barney, 1991). Therefore to evaluate the intranet as a strategic tool, its current and potential contribution to the organizational business strategy must be analyzed (Stancich & Curry, The intranet - an intrinsic component of strategic information management?, 2000, p. 262).

Stancich and Curry, conclude that "to obtain maximum value from an intranet, both the 'soft' cultural issues of information sharing and change in work processes must be addressed alongside the 'hard' systems issues of managing the intranet as an information system and a business resource"(Stancich & Curry, The intranet - an intrinsic component of strategic information management?, 2000, p. 255).

In Jassim (2002) the author supports the importance to ensure top management commitment and sponsorship, as well as evidences that one of the sources of competitive advantage is the employees and it really depends on "their ability to generate commitment and trust, communicate aspirations and work in complex relationships"(Jassim, 2002, p. 1).

"Information and the way it is used can sustain a competitive edge in business but there must be a shift in the perception of time spent looking for learning and best practice as unproductive; willingness has to emerge to foster a networking, information sharing culture, which inevitably has to be a part of organizational culture"(Stancich & Curry, The intranet - an intrinsic component of strategic information management?, 2000, p. 250).

Therefore the implementation of intranets must come with an adequate change in culture, behaviour and processes. And for that to occur, change management initiatives, top-down commitment and frequent examination are critical.

Before undertaking the path of researching and understanding how Intranet adds value to the organization, becoming a source of sustained competitive advantage, it's worthwhile setting the standards considering the terms that are used in this field.

It is common understanding among academic through the evidence of the reviewed literature (Gralla, 1996; Blackmore, 1997; Greer, 1998; Stancich et al., 2000) that Intranet can

be defined as an internal network that uses Internet technologies and standards and that is accessed internally by authorized users to share information and knowledge.

According to some known maturity frameworks (Gartner Research, 2010)(Razorfish, 2008)(Forrester Research, 2010) Intranet evolved to Portals and they are now much more complex solutions serving other organization objectives.

One of the first definitions of a portal in the corporate context appeared in a Merrill Lynch report. In this report Shilakes & Tylman, consider a portal was “applications that enable companies to unlock internally and externally stored information, and provide users a single gateway to personalized information needed to make informed business decisions.” (Shilakes & Tylman, 1998, p. 8).

According to Urbach et al. (2009), following other authors, to identify some of the main functionalities that incorporated portals and made them more complex and integrated tools. And they say “enterprise portals have evolved from low-end intranets into highly integrated IS. Today, such portals enable the integrated support of information, communication, applications, and business processes” (Urbach, Smolnik, & Riempp, 2009, p. 2).

In terms of their target user group (or audience), enterprise portals can be classified as supplier (or business partners), customer or employee portals (Forrester Research, 2008) (Urbach et al., 2009 following Riempp, 2002) (Gartner Research, 2008).

Sugianto & Tojib say employee portal “uses web-based interface to access personalized information, resources, applications, and e-commerce options” that employees can access through a network connection. These portals “are provided with relevant proprietary information displayed in a password-protected setting” (Sugianto & Tojib, 2006, p. 240).

The role of the employee portal has become crucial in many organizations, especially because they integrate information, tools and business applications and processes (Urbach et al., 2009 following other authors) and as a tool that drives corporate strategy, improving teamwork, establishing a communications strategy and improving employees career development, training and flexibility(Stancich & Curry, The intranet - an intrinsic component of strategic information management?, 2000). Therefore, we’d like to focus our analysis in Employee Portals.

## **ICT investments management**

It’s common understanding the difficulty to identify the Return on Investment of ICT projects, especially because the majority of benefits are intangible.

Intangible assets “aren't easy to measure, so managers often pay far less attention to them than to tangible investments like plants and equipment, but these capabilities give investors confidence in future earnings”(Ulrich & Smallwood, 2004, p. 119).

