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EXPLORING THE DEVELOPMENT OF SOCIAL ALIGNMENT WITHIN AN INNOVATION CONTEXT

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Abstract

There has been increasing attention in IS literature around the technology-business relationship and the concept of social alignment. However, little attention has been given to how or why social alignment should be developed. Further examining the concept this paper explores the development of social alignment within an innovation context. Using canonical action research the study is based within an innovation network. Primarily focusing on four organisations, a lack of social alignment was diagnosed. In particular, it was found the business executives did not fully understand the potential of the new technologies available. An intervention was then planned to facilitate the organisations in utilising a business model framework for developing social alignment by creating a common understanding between the business-technology executives. The study which took 24 months to complete involved over 110 hours of primary data. The results highlight the positive impact of the business model framework in developing social alignment. However, it was found that the business model framework alone is not enough to develop social alignment within an innovation setting. Careful thought should be put into who facilitates the development of social alignment and a shared understanding, as CTO's are often too caught up in day-to-day operations to fulfill the role.

Keywords.Social Alignment, Business Models, Shared Understanding

1 INTRODUCTION

The importance of alignment has been frequently noted (Avison *et al.*, 2004). So much so, it has been viewed as a core component to the theory and practice of IS strategy (Galliers & Newell, 2003). Using a framework set out by Horovitz (1984) for the process of strategic business planning, Reich and Benbasat (1996) converged alignment research into two dimensions of business and IS/IT alignment: (i) intellectual and (ii) social. The intellectual dimension, which was developed from the work of Henderson and Venkatraman (1989) refers to the existence of a high-quality set of interrelated business and IS/IT plans (Reich & Benbasat, 1996; Tan & Gallupe, 2006). However, given that the majority of research is positioned within the intellectual dimension (Tan & Gallupe, 2006), it is evident that the lack of senior executives in the formulation of IS planning and the presence of internal inhibitors to use IS strategically, demonstrates the deficiency with this approach to IS/IT alignment (Kearns & Lederer, 2000). To aid understanding on how to overcome this problem, this paper focuses on the social side of alignment, which has been highlighted as a potential solution (Feeny *et al.*, 1992).

This paper begins by defining the concept of social alignment and subsequently proceeds to highlight the compatibility of the business model as a tool for creating a shared understanding; thus developing social alignment. Furthermore, the paper describes the business model concept as defined by Osterwalder *et al.* (2005) and in particular notes the untested proposition by the authors, which puts forward the business model framework as a platform for common communication and shared understanding. Justifying the use of canonical action research the paper proceeds to highlight the suitability and relevance of the Industry Led Research Project (ILRP) that bounds the innovation network within which the study is based. In addition, along with the description of the implemented action/intervention, the findings collected from the diagnosis and evaluation stages of the research

methodology are outlined and analysed. Finally the findings are discussed highlighting the main conclusions from the study.

2 THEORETICAL GROUNDING

2.1 Business Models

The use of the term 'business models' within academic literature became particularly noticeable during the dotcom era (Osterwalder *et al.*, 2005). This association has been explained by the business model concept taking a central role in describing how organisations should compete in the digital economy (Lee, 2001; Seddon *et al.*, 2004). This link is further supported by views that Internet technologies have challenged conventional methods of value creation and also generated a wide knowledge gap between IT developers and organisational stakeholders (Schmid, 2001; Gordijn & Akkermans, 2001). However, persistent confusion over the domain during the period earned it the label of being the "most *discussed and least understood aspect on the web*" (Rappa, 2001).

Since then a strong vein of research has developed around using business models in communicating the "core logic", "business system" or value creation within an organisation (Linder & Cantrell, 2000; Petrovic *et al.*, 2001; Auer & Follack, 2002). More process-oriented definitions declare that a business model is a "story that explains how an organisation works" (Magretta, 2002) and the first step in gathering requirements for business information systems (Gordijn & Akkermans, 2001). In addition to these broad comprehensive descriptions, there has been an accumulation of business model definitions detailing its primary components and possible interrelationships (Pateli & Giaglis, 2003). One such example is the highly recognisable definition given by Timmers (1998), stating that a business model is "*an architecture for the product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for the various actors; and description of the sources of revenues*".

