# Is there a place for academic theory in the real world?

**Diane Norman**  **David Scadden**

UCOL@Wairarapa
P O Box 698
Masterton, NZ

Research last year into Information Technology Strategic Planning, led the authors to form a conclusion that there was a reason that IT Strategy was not a commonly employed tool in many (perhaps even most) small to mid-sized New Zealand businesses. It seems all that was espoused in academia and business best practice appeared to be high-brow, complex models more suited to large businesses and corporations.

Being practical by nature and always with the goal of killing two birds with one stone, we investigated a number of IT strategic models with the aim of finding one which fitted the electrical contracting industry in New Zealand and more specifically, a typical small to mid-sized company in the Wairarapa.

Our journey to an eventual strategic plan, one able to be implemented, carried us through the examination and dissection of first, several, then finally, two models. One from the UK, Construct-IT and the other from the USA, presented by the US Electrical Contracting Foundation through their National Electrical Contractors Association (NECA).

The subsequent result was a hybrid of the two, the process determined mainly by Construct-IT with NECA providing the practical element and filling the other vital areas.

However, the real test was to apply this new hybrid to a fairly typical real-life New Zealand business, one representative of 96% of the country's businesses.

It did in fact work. The process was logical, workable and we decided a business owner with a good allocation of common sense would be able to utilise this tool without requiring a tertiary education. The real value in using the model though, was that the foundation and depth provided by academic theory was not discarded or ignored. The theories were the backbone of the model and therefore became accessible to ordinary business owners, but of more benefit to those visionary, willing and able.

## Keywords

IT strategic plan, New Zealand SME, strategic planning lifecycle

# 1. INTRODUCTION

While this paper has academic assessment as its origins, the focus was very much of a practical nature. An IT Strategic plan was created for a local electrical contracting business, the process of doing so allowing us to explore the application of theory to real-life.

We have investigated whether New Zealand has a 'typical' business, being aware that small businesses are prevalent here. The actual statistics are quite stunning, revealing that small to mid-sized businesses (SMEs) make up 96% of the New Zealand business community. In this section, we have explored the use of IT in New Zealand businesses as reported by Statistics New Zealand.

The process of researching a model for the IT strategic plan quickly showed that there was a vast distance between the requirements of a small business, and academic and business best practice models more applicable to large businesses and corporations. The more common models are identified and investigated as to their suitability to our business.

The strategic planning process at the base of most IT strategic planning models is more closely analysed in the two models selected as being worthy of further scrutiny. Construct-IT, from the UK, and the model commissioned by the US Electrical Contracting Foundation for NECA have a practical base and a comparison reveals that a combination of the two may be useful. We then proceed with developing a hybrid based on the Construct-IT model but with reality checks to the NECA model.

From our experience of using the hybrid model, we outline some recommendations for SMEs in creating an IT Strategic Plan. These range from the composition of the Strategic Planning team to the detail of business analysis necessary, to the role of future fantasies in strategy identification.

This process has been constantly viewed with a double perspective, firstly of an academic performing research and secondly, a business owner eager

to follow through an often neglected process logically, practically and without masses of extraneous detail or obscure questions. The paper's approach reflects this dual purpose, no more so than in the final section where reflections of the journey are analysed from both viewpoints.

# 2. BACKGROUND

A small Masterton electrical contracting business, Strobe Electrical Contracting Ltd, of ten employees beginning its ninth year of operation was facing the consequences of another growth spurt. A decision had been made to join a national franchise, Laser Electrical, bringing considerable advantages while allowing retention of individual autonomy. In addition, a further increase in staff numbers over the previous six to eight months meant that changes to the current company infrastructure were timely. Business process restructuring was underway but in need of fine-tuning and enhancement. Several ideas were taking form on the wish list and needed investigation. The most important resource required for this process, time, was extremely limited.

One of the company directors was enrolled in a Post Graduate Diploma and about to begin research into Information Technology Strategic Planning, and thus another opportunity to combine study time and a business mission was realised.