In ICT projects, networks, computers and software are just a small part of the entire implementation costs and it’s the complementary investments that deliver the majority of benefits (Ward & Daniel, 2006). Brynjolfsson and colleagues say that “successful projects require enormous management attention, worker training, and changes in seemingly unrelated areas of the business” (Brynjolfsson, Hitt, & Yang, Intangible Assets: Computers and Organizational Capital, 2002, p. 9).

It’s consensus among academics and practitioners that ICT investments should be carefully justified, measured and controlled (Milis, Snoeck, & Haesen, 2009) but a surprising percentage of enterprises failed to adopt fundamental best practices around portal sponsorship and governance and despite increased pressure to justify portal investments, a remarkable 91% of companies surveyed by Forrester Research report they do not measure or do not know if they measure the returns on their portal investments(Forrester Research, 2007).

“Research strongly indicates that the feasibility study of capital investments in today’s companies and organizations is mainly based on financial cost-benefit analysis” (Milis et al., 2009 following other authors, p.4).

This might happen because most ICT investment decisions still remain in finance managers and because capital investment-appraisal techniques (CIAT) are well known, understood and practiced (Milis et al., 2009 following other authors).

Forrester Research analysts suggest that exclusively using financial measures has serious flaws: (1) They can have multiple interpretations; (2) They imply a precision that doesn’t exist, because the measures are based on benefits estimation; (3) They often fail to account for intangible benefits; (4) They don’t account for future opportunities; (5) They fail to incorporate risk (Forrester Research, 2006).

Therefore, it is essential to identify all the benefits to perform an adequate Benefits Management.

### **Benefits Management**

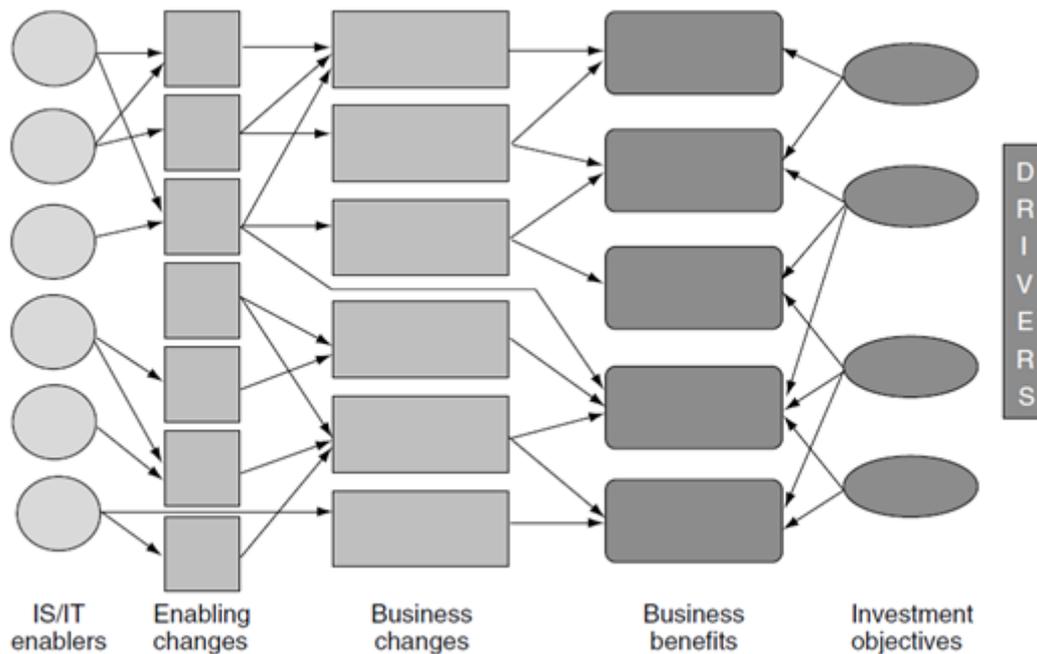
Milis, et al. (2009) say the ratio of tangible to intangible and hidden benefits tends to be much smaller for ICT projects than in other projects. They use the term “iceberg investments” used by Hinton & Kaye, 1996 to speak of the large proportion of the benefits that are “hidden” (Milis, Snoeck, & Haesen, 2009).