However, like the definition stated by Timmers (1998), many descriptions of a business model list numerous components which has nullified their attempts to clear confusion and inversely added to the ambiguity around the domain (Pateli & Giaglis, 2003). As a result, more recent approaches at creating a universal definition of a business model have incorporated a methodology of synthesising large quantities of past research. In an effort to find the most common components in a business model, two individual studies create a list of components using the criterion that the component had to be mentioned by at least two authors (Osterwalder *et al.*, 2005; Shafer *et al.*, 2005). Between the two studies the framework put forward by Osterwalder *et al.* (2005) has been more widely accepted by the practitioner community. Summarising the framework, Table 1 highlights the nine components, which are grouped by Product, Customer Interface, Infrastructure Management and Financial Aspects.

Grouping	Business Model Component
Product	***Value Proposition*** –overall view of an organisations bundle of products and services
Customer Interface	***Target Customer*** – segments of customers an organisation wants to offer value
	Distribution Channel – various means of an organisation to get in touch with its customers
	Relationship – kind of links an organisation establishes between itself and its different customer segments.
Infrastructure Management	***Value Configuration*** **–** arrangement of activities and resources
	Core Competence – the competencies needed to execute the business model
	Partner Network – network of cooperative agreements with other organisations.
Financial Aspects	***Cost Structure*** – monetary consequences of employing a business model
	Revenue Model – revenue flows through which an organisation makes money.

Table 1: List of Business model components (Osterwalder *et al.*, 2005)

2.2 Social Alignment and Shared Understanding

Evidence has shown that while technology executives view both alignment of business with technology and alignment of technology with business as being very important, non-IS executives only deem the alignment of IS with business planning as being important in gaining competitive advantage (Kearns & Lederer, 2000; Byrd *et al.*, 2006). This is a serious misjudgement, as both types of alignment ensure that senior executives from business and technology give greater commitment to strategic IS resources and gain a strong understanding of each other domains. This results in more effective use of IS resources towards improving organisational performance (Reich & Benbasat, 1996; Kearns & Lederer, 2000). Thus, in order to develop and maintain a mutual/shared understanding between business-IS executives, research efforts began to focus the social side of alignment in the early 1990's (Feeny *et al.*, 1992).

Social alignment is defined as "the level of mutual understanding and commitment to the business and IT mission, objectives, and plans" (Reich & Benbasat, 1996). Further developing their research framework, Reich and Benbasat (2000) divide the social alignment dimension into short-term alignment and long-term alignment. Short-term alignment is defined as the "state in which business and IT executives understand and are committed to each other's short-term plans and objectives". The key factor in determining short-term alignment is the shared knowledge between business and IT executives. More recently, researchers have used the terms convergence, mutual understanding, shared understanding, and shared cognition synonymously to indicated a state where a common ground of comprehension is reached on a certain topic (Johnson & Lederer, 2005). Moreover, with similar emphasis on a shared understanding, long-term social alignment is defined as the "state in which businesses and IT executives share a common vision of the ways in which IT will contribute to the success of the business unit" (Reich & Benbasat, 2000).

With respect to this paper, a number of studies have shown that strong social alignment yields multiple benefits for innovation. Firstly, research has shown strong social alignment has a significantly positive effect on innovation (Jansen *et al.*, 2006). In particular Landry *et al.* (2002) highlighted that marginal increases in social alignment contribute more than any other explanatory variable in increasing the likelihood of innovation in organisations. In addition, Jansen *et al.* (2006) discovered that managers might develop "densely" connected social relations within their organisations to increase its ambidexterity and found that informal coordination mechanisms are more important than formal coordination mechanism for developing both exploratory and exploitative innovation.