## New Zealand Businesses Statistically

According to Statistics NZ, as at June 2002, 86% of New Zealand businesses employ between 0 and 5 people, accounting for 24% of the workforce. Overall, Small and Medium sized Enterprises (SMEs) comprise 96.8% of New Zealand business with these businesses employing 19 or fewer full time employees (FTE). Many SMEs in the agricultural sector are not included due to the low or nil financial contribution they make. This makes the actual percentage of SMEs in the economy even higher than the figures show. Since 1994, 180,000 new jobs have been created in the SME sector with 5 or fewer employees and this is also the sector utilising the greatest number of part time employees (33 percent) (Ministry of Economic Development, 2003) (SME Profile, undated).

The use of IT by private businesses as publicised in a Statistics New Zealand report in June 2001 reveal that 88% of NZ businesses regularly used a computer. 44% of the businesses were connected to a local area network, and four out of five used the Internet. Only a third of the businesses operated a website and only 11 percent of these had the ability to take online payments. Eighty percent of businesses used IT to complete their accounts and 60 percent used IT for business data processing. (Statistics New Zealand, 2002)

The comprehensive NZ study by Firm Foundations of over 3000 small and medium sized businesses showed that over half have no strategic plan, or if they do, it is hopelessly out of date. This compares with 93% of larger businesses having well established, formal planning processes (Francis Consulting, 2003).

# 3. DISCUSSION OF MODELS

We researched a number of strategic models that have been developed since the 1990s. Most appeared to have a common basis and consisted of the following steps:

- Step 1: Mission and Vision
- Step 2: Positional Analysis
- Step 3: SWOT
- Step 4: Strategy
- Step 5: Written Plan

Dr. Jack Callon in 1995 poses the following model, illustrated in Figure 1, which shows the process and flow through the Business Strategic Planning model.

T.E. Ambler's 1999 model shows the flow and steps required for successful Information Technology Strategic Planning and can be applied across a range of business sizes and sectors. Figure 2 shows Ambler's double-check of alignment of defined strategies to the company mission and goal.

The result of these steps is an outline of the company's strategic direction and may look something like this:

- What we want to do     strategy, defined by the company leadership

- How we will do it   tactical, devised by company management (goals)

- When and where   operational, performed by operation or administration (objectives)

The alignment of IT strategy and business strategy is represented in the Strategic Alignment Model
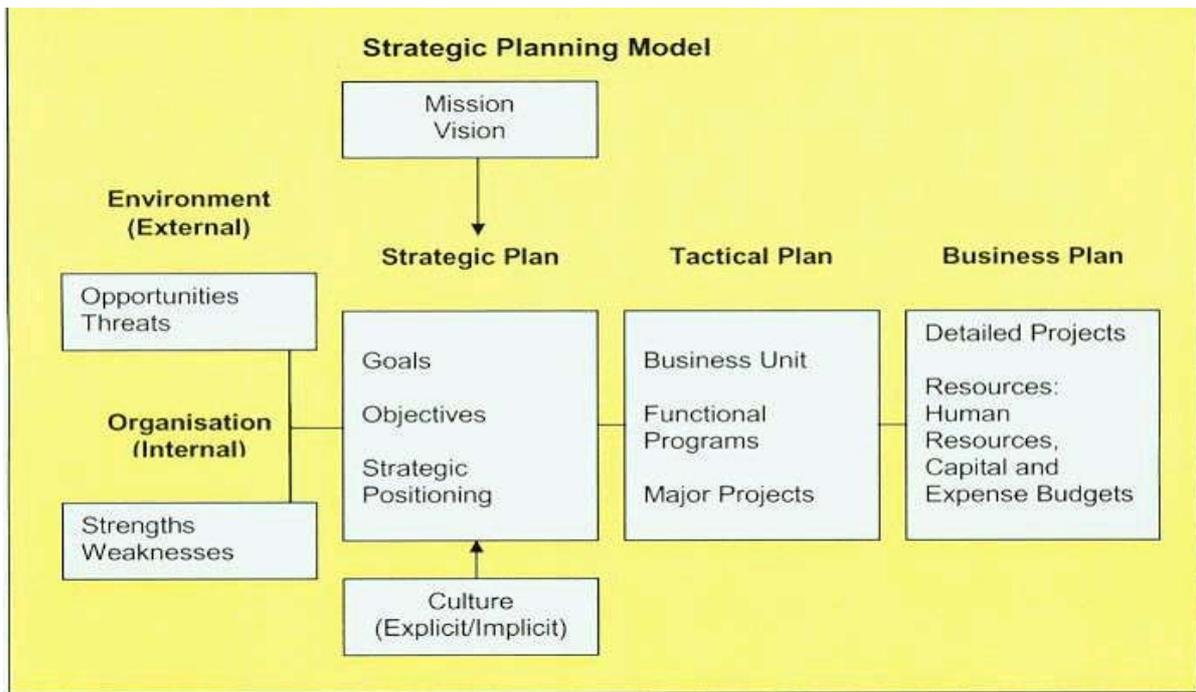
**Figure 1: Strategic Planning Lifecycle. (Callon, 1995)**