The need to carefully justify, measure and control benefits of ICT investments should lead to the need of understanding them. Actually, “not all investments will be able to be justified financially. However, the ability to explicitly measure the benefits is essential to their delivery”. Additionally it is essential to review the benefits that are, and are not, realized from each investment, allowing an organization to increase the value it obtains from all its ICT investments (Ward & Daniel, 2006, p. 356).

“The benefits management approach was developed to enable organizations to improve the value realized from specific investments” but it can also be used “to formulate, manage and implement strategic change programmes” and to “help formulate and implement business strategies”(Ward & Daniel, 2006, p. 383). Lin & Pervan agree that “the process model of benefits management developed by the Cranfield research program can be used as the basis for guidelines on best practice in benefits management”(Lin & Pervan, 2001, p. 15).

The benefits dependency network is a key output from the activity of determining the changes required for the delivery of each benefit and how the ICT development will enable these to occur (Ward & Daniel, 2006)(Peppard & Ward, 2007).

**Figure 3:**Benefits dependency network (Ward & Daniel, 2006)



The development of the Benefits Dependency Network varies, depending on whether a problem-based or innovation-based investment is being considered. Whether the case, the “development of the Benefits Dependency Network not only enables the knowledge and experience of business managers to be applied more coherently to planning the investment, but it also creates a clearer understanding of how different groups need to work together to achieve the benefits they and the organization wish to gain” (Peppard & Ward, 2007, p. 20) and of the changes needed to deliver those benefits (Peppard & Ward, 2007).

“There’s a clear understanding that benefits only occur from active involvement of business managers in defining and owning those benefits and carrying out the changes that deliver them” (Ward & Daniel, 2006, p. 356).

### The importance of change management

Change management initiatives seem to be understood as valuable to ensure project delivery and overall success. “New technology is not transformational on its own” (...) “appropriate use requires considerable complementary investment in people, processes, culture and support” (...) “some or all of these things are usually missing” (Ward et al., 2006 p. 33, referring to a Report by the iSociety, 2003).

The delivery of the majority of benefits from ICT initiatives is due mainly to the complementary investments an organization makes in changes to the way business is performed and resources are deployed (Ward, et al., 2006, referring to Brynjolfsson and Hitt, 2000).

Lin, et al. (2001) referring to Truax (1997) suggest a number of reasons for organizations not getting the benefits they expected. Amongst them, they point out: (1) The “right” benefits are difficult to identify up front; (2) Organizations often have a limited ability to manage change.

Employee portal projects are complex, time and cost-consuming, with a high risk of failing (Urbach, et al., 2009 referring to Remus, 2006). A recent study from Gartner Research presented at the “2012 Portal, Content and Collaboration Summit”, shows that 40% of portal initiatives fail to get adequate adoption to achieve ROI (Prescient Digital Media, 2009) and

the most frequent causes of partial or total failure is the undervaluation of the organizational aspects in change.

The Standish Group research shows that 31,1% of projects will be cancelled before they ever get completed and 52,7% of projects will cost 189% of their original estimates (The Standish Group, 2009). And, although there is some controversy about the Chaos Report figures (Eveleens & Verhoef, 2010), it also shows the opinion of ICT executive managers about the reasons projects succeed. According to their opinion the three most relevant reasons for project success are (1) User Involvement; (2) Executive Support; (3) Clear Business Objectives (The Standish Group, 2009).

“The commitment and involvement of senior management has been identified in many studies as a success factor” (Ward & Daniel, 2006, p. 45) and “in the highly successful projects, existing change management processes were used to ensure that the business maximized the value of the IT investment through associated changes to business practices” (Ward & Daniel, 2006, p. 46).

It’s common understanding among academics and practitioners that adequate change management and sponsorship is very important to the success of undertaken projects, which generate value to the organization. Although there’s still a high percentage of project failure which clearly demonstrates that this management techniques and behaviours are not being adopted or correctly implemented.