Moreover, the findings of Subramaniam and Youndt (2005), found that an organisations social alignment enables its ability to develop incremental and radical innovations. In fact, without good social alignment the knowledge and skill held by individuals had a noted negative effect on radical innovation. Practical implications discourage the employment of highly independent experts who are reluctant to share their ideas with their colleagues, as this is counterproductive. In addition, as specialists within a function tend to have similar backgrounds, experiences and career path opportunities, they usually have a specialised language and perspective that may not be easily understood by members outside their department or research unit (Hutt *et al.*, 1995). However, instead of eliminating specialisation that is necessary for focusing on different elements of the technology or market (Dougherty, 1992), innovation management must build communication bridges or shared knowledge between different departments. In a study done by Mom *et al.* (2007) it was found that information flows from managerial peers positively related to their exploratory activities. From this, numerous unique views of technology can come together to form a vision of how the technology can meet market requirements (Bond & Houston, 2003). Nonetheless, a paucity of such tools that enables clear and shared communication around innovation projects has been highlighted (Christensen *et al.*, 2008).

One of the major aims of alignment methodologies is to get IT and business managers to the same table (Booth & Philip, 2005). This may increase social alignment by increasing the communication between the different departments, however, recent studies that have shown that these communication links need to be frequent to create a common understanding within an organisation (Johnson & Lederer, 2005). Furthermore, it has been known that frequent communication alone is not enough. Using a strategic management quote, "*one can brief a reluctant manager endlessly without accomplishing anything, unless one comes to realize his hidden resistances and strives to bring them up to consciousness in some way*" (Churchman & Schainblatt, 1965). Heretofore, there is a need for a common language of words or symbols that create a positive social influence as different environments, most often than not, use different languages (Reich & Benbasat, 1996). Once this is achieved a synergy of shared knowledge is created (Nelson & Cooprider, 1996), overcoming the problem of having executives on different levels of understanding (Reich & Benbasat, 1996; Bassellier & Benbasat, 2004). Unfortunately, outside the practical suggestions of increased collective encounters (Tan & Gallupe, 2006; Feeny *et al.*, 1992) or formal reporting systems (Preston *et al.*, 2006) there is a scarcity of research in examining the mechanisms and process through which social alignment can be achieved (Cohen & Toleman, 2006).

However, linking the use of business models in developing social alignment, Osterwalder *et al.* (2005) specifically posits "*the business model concept helps increase the mutual understanding between the business and IT/IS domain. It creates a common language and shared comprehension*". However, the Osterwalder *et al.* (2005) paper is purely theoretical and even though the framework has been widely adopted by the practitioner community, there has been no rigorous validation of any of propositions put forward in their paper. As a result this paper focuses on:

> **RQ: Investigating the effectiveness of a business model framework in developing social alignment, within an innovation context?**

3 RESEARCH METHOD

Analysing the different research methodologies, action research stands out as a strong choice as it not only merges theory and praxis but also uniquely "associates research and practice, so research informs practice and practice informs research synergistically" (Avison *et al.*, 1999). In summary "action research strives to marry rigor to relevance by conducting scientific research in the setting of a real world problem". Taking this into account, action research has been deemed as being very suitable for the IS domain as: (i) IS is a highly applied field "almost vocational in nature", (ii) action research is highly clinical and puts the researcher in a helping role, (iii) the aim of action research is to produce highly relevant findings which is an important factor in the significance of IS research (Baskerville & Wood-Harper, 1998). Throughout the twelve different types, canonical action research is the most widely accepted form of action research (Kock, 2004). Using the Susman and Evered (1978) five step model of: (i) diagnosis, (ii) action planning, (iii) action taking (intervention), (iv) evaluation, and (v) reflection, the researcher collected data over a 24 month period.

