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# An identification of the current constraints of knowledge business modelling as a strategic decision making tool

## **Abstract**

Business models are widely used and it might be argued, have an important role to play in assisting users to develop, plan and analyse their organisations better. Typically, many business models are however poorly understood and executed by their users. This often leads to inappropriate decision making and the wrong strategic direction being implemented. There are complex and interrelated factors for the poor execution of business modelling, however, some of the key influencing factors include, lack of training, a disassociation of the graphical representation from the narrative, and the lack of formal rules in the use of the business models. Current work has focused on establishing the first principle of novel knowledge business models, where it is proposed that a rules based system, can be employed to deliver stronger and more meaningful outcomes for users. This paper represents a current work in progress and discusses the current constraints on the establishment of knowledge business models, and it also discusses the first experimentation into the development of three-dimensional business modelling as a possible means of overcoming some of the constraints.

## **Keywords**

strategic, modelling, making, decision, business, identification, knowledge, tool, current, constraints

## **Disciplines**

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# **AN IDENTIFICATION OF THE CURRENT CONSTRAINTS OF KNOWLEDGE BUSINESS MODELLING AS A STRATEGIC DECISION MAKING TOOL**

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## **Abstract**

Business models are widely used and it might be argued, have an important role to play in assisting users to develop, plan and analyse their organisations better. Typically, many business models are however poorly understood and executed by their users. This often leads to inappropriate decision making and the wrong strategic direction being implemented. There are complex and interrelated factors for the poor execution of business modelling, however, some of the key influencing factors include, lack of training, a disassociation of the graphical representation from the narrative, and the lack of formal rules in the use of the business models.

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This paper represents a current work in progress and discusses the current constraints on the establishment of knowledge business models, and it also discusses the first experimentation into the development of three-dimensional business modelling as a possible means of overcoming some of the constraints.

## **Key Words**

Business Models, Knowledge Business Modelling, Strategic Decision Making, Process Mapping, Supply Chain Mapping, Strategic Mapping

## **1.0 Introduction**

In principle, business models should offer considerable opportunity in analysing the nature and dynamics of the business environment (Krogerus and Tschappeler 2012, Duncan 2013). However, it has been established that often, many business models are superficially integrated into the analytical process and more often than not, down graded to elementary background art for the narrative (i.e. a “Janet and John” illustration) (Styger 2012). The lack of connectivity between the model and the analysis can place latent risk in the strategic direction of an organisation and potentially lead to poor performance or weaker strategic positioning.

## **2.0 Background**

Initially, a theoretical, first principles, knowledge business model was developed and from it, a series of paper based experiments conducted to establish if a logic or “binary path” (i.e. 1/0 or yes/no) could be defined within the construct of theoretical business modelling. This was proven to be the case and work was then undertaken to establish a conceptual system for the first principles model. However, during the development of the system, it became apparent that there were certain constraints within the process that have an impact on the outcome (solution) derived from the model.

## **3.0 Identifying and Utilizing The Knowledge Pool for Successful Strategic Decision Making**

The conceptualisation and rollout of business strategy is non-linear. This is supported by theories such as realized strategy, multiple levels of strategy (Johnson, Whittington and Scholes 2011 and Rumelt 2011), strategic complexity (Mukherjee 2009) etc. and the rationale behind scenario planning (Lindgren and Bandhold 2003). The process of scenario planning can be mapped in a similar manner to supply or process mapping. It is certainly possible to map strategies post actualisation and it is indeed the principle of many MBA structures (Mintzberg 2004). Importantly, the historical mapping of business strategy provides a knowledge pool of realized and un-realized strategy, and from this pool, it should be possible to identify patterns of successful strategic implementation (for example in a similar way to how the principles of TRIZ were originally defined (Terninko, Zusman and Zlotin 1998)). It should therefore be possible to identify compatible and non-compatible elements or “points of paradoxical decision making” and as such develop solutions based around proven business or strategic rules. These rules are of themselves likely to become standard or modular in design, but success is likely to be established through the order of application of the rules or models.