## **Limitations in strategy maps**

### **i. Lack of evidence on interrelation between assets**

As said previously, Strategy Maps are important frameworks to communicate strategy and to show how intangible assets align with strategy to create value. Human, Information and Organization capital are presented separated, they are connected with value-creating processes independently and there’s no connection between them.

However there are many academics supporting the resources-based view of the firm where different assets depend on each other to create value – they are interconnected (Marr, Schiuma, & Neely, The dynamics of value creation: mapping your intellectual performance drivers, 2004). Marr and his colleagues believe that “efficient management of organizational assets is impossible without understanding the interrelationships and interdependencies of such assets” (Marr, Schiuma, & Neely, The dynamics of value creation: mapping your intellectual performance drivers, 2004, p. 318).

“IT has great enabling capacity for making other organizational resources more easily accessible and shareable. However, to derive competitive benefits from synergy, firms need to create social context and reciprocity inherent in shared practice” (Bharadwaj, 2000, p. 176).

Brynjolfsson and colleagues conclude about their analysis on intangible organizational and ICT assets complementarity that “the market value of a firm that has leveraged computer assets with organizational investments should be substantially greater than that of a similar firm that has not” (Brynjolfsson, Hitt, & Yang, Intangible Assets: Computers and Organizational Capital, 2002, p. 4). Ulrich (2004) also highlights the need to “recognize the interdependence of capabilities. While you need to be focused, it’s important to understand that capabilities depend on one another” (Ulrich & Smallwood, 2004, p. 126)

To overcome this limitation in strategy maps, and because we believe it’s important to identify and communicate assets synergies, we suggest the introduction of the “asset synergies” concept in the proposed theoretical framework.

### **ii. Lack of evidence on how internal processes positively impact assets**

Ulrich, et al., identify organizational capabilities (collective skills, abilities, and expertise) as relevant intangible assets to the value generation. These capabilities “are the outcome of investments in staffing, training, compensation, communication, and other human

resources areas. They represent the ways that people and resources are brought together to accomplish work” (Ulrich & Smallwood, 2004, p. 119).

Casadeus-Masanell, et al., (2007 p. 5), define business model as “a set of choices and consequences” and identifies intangible assets as consequences and not choices. They also describe virtuous cycles as feedback loops generated by business models dynamics that iterate and strengthen some components of the business model (Casadeus-Masanell & Ricart, 2007).

“Communication influences culture and culture influences communication. The perception of a positive sense of community inside an organization contributes to a positive organizational culture” (White, Vanc, & Stafford, 2010, p. 8).

Another example of this kind of feedback regards to organizational change required to perform efficient knowledge management processes. Creating a culture for knowledge management requires changes to Intangible assets like organization structure, information systems and reward structures (Bharadwaj, 2000).

To overcome this limitation we suggest the introduction of the “virtuous process feedback” concept in the proposed theoretical framework.

### **iii. Internal perspective doesn't consider support processes**

From our literature review, we understand that in the internal perspective, strategy maps only identify the most important processes that create desired outcomes for customers and shareholders. There is no focus in support processes (i.e.: Corporate Communication, HR management, Project Management or Quality Management). As an example, Corporate Communication is known as essential to perform adequate change when implementing Corporate Culture (White, Vanc, & Stafford, 2010).

Organization capabilities like Talent, Speed, Shared mind-set and coherent brand identity, Accountability, Collaboration, Learning, Leadership, Customer connectivity, Strategic unity, Innovation or Efficiency, are “the outcome of investments in staffing, training, compensation, communication, and other human resources areas” (Ulrich & Smallwood, 2004, p. 119).

Social aspects related to organizational change needed to implement knowledge management processes (Bharadwaj, 2000) are managed in organizations' support processes.

To overcome this limitation we suggest the introduction of a “support processes group” in the internal perspective of the proposed theoretical framework.

### **iv. Lack of detail on enabling changes**

From our literature review, we understand that strategy maps don't identify the enabling changes (i.e.: training, new working practices, communication) that are performed. Enabling changes are “... prerequisites for achieving the business changes or that are essential to bring the system into effective operation within the organization” (Ward & Daniel, 2006, p. 109).