Another reason why action research was chosen is that the researchers were externally involved in the Industry Led Research Project (ILRP) within which the study is based. This project enabled an existing network of primarily four eLearning firms to gain access to substantial R&D resources. Ranging in size from 20 to 150 employees, the organisations had individual revenues of up to €15 million around that period. In addition, all of the organisations are primarily involved in the industry (compliance and regulation eLearning sector) on a European and/or global basis and are in existence between 10 and 20 years. Their customers primarily involve the pharmaceutical, high-tech, financial and hospitality industries. Starting in 2006 the ILRP partnered the organisations with a research institution, which specialised in Web 2.0 and semantic technologies. As a member of the institution the researcher was able to collect primary data for over 24 months of the project, in which the eLearning organisations faced the technological disruption of Web 2.0. Summarised in Table 2, over 110 hours of primary data was collected from multiple sources and multiple informants using

interviews and participant observation. In order to answer the research question the action taking (intervention) was carried out over six months and involved the researcher demonstrating how the business model could be used as a communication platform. This was done at a number of open days but also on a one-to-one basis with the organisations. In total, 17 semi-structured interviews were undertaken, lasting between 45 – 90 minutes. Participant observation was used throughout the 24 months in gathering data from inter-organisational meetings and open days. Even though the meetings were not as formalised as interviews the researcher was still able to collect data by asking questions or noting points of information that complied with the questions asked in previous interviews. Furthermore, on more than one occasion meetings were conducted over a full business day. Open days also consisted of one to two day events where all of the organisations in the innovation network were invited to one location to discuss current issues and topics associated with the network. Finally, analysis of company/industry reports and press releases that applied to period and organisations in question were also used to triangulate data used in the study.

	Primary Data			Secondary Data	
Company	**Interviews**	**Meetings**	**Open Days**	**Press Releases**	**Company Reports**
Company A	4	1	7	13	0
Company B	4	1	7	6	1
Company C	1	3	6	6	0
Company D	1	2	4	6	0
Research Institution	2	N/A	N/A	N/A	0
Enterprise Ireland	3	10	7	2	5
Total (Total in hrs)	17 (20 hrs)	17 (39hrs)	5.5(56 hrs)	40	8

Table 2: Summary of data collection during the study.

4 FINDINGS

Primarily focusing on the data gathered in the diagnosis and evaluation stages of the action research methodology this section highlights the findings of the study. In particular, the cause and effect of poor social alignment is outlined in the diagnosis section. Furthermore, the use of the business model as a communication platform is evaluated with regard to its impact on social alignment between the business and technology domains of the organisations.

4.1 Diagnosis

While collecting data during the diagnosis stage of the project, it became apparent that the participation of the eLearning organisations was significantly lacking. When the project started it was assumed that the eLearning organisations would become actively involved in developing the innovative technologies researched within institute. However, this was not the case. To encourage participation from the organisations open days were conducted. These consisted of presentations and demos of the research being accomplished. However, after they had taken place there was no observed increase in participation between the eLearning organisations and the institute. Such was the lack of participation, the Programme Director (Enterprise Ireland) felt that after the ten months of the project, the likelihood of any of eLearning organisations commercialising any of the research was exactly same as when the project started.

Analysing why the open days did not work it was identified that all the attendees to the open days were all people involved in the technology side of the organisations. In particular, it was highlighted by the Director of Informatics (Enterprise Ireland) who had the responsibility of overseeing 3-5 similar ILRP's. With in depth experience of such initiatives the Director of Informatics pointed out that "*the typical person that shows up to the open days 2-3 times a year, tends to be the technical people from the companies. That's all well and good and they maybe getting value from it. But at CEO level, in order to keep them supporting their techies ….. it's really important and useful for them to see this is*

how it (technology research) might change how they do things." This in turn "*allows the technical guys the space and the time for them to stay involved in the project"*. This clearly shows that there was a breakdown in communication between the technology and business sides of the organisations. Furthermore, it demonstrates that the business executives did not have enough information to fully grasp how the technological research could potentially impact on their business. As a result they had no reason to commit resources to the innovation initiative.