## **4.0 The Challenge - Moving from Two Dimensional into Three Dimensional Business Modelling**

In many respects, it would appear that most business models are two dimensional illustrations of three dimensional dynamics, where the limitation of a paper environment typically forces over simplification and constraints into the model. By constraining or simplifying the model, knowledge is diluted or distorted resulting in weak outcomes.

Early experimentation in developing three dimensional business models centered around the use of a simple Excel program linked to a visualisation interface. The results typically resembled chemical compound models typically associated with high school science. However, these models also had the core characteristics of non-rational networks (Styger 2009), demonstrating a close association with elements of network theory (Hun and Benbasat 2012). The identification of networks within the dynamics of the models indicated that a more complex interrelationship typically existed and needed to be mapped if accurate outcomes were to be derived from the model.

## **5.0 An Hypothesis of Cross-linking Business Model Elements**

Early experimentation had demonstrated a phenomena whereby three dimensional business models resembled three dimensional chemical models. A question then developed around the possibility of “cross-linking” the elements of three dimensional business models together to generate “strategic

compounds”. For example within the context of the “Strategy Core” model (see Figure 1), could the question “how to compete” be linked to the question of “who is the customer” and in so doing, could a deeper understanding of the dynamic be established.

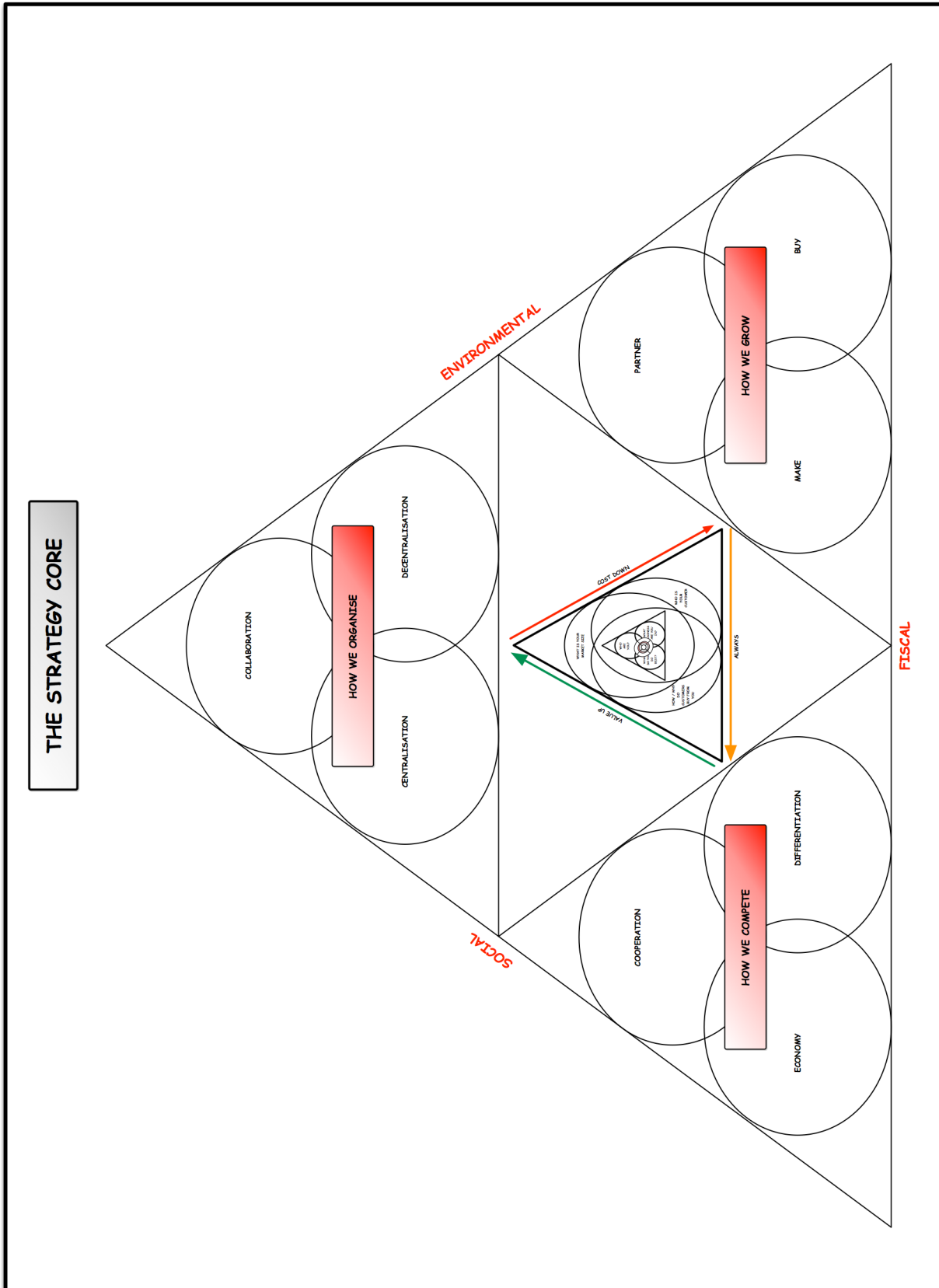


Figure 1: The Strategy Core

## **5.1 A Scenario of Cross-linking**

A scenario of how to compete, cross-linked to who is the customer, might be applied in the civil aviation industry where for example, there is significant collaboration between airlines on code and route share. This collaboration is perceived to offer the maximum coverage in terms of destination for the lowest possible capital cost (i.e. a theoretical near perfect application of of the core principles of the Quality Triangle - cost down for the provider and value up the recipient). However, when this action is cross-linked to the question “who is the customer, and in this case “why do they buy from you”, a different and conflicting outcome may emerge, if it is discovered that the customer, buys because of the experiential nature of a particular airline and does not, on principle, ever travel with the partner airline.

In this scenario, the act of offering the customer more for less (cost down / value up) has ignored the actual reason why the customer uses the service provider and effectively eliminated a current paying customer from future transactions.