Bharadwaj (2000) following Marshal, also highlights the difficulty for Organizations to manage effectively both ICT and social aspects of knowledge management. He states that this “social process requires tremendous organizational Change” and identifies organization structure, control and communication systems and rewards structures as the assets that experience changes (Bharadwaj, 2000, p. 176).

As seen before, the importance of an adequate change management and sponsorship in order to guarantee the success of undertaken projects is common sense among academics and practitioners. Strategy Maps don't answer to this concern.

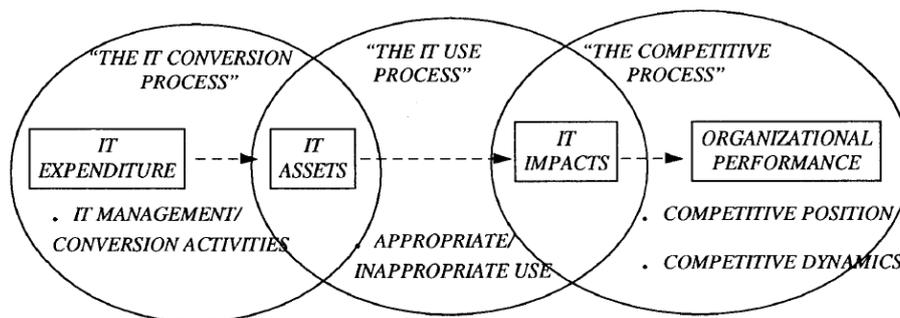
To overcome this limitation we suggest the introduction of the “enabling changes layer” in the proposed theoretical framework.

## Theoretical Framework

It's obvious the importance of using visual representations of strategic intent to understand how organizational resources are used to create value. After understanding what we perceived are Strategy Map limitations, we have reviewed literature regarding other models and frameworks to analyse which and how can they be used to complement Strategy Map.

We've looked at Benefits Dependency Network, Business Model Representations , DeLone and McLean IS success model, Knowledge Assets Map, Organisational Key Resource Map, Success Map, Value Creation Map and Value Network Analysis Diagram(Allee, 2000)(INSEAD, 2005)(Ward & Daniel, 2006)(Casadeus-Masanell & Ricart, 2007)(Marr, Schiuma, & Neely, The dynamics of value creation: mapping your intellectual performance drivers, 2004)(Urbach, Smolnik, & Riempp, 2009). In fact, most of them follow the creation value flux of cause-effect shown in Soh and Markus's Model (Soh, et al., 1995).

**Figure 4:** How IT creates business value (Soh, et al., 1995)



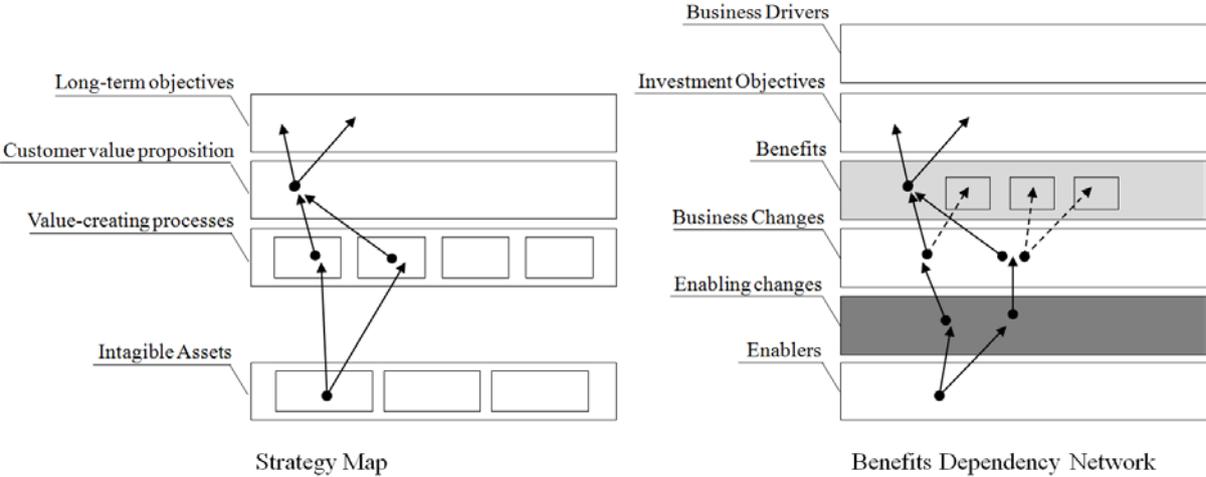
Benefits Dependency Network and Strategy Map are both tools that expose and depict strategic alignment.