Originally, the fact that the participants were technologists was not seen as a problem, as it was assumed that they were in the best position to communicate the opportunities back to their counterparts or CEO of their organisation. However, the early open days were dominated by discussions on deep technological topics such as: SCORM (most widespread eLearning standard) compliance, privacy, security and the incompatibility of the new compared to those used in industry. Moreover, the majority of these discussions focused on the immediate obstacles rather than exploring potential opportunities through the new technologies. Furthermore, with all the discussions of the open days focusing on technological issues, very little business issues were discussed. In addition, it was found that even though the attendees found the open days useful when they reported back to their respective managers they got little or no response. Highlighting this fact, one of the regular attendees stated *"the open days have been great but when we go back and report to our managers, they tend to glaze over it"* (R&D Engineer, Company A). This is not surprising as the report would have consisted mainly of technological issues with very little information of the business opportunities being afforded to them by the project. In a sense, the attendees communicated the progress of the project in a totally different language and with information that was not deemed relevant.

Further analysing the communication methods used in the eLearning organisations uncovered a high emphasis on financial analysis around strategic activities and exploring new technologies. As noted by the Director of Informatics (Enterprise Ireland), when creating a vision for the organisation, they usually put it in "*financial terms*". In addition, as noted by the CTO of Company C, communicating the benefit of exploring or investing in new technologies through financial models is often not possible. He stated, "*imagine how hard that is to sell to the CEO*", when explaining a case when he needed to invest in research activities without being able to calculate the financial terms of the activity. In fact there is evidence that each of the CEO's communicated strategies in financial terms. From the perspective of Company A, their strategy was to become a $100 million company. In order to fulfil this vision the CTO saw his role as making the technology as efficient as possible. As stated by the CTO (Company A), "*the technology part of that (strategy) will not be too different from how we do it today……do more of the same better faster*". Furthermore, the CTO clearly noted that "as *long we have a business case to hang around it (technology investment) the CEO isn't too concerned about what we do*". Company D pursued the strategy of monetising any effort across their clients through their services model. This was evident in a meeting with the CTO as he said he would only be able to participate in the project if he was able to demonstrate an "*aggressive return*". In addition, Company B pursued a compound growth rate of 35% and similar to Company D would participate if substantial gains could be financially identified.

4.1.1 Summary of Diagnosis

Summarising the data gathered, it was found that the organisations had a communication breakdown that was impacting on their ability to create a shared understanding and shared vision. In an effort to overcome this obstacle a planned intervention to use the business model concept as defined by Osterwalder *et al.* (2005) was initiated. Consequently, it was predicted that with the business model as a communication platform the technology side would be better able to communicate the opportunities of the project with their business counterparts. In particular, it would allow the CTO's better describe the potential of the new technologies being developed within the institute but also better demonstrate the potential impact of not developing the technologies. This would further enable the CEO's better understand the business potential of the technologies and also get the CTO's to explore aspects of the

new technologies beyond that of immediate technological obstacles. This would in-turn, increase participation in the project and allow the technology to explore new possibilities within the project.

4.2 Evaluation of Intervention

From an overall perspective the intervention and use of the business model was a success. The proceeding open day after the intervention showed a marked increase in participation by all the organisations. Furthermore each of the four firms committed to future participation. Company B wanted to get more involved in mobile devices and creating a future technology roadmap around that area. Company D brought one of their customers to the open day and noted very high interest in commercialising some of the technologies in the institute. Finally, Company A expressed keen interest in the area of new forms of learning assessment. The increased interest from the eLearning organisations was also noted by members within the institute. It was the first time that they felt the organisations had got actively involved in the project. From Enterprise Ireland's perspective they were also satisfied with the results. the Programme Director reflected on the chances of some research being commercialised, and said "*Not that I thought it was impossible but when we started off it was a nineto-one shot and now its still not passed the fifty-fifty mark but is more sixty-forty. But there was a chance that it would have never got off the ground and stayed at nine-to-one*". Also the Programme Director directly stated that we had "*achieved our first objective…now there is more than just an awareness (by the e-Learning organisations) of whats going on*". However, he did also note that the eLearning organisations "we*re still in that firefighting mode … they are still driving their current business and they are all succeeding in that but that's not giving them any bit of time to look that bitfurther down the road*".