**Figure 2: The Simplified Strategic Planning Model (Ambler, 1999)**

by Henderson and Venkatraman (1993), shown in Figure 3, and can be used as a tool by businesses when examining the relationships between business and IT.

Extrapolating two of the four alignment perspectives, as presented in Figure 4, enables a SME to ensure that the IT strategies under consideration fit the direction of the company and is especially critical when investigating the strengthening and diversification of market position.

In the Competitive Potential Perspective, the IT strategy is the driver influencing Business Strategy and impacting on Business Infrastructure. This reflects how new and emerging technologies influence business strategies, thus creating competitive advantage. The Technology Potential Perspective has Business Strategy as the driver, impacting on IT and consequential implications for the IT Infrastructure.

Luftman, Lewis and Oldach's (1993) view of the Strategic Perspectives demonstrates the critical importance of considering IT in business strategy planning:

To obtain both strategic advantage and competitive advantage using information technology, IT must be repositioned where it can play a critical role in strategy formulation and implementation. (Luftman, *et al,* 1993). While acknowledging the validity of the previous models, the complexity and associated language of the process reduces its likelihood of adoption by a SME.

The authors then searched for recent IT strategic plans designed for small businesses, and especially New Zealand businesses. The findings were bleak, no significant new IT strategic planning tools could be found that have been released in the past year, for large or small businesses. Some research has been conducted for NZMilk by researchers from the University of Canterbury and Waikato (Cragg, McQueen, 2002). This research concentrated on the IS strategies at NZMilk, which is the marketing arm of Fonterra and encompasses brands such as
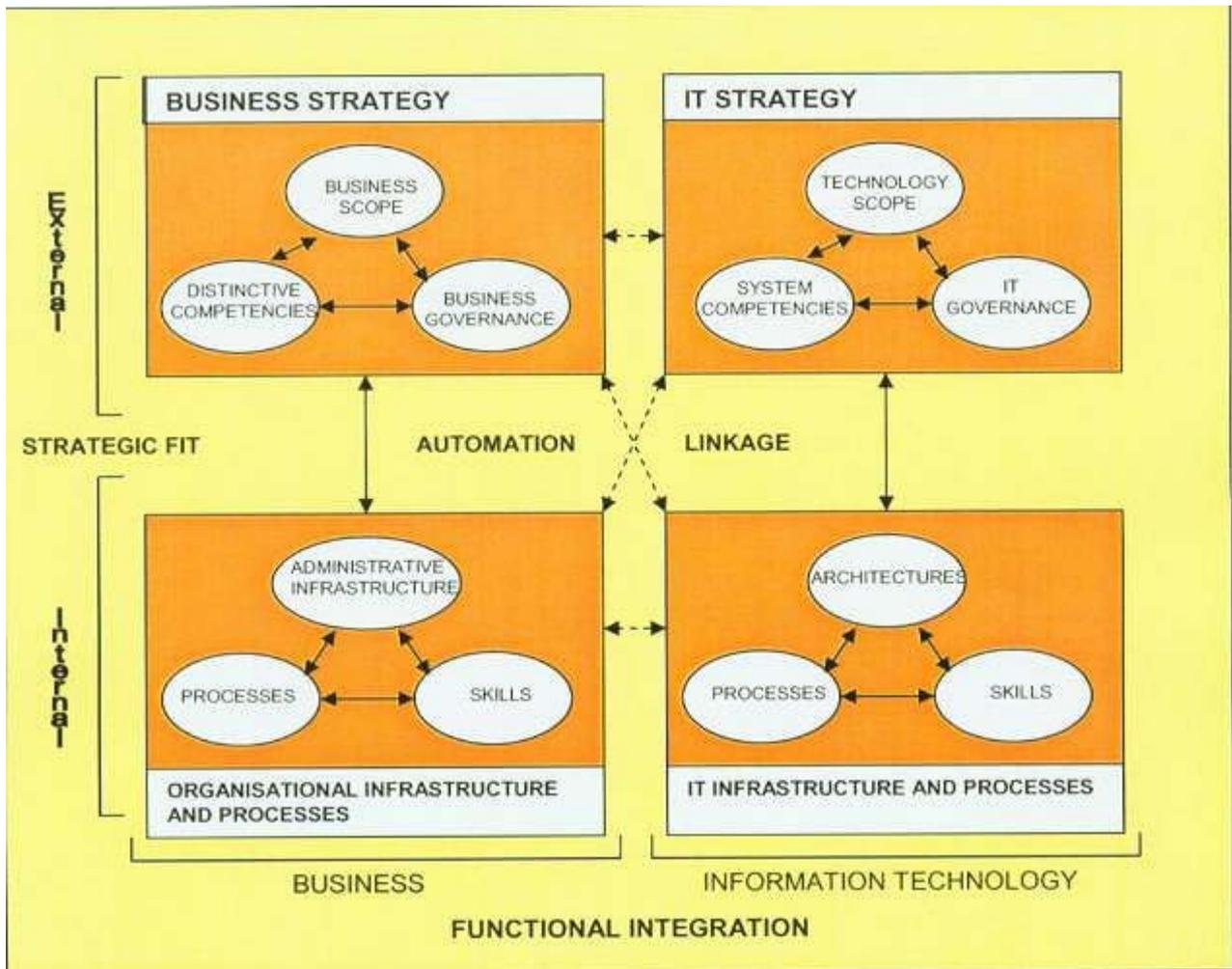
Figure 3:  Strategic Alignment Model (Henderson and Venkatraman, 1993)