## **6.0 The Concept of Non-compatible Elements**

From the above scenario it may be concluded that there will be elements of the business model that will not be compatible. In the case of the scenario of the airline code share, this is in fact the case, and it is often the case in many businesses, where conflict of cost and service, or at least the manifestation of cost and service to the consumer, is driven into a paradox best described as the classic “best quality / lowest price” marketing mantra of many lacklustre organisations.

If there are likely to be non-compatible elements, then the question arises regarding the possibility of developing a rule or code to identify possible conflicting elements early in the analysis stage and thereby develop more robust strategic decisions (i.e. what alternatives are there to code share if this is in conflict with the customers decision to continue to buy).

## **7.0 The Effect on End-to-end Integration of Suppliers and Ongoing Strategic Decision Making**

The end-to-end integration of supply networks has long been the holy grail and in some respects the Achilles heal of business. There have been many well publicised failures in this respect and in many cases the failure of end-to-end integration can be attributed to non-compatible elements within the core culture and structure of the collaborating businesses. It is therefore argued that early identification of non-compatible elements within partner organisations is essential in establishing robust supply networks and as such, accurate and predicative business models are essential. If Knowledge Business Modelling can provide the basic elements or building blocks of business strategy, then, can end-to-end integration eventually relate to the equivalent of business finding “strategic entropy” within their supply networks as multiple scenarios are calculated rapidly within the model and paradoxes are eliminated from the network.

## **8.0 The Current Constraints on Knowledge Business Modelling**

By understanding and analysing the strategic knowledge pool it should be possible to predictively model business strategy. However, three constraints have been identified that need to be overcome if this goal is to become manifest, these are:

- The move from two dimensional business modelling into three dimensional business modelling
- Identification of a suitable software platform for business modelling
- A change in the current thinking concerning predictability and business modelling

### 8.1 The Move from Two Dimensional Business Modelling into Three Dimensional Business Modelling

The realisation that business modelling needed to move from the two dimensional to a three dimensional construct occurred during the process of cross-linking the extended quality triangle to other aspects of the Strategy Core model. The Strategy Core represents the original two dimensional model. However, it became apparent that there was considerable interaction between the central Quality Triangle element and outer elements of the model, and indeed and somewhat inconveniently interaction with the outer elements but not always via the core.