Having noted the evidence of success it was important to attribute that success back to the intervention. During a meeting with the Programme Director (Enterprise Ireland) he discussed the reasons he felt were the cause for the increase in participation in the project. Firstly, the Programme Director felt that the business model intervention gained the buy-in from the upper level management of the eLearning organisations. As he stated "*the priority was to open the eyes of the companies…. I think we definitely achieved that*". However, it was noted that this was not done by closing the divide between the technology and business functions but by directly communicating the business value of the technologies directly to them. Furthermore, there is evidence to demonstrate the intervention directly impacted on the participation of the eLearning organisations in the project. The Programme Director felt it "*made it easier for the rest of the open days as they will be supported by their senior executives*". Secondly, he stated that after the intervention many of the "*senior commercial guys*" began to see opportunities in the eLearning market relating to the technologies being developed in the institute. Thirdly, he specifically noted that "*from a CEO level they would have appreciated that you have helped them understand the need for a continuous method for their R (research) along with their D (development)*". Further endorsing the intervention and highlighting its effectiveness, the Director of Informatics (Enterprise Ireland) made the business model a compulsory component of future ILRP's.

Success from the business model intervention was also quite evident within the companies themselves. While interviewing the CTO in Company A he said "*you have the (CEO) all fired up about it (the project) and I don't know what you did. It will make it a lot easier for us to have conversations*" with the institute. He also noted that the CEO was "*quite bullish*" about the project and without the intervention the CEO "*would have struggled to map that (the project potential) back into the realities of what we want to do over the next two years*". Directly after the intervention, Company D saw an innovative opportunity with one of their biggest customers (multinational – over 14000 employees) and brought their Chief Learning Officer from the US to the next open day. This highlighted the fact that senior managers began to see opportunities from the technology and began to take action in utilising the research. This was a very positive result for the project as there was a risk that the eLearning organisations would think the technologies had very little practical applicability. After the intervention, there is clear evidence to show that the CEO of Company C began to take notice of the new shift in eLearning. In a meeting he explicitly stated, "*I am really intrigued in this formal/informal*

learning and it scares the hell out of me a little bit". The CEO also added that he saw "*definite opportunities for companies like us*" within the Web2.0 domain. This is a particular case in point, as it is coming from a company that saw very little value in the new technologies. They firmly believed that their customers would not be willing to pay for extra layers of functionality in their product.

As the evidence suggests there is a strong link between the intervention and the increased participation and innovative behaviour of the firms. However, further evaluation of the intervention shows that none of the eLearning organisations implemented the business model framework as a way of common communication platform for creating a shared vision after the intervention. Investigating why Company A didn't use the business model framework, the R&D engineer found that it did give "*some good use cases on how to apply the technologies*" but for the most part was "*boring*". He further stated that "*it will be easier (to communicate the value) when we get to see pieces of the technology*". At that time the CTO was also having problems in communicating the value of the technologies. In an interview he explicitly stated having a problem in "*getting a better handle on just what is it that you (research institute) are doing that might benefit us*". It was clear he was having a problem with this as he reiterated "*it's hard to tie all this together, unless you have the vision of where it ends up*". Interactive Services were having the same problem. Their CTO was also finding it difficult to tie all the new technologies together to form a business case or vision to communicate to the CEO and customers. He pushed the need to have "*real problems to glue the technology together*". Furthermore, it was deemed that use cases were more appropriate for method for the CTO's to communicate the value of the technologies. As a result, both ThirdForce and Intuition collaborated on generating use cases to aid the rest of the organisations to better see the potential of the technologies and understand how they could implement them in an industry specific scenario. Both companies dedicated a resource to the task and a number of use cases were developed that covered the pharma, financial and hi-tech industries. However, as noted by the Project Leader within the Institute, "*they did not go far enough with the use cases*" and failed to push the boundaries of what was possible. Nevertheless, after these use cases had been developed the organisations were "*able to visualise*" (CEO, Interactive Services) the technologies in an actual real life scenario.