“The BM approaches through the benefits dependency network, draw on a map all the objectives, benefits and changes needed from the business drivers and the path to reach them, setting responsibilities, targets and performance measures” (Gomes, et al., 2012 p. 7). Although its main focus is to determine the changes required for the delivery of each benefit and how will ICT assets enable these changes, we believe this tool could be used with Strategy Map complementing it and helping to overcome some of the identified limitations.

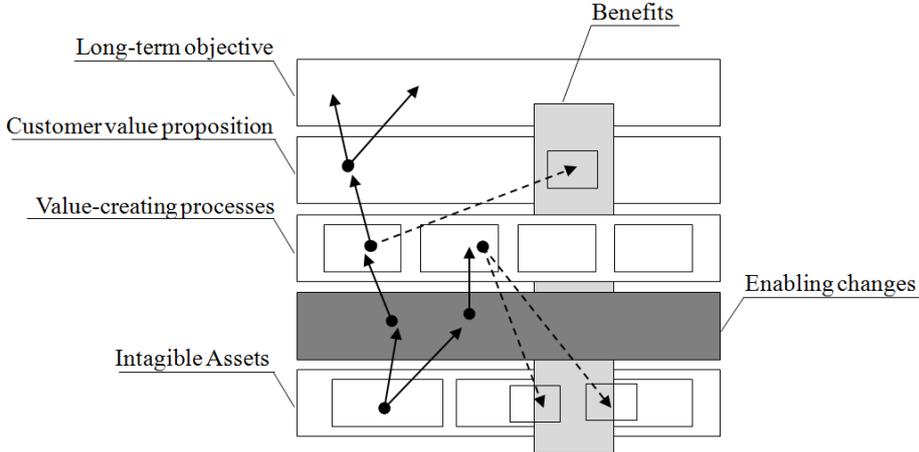
Throughout the reviewed literature, we found examples of business benefits that consist in the strengthening of intangible assets. The value creation through the strengthening of assets like knowledge, culture, loyalty, image, brand, collaboration, custom orientation is identified as benefits by Allee (2000), Bharadwaj (2000) and Prescient Digital Media (2009). Organization capabilities “are the outcome of investments in staffing, training, compensation, communication, and other human resources areas” (Ulrich & Smallwood, 2004, p. 119).

Therefore, “Virtuous process feedback” should be addressed by the transposition of the Benefits Dependency Network layer into the Strategy Map Intangibles and Custom Value Proposition layers. “Enabling changes layer” consists on the addition of a new layer in Strategy Map corresponding to the Benefits Dependency Network enabling changes Layer.

