

CREATING RESILIENCE IN NEW ZEALAND SMES: THE CASE OF PERFORMANCE APPAREL

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ABSTRACT

This paper considers the actions taken by four small and medium enterprises in the performance apparel industry in New Zealand to create resilience in their operating systems. These actions are then compared with the literature in this field. Results suggest some variance between practice and theory.

INTRODUCTION

The word “resilience” is used in so many different ways that it is in danger of losing any meaning at all. In 2008 and 2009 everybody wanted to be resilient – to the economic downturn, to various natural disasters, to armed conflict, to illness, to technical failures, and to the winds of all kinds of change. Most of the time, the word seems to mean ‘to bounce back’ or survive in the face of great challenges [1]. It has been linked to the strategy field. Hamel and Valikangas claimed recently “Firms can no longer count on the flywheel of momentum and incumbency to sustain performance. Instead, they need strategic resilience: the ability to dynamically reinvent business models and strategies as circumstances change, to continuously anticipate and adjust to changes that threaten their core earning power—and to change *before* the need becomes desperately obvious” [2].

The term *resilience* has slightly different meanings in the various disciplines where it has been used, but it always includes some concept of an individual, group, or organization’s ability to continue its existence, or to remain more or less stable, in the face of a surprise, either a deprivation of resources or a physical threat. Unpredictable systems with low resilience have high vulnerability to surprise. The surprise may be partly predictable and come from a long-term trend (e.g. climate change), or a local Black Swan (tsunami in Samoa). In the first case we can plan for specific resilience strategies (e.g., by creating adaptable artificial climates in buildings), but for a recurring surprise of unprecedented magnitude, resilience means an ability to move appropriate resources quickly (e.g. emergency services and stockpiles of emergency supplies). [3: 27]

The Setting

This paper examines the supply chain and operations decisions made and challenges being faced by a number of New Zealand companies in the performance apparel sector. The apparel sector as a whole in New Zealand has shrunk considerably since import protection and tariffs have been wound back from the mid 1980s. Employment has fallen from 18000 in 1987 to fewer than 8000 currently. In addition there has been a major structural change in the industry in the size and type of companies, from large numbers of big businesses manufacturing garments in bulk, to few of these and a much bigger base of small and very small businesses producing a diverse range of clothes.

Currently there is no universally accepted definition of a small firm nor is there an official New Zealand definition. The criterion most commonly used to distinguish between large and small firms is the number of people employed within the firm. Consistent with international definitions, but making

allowance for the fact that large firms in New Zealand are smaller than large firms in other countries, we define SMEs in the following way:

micro enterprise:	fewer than 5 FTEs
small firm:	between 6 and 49 FTEs
medium firm:	between 50 and 99 FTEs

In New Zealand there are currently close to 350,000 small and medium enterprises compared to 1,600 enterprises employing 100 FTEs or more. [4]

New Zealand's apparel sector continues to build on its reputation for fresh thinking and innovation in the global marketplace. Many of New Zealand's leading apparel manufacturers respond to their natural environment by using home-grown fine wool or other natural fibres in their garments. The country's success in this sector is helping inform global consumers' perceptions of New Zealand as a nation of new ideas and new thinking. New Zealand's diverse geography and demographic makeup means that the country has developed leading-edge children's wear, sportswear and active wear.

The apparel sector benefits from having a wide range of companies of varying sizes and structures producing a broad range of garments. They include cut, make and trim operations that produce finished garments on a contract basis using fabrics supplied to them, through to vertically integrated operations which produce their own fabric, manufacture their own garments and sell those garments in their own stores [5].

Global brands such as Icebreaker, Pumpkin Patch, Bendon, Macpac, Moontide, Orca, Snowy Peak/Untouched World, Swazi, and Swannndri are well known and highly sought-after among their niche markets. So there have been some new players in the industry that have emerged and prospered to a greater or lesser degree in the interim. They have adopted and adapted a variety of business models and this paper aims to assess them against the extant literature. Arguably the most successful has been Pumpkin Patch which sells children's wear. Its annual sales have reached \$NZ400 million so it grown well beyond an SME in the years since its beginnings in 1991 as a catalogue seller [5].

This paper focuses on the performance (or technical) apparel sector. This is the term that describes clothing for outdoor activities, such as running, hiking, skiing, farming, hunting or sailing etc where users want durability and to keep comfortable, dry, and warm while being able to remain active. This type of clothing has always been important in New Zealand due to the popularity of outdoor activities and more fundamentally the early demanding customers were those working in agriculture for whom New Zealand's rainy climate often made life uncomfortably damp.

LITERATURE ON RESILIENCE

Recent interdisciplinary research [6] uses the movie industry to derive recommended responses to improve resilience. Since the movie makers do not know what the dangers will be, they often do not know what will work to make the danger go away. In these cases, they have found that adaptability and access to a variety of resources seem to be the key for developing resilience. This means "both a limited investment in large numbers of the same thing and diversity in the things tried can be tools for resilience" [6: 22]. They argue that to deal with unpredictable events businesses need to think of themselves as complex adaptive systems and adopt what ecologists say is important:

Diversity – e.g. produce hundreds of movies

Loose coupling – loose links in movie industry

Lowest scale interaction – start with least complex or least dynamic parts of system

Redundancy in the system - to ensure you have something that takes over if one function fails e.g. alternative supplier, since efficiency is the enemy of resilience e.g. dangers of monoculture.

The supply chain literature also recommends redundancy as an important part of resilience. For example, [7] examines risk flows in a multi echelon supply chain and argues that from a reliability studies and engineering systems perspective, system reliability is a direct function of component reliability: 50 locations with 99% reliability implies a system reliability of 0.99^{50} , which is a small number giving the system a small chance of succeeding [7: 3]. However, in supply chains, it is not necessarily true that system resilience equates to component resilience. It is important to note that supply chains have two additional buffers available to deal with performance problems (the third buffer of capacity is available in both cases): inventory and time. It is prudent therefore to leverage all three in tandem to be effective. Therefore, to deliver a high level of performance in the presence of significant disruptions, supply chains do not necessarily need to make each and every component (location in the network) perform at a high level at all times. A judicious mix of supply chain reliability, system buffers and effective recovery logic is key to making a supply chain resilient.

METHODOLOGY

The research project used a multiple case study approach [8, 9]. Four companies were selected from the New Zealand performance apparel sector. Data were collected from public sources and interviews with company officials.

The Companies

The four companies in the study are Icebreaker, Swannndri, Swazi and Line 7 respectively. Unfortunately the last-mentioned company went into receivership after the research commenced so reports from the receivers are used as additional data.

SUMMARY OF RESULTS

Two companies have made important inventory management decisions to improve service and margins. Line 7 was caught with too much inventory when sales slumped and this contributed to its demise. The companies operate a mixture of loose and tight coupling in their supply chains. The better performing companies have not strayed too far from their niche. Others have drifted into the sportswear fashion market and lost focus with implications for their supply chains. A limited amount of diversity is practised and product flops are killed quickly. Also a limited amount of redundancy in supply chains was observed but single source supply was common.

CONCLUSIONS

Supply chain and operations decisions have been important in providing resilience for the surviving companies, but it is clear they are linked tightly to the leaders' vision, the espoused values of the company, and considered marketing decisions.

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