4.2.1 Summary of Evaluation

Outlining the key findings Table 3 summarises the evaluation of the intervention. Above all the business model framework clearly communicated the potential value of the technologies being developed in the research institute, which in-turn gave increased freedom to the CTO's and technology personnel to get more involved in the project. Evidence pointed to increased commitment to the project from the organisations, the cause of which can be linked back to the business model intervention. However, this all resulted from actions taken during the intervention. One of the objectives was to show the value of the business model framework so that the CTO's would utilise it as a common communication platform. However, there was very little evidence that CTO's utilised the business model framework. One of the main reasons was that the CTO's were more interested in understanding how to apply the technologies to current real life use cases rather than exploring the future possibilities. This is consistent with the general modus operandi of the CTO's as they were constantly dealing with day-to-day technological issues.

	Pre-Intervention	Intervention	Post-Intervention
Message	Potential of New Technologies	Potential of New Technologies	Potential of New Technologies
Medium	Financial Models	Business Model	Use Cases
Facilitator	CTO	External Facilitator	CTO
Result	Lack of Understanding by the CEO's	Increased understanding from CEO's	CTO's still found it difficult to communicate the potential value
	Lack of commitment from business executives	Increased Commitment	Opted to communicate through use cases.

Table 3: Summary of Key Findings

5 DISCUSSION AND CONCLUSIONS

As stated by Reich and Benbasat (1996) one of the key influencing factors of social alignment is the type of communication used in the formulation of a shared understanding/vision. However, within the findings the use of financial analysis as a common language created a number of issues between the business and IT/IS domain. The primary issue was that while the CEO's of the organisations used financial analysis to define strategies and objectives, the CTO's primarily discussed technological issues relating to current products. This highlighted the increased effectiveness of the business model framework as a communication platform. However, increased scrutiny of the findings uncovered the impact of the researcher in the intervention as a factor in developing the shared understanding. Yet this was not the sole reason for the observed impact as the research had been involved with the organisations through the open days with little success. This would show that even though the business model framework was not adopted it did increase the impact of the external agent and vice versa.

The findings show that the business model framework clearly demonstrated value of the new/innovative technologies to the CEO's of the eLearning organisations, which in turn increased their commitment to the initiative. One of the key reasons why the business model was more successful in communicating the value of new technologies than the financial analysis methods is that it did not exclude vital information in an effort to oversimplify the potential value. As highlighted by Christensen *et al.* (2008) using financial modelling can exclude the impact of not investing in innovative projects. In line with the research of Chesbrough and Rosenbloom (2002) this study demonstrated that the business model was able to map the financial and technological domains. Furthermore, the study shows that the business model was able to present possible opportunities that could be exploited by the eLearning organisations themselves or their competitors. In doing so the CEO's were able to see the potential of the new/innovative technologies but also the risk in not assigning resources to exploring these technologies. In effect, the findings demonstrate the suitability of the business model as a communication tool between business and technology roles, particularly within an innovation setting. More specifically, the study supports research such as Amit and Zott (2001), which demonstrates the business model as a strong tool in presenting the value created within an eBusiness environment.