The fact that the outer elements needed to interact without going through the central element (The Quality Triangle) resulted in conflict within the two dimensional model and it was not possible to solve the problem by repositioning elements within the model. It became apparent that the Strategy Core more resembled a flat pattern array than it did a finalised structure (Yang K, Zhao Z an Liu Q 2012). As such, it was decided to “assemble” the flat pattern into a three dimensional structure with the central (Quality Triangle) element forming the base of the structure. The resulting structure thus allows interaction between the elements without conforming to all elements at the same time (this is illustrated in Figure 2)

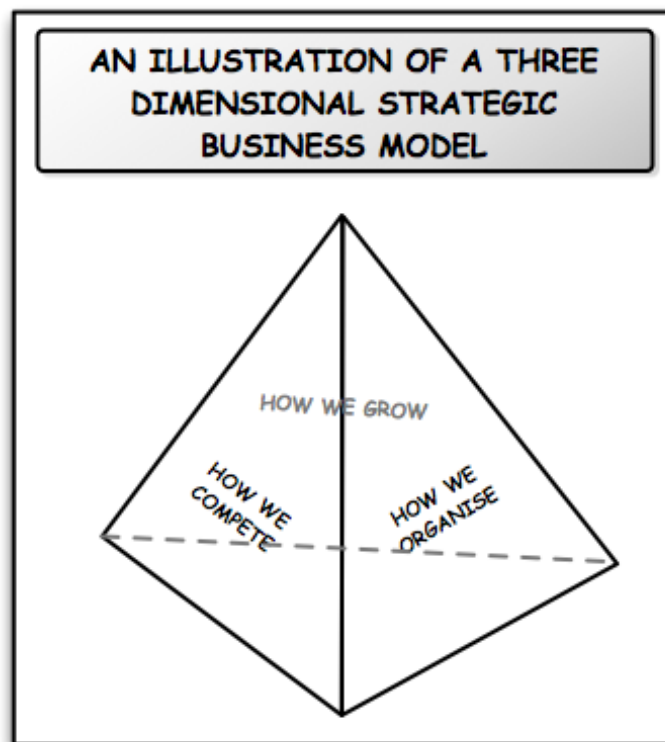


Figure 2: An Illustration of the Three Dimensional Strategic Decision Making Model

### 8.2 Identification of a Suitable Software Platform for Business Modelling

Early experimentation in the use of software for business modelling has focused on the use of a simple Excel program linked to a visualisation interface. Whereas this has demonstrated the principles of three dimensional business modelling, it will not be suitable moving forward. Likewise, most CAD packages are strong in providing the three dimensional representations, but they do not necessarily have the knowledge capability necessary for this work moving forward. It is therefore likely that a KBE type system written around a framework of business rules will be utilised for this work and early investigation is being undertaken to identify a suitable system.

### **8.3 A Change in the Current Thinking Concerning Predictability and Business Modelling**

Remarkably, one of the greatest challenges moving forward is the need to change current thinking regarding business models. In short there is a need to move away from the “Janet and John” illustrative focus of business modelling and move into an expectation that business modelling is almost “Business Blueprinting” or “Business Simulation” (i.e. the representative intent of strategy). A change of this order is likely to come, over time, from the methods and materials taught in business schools, however this might take some time due to the slow nature of institutional change within many of these establishments.

### **9.0 Conclusions**

Seeing the model, or chain of models, as a “map” (i.e. two dimensional) does not typically add real value and often the diagrammatical representation does not portray the actual dynamic of the case. It is vital to view the “model” (i.e. a three dimensional entity) and effectively ‘fold up’ the flat pattern to provide the representative form.

Whereas the concept of three dimensional modelling might appear to be logical and indeed accepted in many disciplines, it has however been almost ignored in the business community, due in many respects to the standard communication and planning techniques that have often gone unchallenged and thus become rigid and normalised (i.e. institutionalised).

Where as it has long been argued (typically by MBA students) that there is little value in analysing the strategic models of companies and then disregarding the analysis as the educational process moves on to the next module, the legacy of these exercises is a knowledge pool of patterns of successful strategy, that might in turn lead to the development of optimum strategic rules for business.

### **Recommendations for Further Work**

Whereas this paper represents a current work in progress, a number of recommendations can be made, these include:

- Widening the debate around the effective use and methodologies of business modelling
- Verifying classical models and establishing rules around their use and application
- Further investigation in the the interrelationship of common business models

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