Figure 4:  Strategic Alignment Perspectives (Henderson and Venkatraman, 1993)

**Table 1: The Strategic Planning Process (Federle and Rowings, 1998)**

| BASIC ELEMENT | PURPOSE |
|---|---|
| Organisational Mission | addresses why |
| Strategic Analysis | addresses what |
| Strategy | addresses where |
| Long-term Objectives | addresses when and how over 3 to 5 years |
| Integrated Programs | seeks synergies between objectives |
| Financial Projections | incorporates reality |

Fernleaf, Anchor and Mainland. Other models that were found included the U.S. Information Technology Strategic Planning (Finney, 1997) who offers a step by step process, outlining a "quick and dirty" process for small to medium businesses. These research papers offered some small oasis in what appears to be a barren desert of research in this area.

# 4. THE STRATEGIC PLANNING PROCESS

We evaluated the focus and appropriateness of methodologies to a small business. Many such as Henderson and Venkatraman's Strategic Alignment Model, were helpful but of too great a breadth to be applicable to the size of our target business, and simply were not of a practical nature. Others such as the US Electrical Contracting Foundation's strategic model (referred to hereafter as the NECA model) was particularly apt, as was Construct-IT.

A Methodology commissioned by The Electrical Contracting Foundation, USA, and presented through the National Electrical Contractors Association was developed by Drs Mark Federle and James Rowings (1998) and is presented in their report : A 21st Century Action Plan for Electrical Contractors and their Workforce". Table 1 describes the elements considered in the Strategic Planning Process.

The resulting analysis is applied to a practical model, breaking down the operations of an electrical contracting business to three main activities: Get work, Do work, Get paid. Figure 5 describes the influences impacting at each stage of the operation, with the company Vision and Mission influencing and guiding all stages. The internal strengths and weaknesses, and external threats and opportunities, along with the potential or current performance of IT, are identified and analysed at the appropriate stage of the framework – a marketing-type strategy, an operational strategy, or a business process strategy.

Construct-IT was set up for business in the UK to coordinate and promote innovation and research in IT in construction in the UK to improve competitive performance. The strategic planning model is in the public domain and is a good guide for companies in the construction industry developing an IT strategy plan. Again, the key activities are similar to those discussed already but it is created as a living document with continuous monitoring and development. In this model, the strategy in focus is the Information Technology Strategy solely. The organisation mission and vision has been established earlier in the Business Plan process and underlies the identification of IT strategies.

The five key stages are:

■ Initiate the information strategy planning project

■ Identify your business position

■ Examine capabilities and technologies

■ Develop system and technology roadmap

■ Prioritise solutions.

