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**KNOWLEDGE CREATION
IN
NEW ZEALAND MANUFACTURING**

**A Thesis
presented in partial fulfilment of
the requirements for the degree of
Master of Technology in Product Development
at Massey University**

**HAMISH CAMPBELL
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ABSTRACT

Organisational knowledge creation is a key driver of innovation and competitive advantage. The ability to successfully create new knowledge and embody this knowledge into new products, processes, or services is critical to the ongoing survival of an company. Organisational product development activities and practices interplay with the organisational knowledge base to produce these results. The objective of this research was to investigate the knowledge creation processes and practices utilised by a group of New Zealand manufacturers. A series of in-depth interviews was conducted with senior managers of a group of 33 manufacturing companies in the Wellington and Manawatu regions of New Zealand.

The majority of the companies saw product development as an important organisational activity, but at the same time only half of the companies made use of a formal product development process. The most important and most frequently used product development activities were related to the physical design and manufacture of a product, and on assessing the viability of a product concept in the early development stages. The activities least frequently used were notable in that they all focussed on intangible elements of the product development process, e.g. test marketing, detailed market research and pre-launch business analysis.

Tacit-orientated information sources were identified as being crucial to the companies' overall business activities. Customers, along with personal experience and company staff were identified as the three most important information sources to the companies' overall business activity. Overall the companies placed a greater value on their tacit-based knowledge than their codified knowledge.

The companies were ranked based on the innovativeness of their knowledge creation activities. The 33 companies were separated into three groups: highly innovative, moderately innovative and least innovative companies. The knowledge creation processes and activities used by these three groups were explored to identify the characteristics that separated the highly innovative companies from the others. Overall the key distinctions were:

- a greater degree of formal business planning;

- a greater optimism for their company's overall position in five years;
- better utilisation of both internal and external-based tacit knowledge;
- a more strategic approach to information acquisition;
- a greater use of formal product development processes;
- a more intensive product development programme;
- a shorter product development process; and
- better application of the organisational knowledge base for product development activities.

Overall, the highly innovative companies demonstrated a greater willingness to take on the challenge of developing new products and to expanding and growing their markets and their business. Perhaps as much as anything it appeared to be this group's attitude to innovation that separated them from the other companies in the study. The highly innovative companies were less formal in terms of their organisational management systems and practices than the moderately innovative companies in the study, but were achieving far greater levels of product innovation. One point to note is the slightly lower level of reported product success amongst the highly innovative companies. This is likely attributable to the shorter product development process that these companies were using, although this is not conclusive and would require further research.

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