**Figure 5:** Strategy Map, Benefits Dependency Network visual presentation

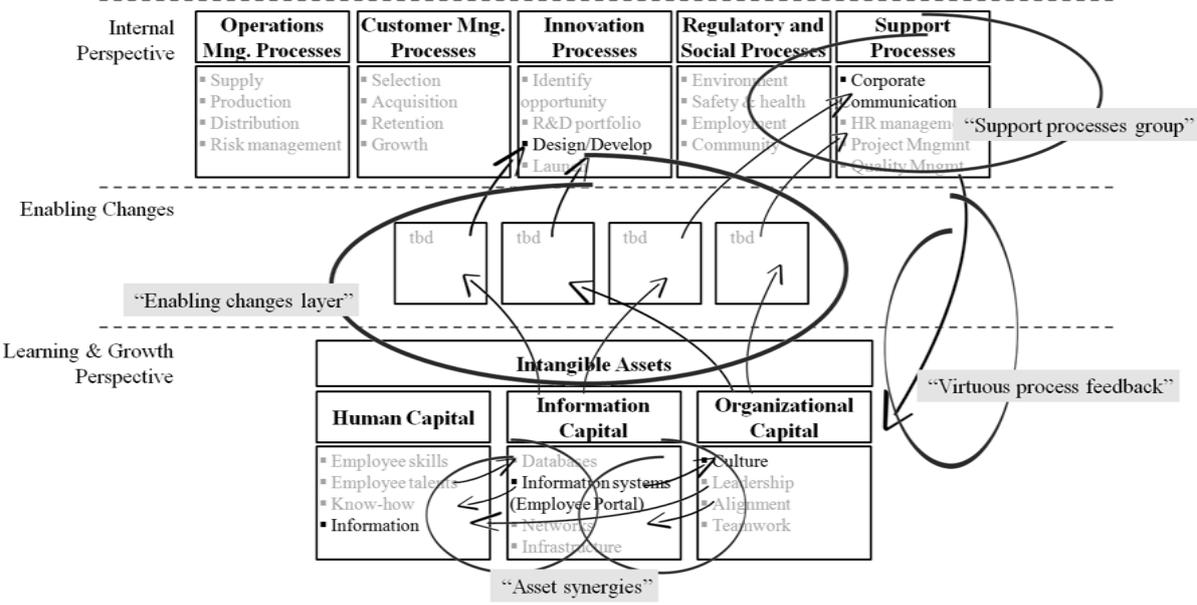


**Figure 6:** Framework visual presentation



“Support processes group” consists in the addition of this process group and the usage of Benefits Dependency Network to identify all relationships. “Asset Synergies” consist on a visual representation of the direct dependences and interrelation between assets.

**Figure 7:** Framework visual presentation addressing Strategy Map limitations



We think that the proposed theoretical framework helps senior managers and decision makers to know and communicate organization strategy, understanding how business value is generated and providing the information needed for a suitable top-down commitment and sponsorship, essential to perform adequate change management and benefits management. During the current research we are committed to prove the usefulness of this framework, via the case study in progress.

**Conclusions**

In this paper we looked into: (1) the importance of intangible assets in the value creation process of an organization, (2) employee portals as relevant information capital assets that perform an important role in the organization strategy, and (3) management concerns on justification, measurement and control of ICT investments.

To conveniently address these matters we developed a framework aimed at helping to understand the cause-effect relationships that generate business value, as well as providing top management and decision makers the information needed for a suitable top-down commitment and sponsorship, essential to perform appropriate change management and benefits realization.

In our literature review, we found significant sources of information regarding strategy maps and their use to communicate strategy. However, we found no evidence of studies on the combination proposed in our theoretical framework.

Strategy Maps are tools to capture organization’s strategy in a visual form, which facilitates communication of the company strategy and describes how an organization creates value for its shareholders, customers and/or citizens. Based on this finding we found that it’s essential to: (1) communicate the way the organization enables changes, (2) identify the processes that generate value through positive impact in the organization intangible assets and (3) clarify the relationship and dependencies amongst intangible assets.

To achieve this goal we’ve combined Strategy Map and Benefits Dependency Network, resulting in what we consider to be a stronger framework aimed at helping organizations to enhance their strategy knowledge, to reduce the risk of investments failure or misuse, and a contribution to capture effective value from them.

## Future work

In this position paper, we have presented a framework that combined Strategy Map and Benefits Dependency Network to help organizations do address concerns related with value creation and change management. This framework is being applied to an on-going Employee Portal case study, as a means to understand how a corporate employee portal contributes for the intangible assets value creation process, and how can we predict, measure and evaluate the impacts generated by those assets

Our research unfolds the application and validation of the framework in the case study above, and will then be extended to other cases. In the near future we intend to follow a quantitative approach towards a statistical validation of the results.

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