These stages then lead to implementation. This life cycle is displayed in diagram form in figure 6.
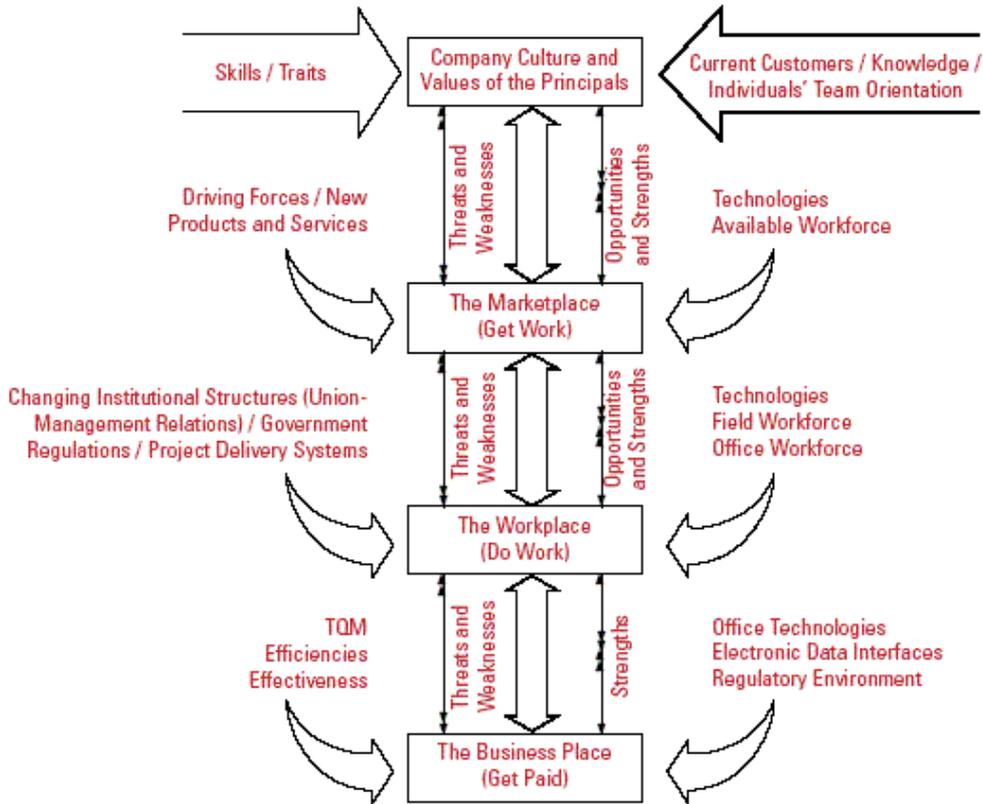
Figure 2: The Strategic Planning Model

**Figure 5: Strategic Planning Model (Federle and Rowings, 1998)**

# 5. COMPARISON OF CONSTRUCT-IT AND NECA

Both models are used in construction industries so were immediately of practical value – a good place to start.

Construct-IT had an in-depth focus on IT alone, whereas the NECA model encompassed the full menu – vision, mission, goals, SWOT analysis, business or overall strategies rather than IT. Comparison was initially difficult as, while there were similarities, some facets had different focuses. We created a matrix to provide a visual comparison, as shown in Table 2.

The table shows how in effect both models include the critical planning areas. Of the number of models analysed, the underlying threads or components appear to have a synergy in their focus, particularly as shown here with the Construct-IT model and the NECA model.

# 6. APPLICATION OF MODELS TO SMES

The emphasis must be on real life drivers. Here the NECA model was particularly fitting. Having the three key business activities identified – Get Work (The Marketplace), Do Work (The Workplace) and Get Paid (The Business Place) – allowed all facets of IT to be acknowledged and valued as having an important place within the business.

The technology integration at each level was appropriate for the strategies we were looking at for our company, including in-the-field technologies utilising PDAs and back office functions such as EDI.