Within the findings, the success of the business model intervention in enabling the communication of the potential value of the new/innovative technologies is linked and substantiated through the marked increase in participation by the organisations. However, the key goal of the intervention was to create a common communication platform that would facilitate social alignment in the organisation and support the development of a shared understanding/vision. Nevertheless, the business model failed to become a common communication platform for the organisations. For the business model to become a common communication platform, it needed to be adopted by the CTO's as they were the main connection between the research institute and the eLearning organisations. It has long been known that excellent business/technology relationships within an organisation require the technology representatives to "*promote IT as an agent of business transformation*" and to "*contribute beyond the IT function role*" (Feeny *et al.*, 1992). Moreover, some have shown the inability to do this is at the onus of technology representative of the organisation (Luftman *et al.*, 1999). Yet, this study demonstrated that after the intervention little effort was made in developing a shared vision/understanding, utilising the business model or any other communication platform. Further analysing the success note during the intervention, its main benefit was that it provided a suitable tool that could be used for building a shared vision and understanding through a common communication platform. Moreover, the intervention demonstrated how the business model framework could be used and provided one shared vision for the eLearning industry. The key question is why did the organisations positively respond to the actual intervention but ultimately fail to implement the business model and further develop a shared vision after the intervention was completed?

One explanation can be found by discussing the main difference between the period during the intervention and period after the intervention. The two main differences between these two periods include: (i) the facilitating role of building the vision was not undertaken by either the CTO, and (ii) the industry vision was primarily built using an external viewpoint during the intervention. With regard to the first point, during the intervention the role of building the shared vision was undertaken by the researcher. The aim was that after the intervention this would be continued by the CTO. However, this did not happen. One reason for this is that the role of building a shared vision has been viewed more suitable for person outside of the technology domain. Literature has documented the need of an "*organizational architect*" to work with both technologists and strategists to grow the organisational and technological capabilities needed to build a vision (Sauer & Willcocks, 2002). Notwithstanding the fact that Sauer and Willcocks (2002) do not specify that the role should be performed by somebody external to the organisation. They do advocate the need for a participant that sits outside both the technology and business domains to build a mutual understanding between the two. This would explain the failure of technologists to facilitate the building of a shared vision after the intervention. Furthermore, the findings would suggest that placing the onus on the technologists (CTO's) to build a shared vision (Luftman *et al.,* 1999; Cohen & Toleman, 2006) or placing the onus on both technologists and business executives to understand the issues of their counterparts to build a share vision (Kearns & Lederer, 2003; Luftman & Kempaiah, 2007) is not an optimal solution within an eBusiness or innovation setting.

Furthermore, the second point which highlights the fact that the industry vision built during the intervention came from a viewpoint external to the eLearning organisations is also significant. In particular, external input is not discussed in Reich and Benbasat's (2000) research on the factors of social alignment. Their research primarily focuses on internal communication between the technology and business roles of the organisation in order to build a shared cognitive map or shared vision. However, literature within the innovation domain and specifically around exploring opportunities has noted the need for cognitive diversity. In particular, Gilsing and Nooteboom (2006) highlight the fact that organisations that open up to a variety of insights are more successful than those who did not. Furthermore, they note that cognitive diversity or external input is especially important when an organisation is going from a stage of exploiting current technologies to exploring new technologies (as was the case with the eLearning organisations). In addition, in their model of absorptive capacity Zahra and George (2002) posit the need for social integration mechanisms to build a shared understanding but also the need for external input to feed into that understanding. Again this would indicate that an organisation that needs to build their absorptive capacity or ability to internalise new technologies need external input in building a shared vision.

In effect, this study has shown that the business model acted as a better tool for both codifying external knowledge and integrating it socially than financial languages. However, using the business model as a communication platform alone is not enough to increase the social alignment and build a shared understanding/vision between business and technology, as advocated by Osterwalder *et al.* (2005). The research highlighted that the external agent had an effect on the development of social alignment. This would infer that within an innovation setting, careful thought should be put into the person who is going to fulfil the role of implementing the business model as a communication platform. However, it must be reiterated that the business model framework did have a significant impact as the external agent was involved with the organisations before the intervention with no observed impacts.

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