The steps outlined in the Construct-IT model were applied to our subject business, however various steps required more in-depth analysis or a different approach. This necessitated us utilising some aspects of the NECA model, in particular the long-term objectives, the integrated programmes and financial projections. This created a hybrid model that provided an appropriate solution for our business and in its current form, could be used by other SME contracting companies nationwide. (See Appendix
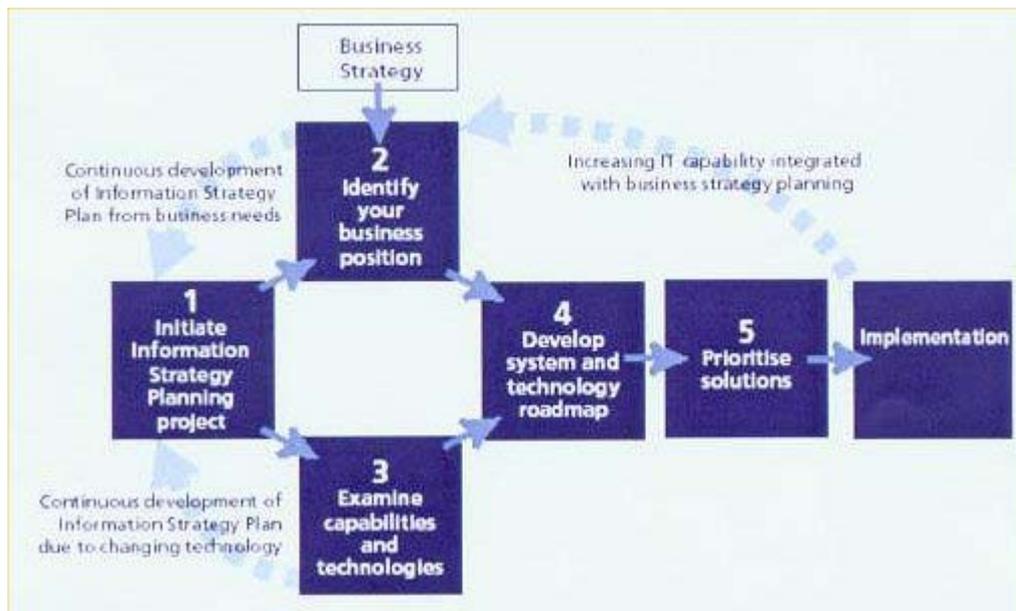
**Figure 6: The five key stages to an Information Strategy Planning Process (Construct-IT, n.d)**

**Table 2: Framework Model Evaluation matrix**

| Features | Construct-IT | NECA |
|---|---|---|
| Mission and Vision | ✔ | ✔ |
| Positional Analysis (Porters 5 Forces) | ✔ | ✔ |
| SWOT | ✔ | ✔ |
| Strategy | ✔ | ✔ |
| Long term Objectives | ✘ | ✔ |
| Integrated Programmes | ✘ | ✔ |
| Financial Projections | ✘ | ✔ |
| Systems and Technology Roadmap | ✔ | ✘ |
| Prioritise Solutions | ✔ | ✘ |

1) Furthermore, with minimal adaptation, the model could be applied to the majority of New Zealand SMEs. The real advantage of having a hybrid model became apparent when we were unsure of the appropriateness of some of the Construct-IT components. We were able to reference the more practical NECA model which provided some solutions and clarification into real-world implementation.

# 7. MECHANISMS FOR EFFECTIVE IT STRATEGIC PLANNING

We found the following mechanisms were key aspects of the planning process:

Use a company expert as well as an external person in the creation of the IT strategy. This is vital as in many cases an entire analysis of the business will be required to outline a business strategy first. Of utmost importance, and espoused by all IT strategic planning models, is to ensure that the company vision is articulated in order for the selected strategies to take the business in the desired direction.

The inclusion of an outside person in the strategy team, whether an IT consultant or business supporter or advisor, is crucial to provide the element of objectivity and this is a common thread in several theories. We found that there is an advantage in both strategy team members being familiar with the subject business (albeit at different levels) as it ensured a good understanding of the company philosophy and the balance between strategic overviews and business processes.

Another important facet is to drill down through the data collated in the analysis stages to uncover the most basic needs of the business. This deter-

mines the value and feasibility of a strategy and thereby its implementation priority. Examine the expected outcomes and ensure 'dominos' are placed in the correct sequence for effective and best value implementation.

The NECA model suggests key personnel from across all levels of the organisation make up the strategy team in order to provide a high level of critical detail, and an understanding of the direct impact of changes to processes. We feel the results of our strategic plan have borne this out.

Looking into the future to identify emerging trends and technologies is important. Some clearly may not fit, but others, given business growth, may have relevance in the coming years. Can a strategy implemented either now or gradually, ensure the business is in the best position to take advantage of predicted opportunities as they come to fruition?

How appropriate was this look into the future – and how far should one look? Again, the NECA model helped out, specifying that the long-term objectives of three to five years addressed the when and how of strategy implementation. So there is a definite place for dreaming in strategic planning.

# REFLECTION OF THE APPLICATION OF HYBRID MODEL TO A REAL BUSINESS

How much value has this theoretical approach been to a NZ-based SME?

In the non-academic world, would a business have reached the same outcomes as we have? We believe that it is highly likely they would have. A certain amount of business acumen and a generous dollop of common sense is enough for a lot of businesses to get by on.

However while a business may function at this level – operational and perhaps, also tactical – whether they would be able to fulfill their potential and move up to include the strategic level in the management of their business is debatable. The business's capacity to continually create and/or maintain competitive advantage exists only when all levels of the management pyramid are utilised.

What our subject business has found, and certainly what the statistics show, is that the growth of businesses will occur reasonably naturally to the level determined by the knowledge of the business owner. Growth past that point throws the company into an area outside of operating efficiencies and results in general discomfort all round as the business seemingly 'breaks down'. Without careful management, running the business requires more effort than ever, things start to go backwards and many business owners decide to throw in the towel in favour of an easier life. The safety of being a salaried employee – all care and no responsibility – can be irresistible to some.

What this model has provided our subject business is an opportunity to force thorough analysis, exceeding the point that would have been achieved without the theoretical knowledge. Strategies that would have been considered beyond our means or needs, have been recognised as valid and providing significant competitive advantages.

Applying these methodologies and creating a written IT strategic plan has eliminated some of the risk, and provided a good framework for their implementation.

# CONCLUSION

Strategic planning is essential for businesses of any size. It appears however, that small businesses are failing to either recognise the importance of, or implement such planning programmes.

It is clear that small to medium business owners don't seem to see strategic planning as relevant to the day to day running of their enterprises. Unfortunately, many end up embracing the "work harder, not smarter" philosophy, at best merely maintaining their business, at worst, facing diminishing returns. Statistics show that only half of small businesses survive more than two years. Without a clear plan, for good times and bad, owners clearly find it difficult to maintain profitable business.

It seems incredible that little research and development has been conducted into small to medium business practise within New Zealand. Canterbury University completed a project on IS strategies for NZMilk in 2002, but there is little published literature available on SMEs here. What is staggering is that with this sector making up 96% of all NZ businesses, contributing 39% to the economy overall, that there are no IT strategic blueprints, or

in fact any strategic guidelines written specifically for this sector.

Research and commercial opportunities in developing IT strategic plans couched in simplistic terminology, correlating goals to reality, rather than academic theory and "geek speak" are immense and we feel well overdue.
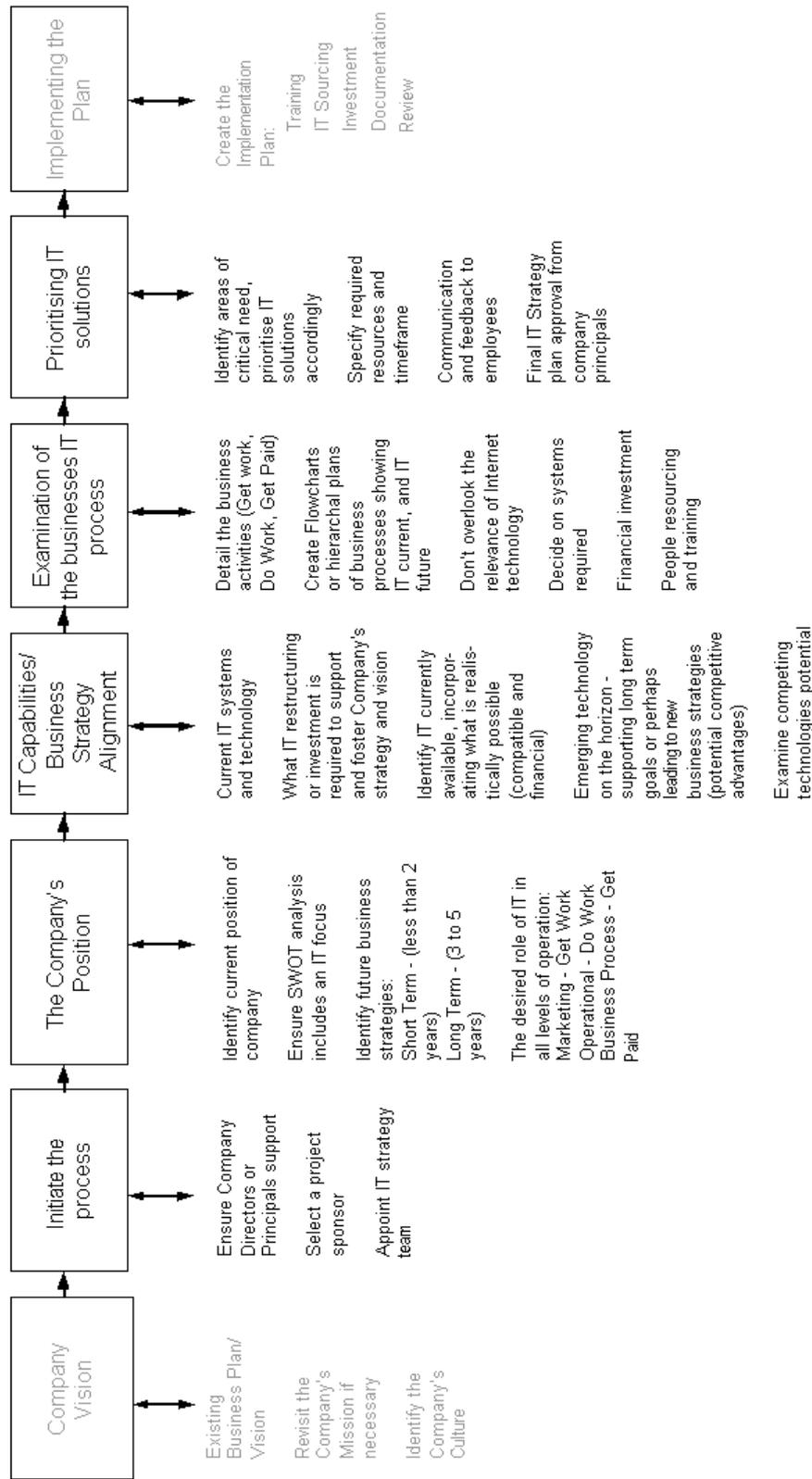
Our experience has led us to the belief that yes, there is a definite place for academic theory in the real-world. The irony is that for it to be utilised effectively, frequently and by SMEs with the greatest need (and therefore the personnel charged with the task), it needs to be hidden in a practical and easily applied form.

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## IT Strategic Plan for SMEs in New Zealand

| Company Vision | Initiate the process | The Company's Position | IT Capabilities/ Business Strategy Alignment | Examination of the businesses IT process | Prioritising IT solutions | Implementing the Plan |
|---|---|---|---|---|---|---|
| Existing Business Plan/ Vision | Ensure Company Directors or Principals support | Identify current position of company | Current IT systems and technology | Detail the business activities (Get work, Do Work, Get Paid) | Identify areas of critical need, prioritise IT solutions accordingly | Create the Implementation Plan: |
| Revisit the Company's Mission if necessary | Select a project sponsor | Ensure SWOT analysis includes an IT focus | What IT restructuring or investment is required to support and foster Company's strategy and vision | Create Flowcharts or hierarchal plans of business processes showing IT current, and IT future | Specify required resources and timeframe | Training |
| Identify the Company's Culture | Appoint IT strategy team | Identify future business strategies: Short Term - (less than 2 years) Long Term - (3 to 5 years) | Identify IT currently available, incorporating what is realistically possible (compatible and financial) | Don't overlook the relevance of Internet technology | Communication and feedback to employees | IT Sourcing |
| | | The desired role of IT in all levels of operation: Marketing - Get Work Operational - Do Work Business Process - Get Paid | Emerging technology on the horizon - supporting long term goals or perhaps leading to new business strategies (potential competitive advantages) | Decide on systems required | Final IT Strategy plan approval from company principals | Investment |
| | | | Examine competing technologies potential | Financial investment | | Documentation |
| | | | | People resourcing and training | | Review |

APPENDIX 1.  **IT Strategic Plan for SMEs in New Zealand   Normanappendix1.gif**