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Risk within the foundation of Australian supply : a cross-sectoral, cross-regional perspective

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Abstract

Supplier capability and customer engagement trends have changed considerably in recent times. Once robust supply networks have been eroded and capacity reduced, OEM engagement patterns have changed that now often preclude existing suppliers in favour of new, alternative suppliers. In 2010 and 2011 a series of supply focus groups and key interviews with customers indicated that OME's have typically focused attention on Tier 1 and Tier 2 supplier and lost visibility of lower level suppliers, by outsourcing the management and responsibility of the lower level suppliers to their Tier 1 and Tier 2 suppliers. The outsourcing of management and responsibility has created a significant disconnect and compounded risk in supply networks. Remarkably, this scenario is accepted as "best practice" under recognised supply management protocols. This paper discusses the findings of this research and the long term implications of the erosion of a critical mass of grass roots suppliers within Australia.

Keywords

risk, supply, Australia

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Abstract

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This paper discusses the findings of this research and the long term implications of the erosion of a critical mass of grass roots suppliers within Australia.

Introduction

In 2010, a study was conducted of the Australian supply base. The study consisted of a cross-sectorial and cross-regional sample set of the foundation of Australian supply, who participated in a series of focus groups centred around conducting a sustainable supply diagnostic tool on their organisation. The work was followed up in 2011 by interviews with senior managers of key OEM's regarding supplier engagement trends for their future supply needs. As such, the findings of this study provide a snap shot of the state or level of readiness and competitiveness within the “hard core, foundation” of the supply base of Australia.

Whereas there have been countless studies conducted on supply readiness in specific regions and/or sectors previously, little work has been conduced on an entire supply base. The limitations of a specific region and/or sector study is that it could typically focus on the main interaction node within a supply network, but loose sight of seemingly unimportant “lower level” foundation suppliers who have a critical role within the network.

An assumption often used in professional studies and supply mapping exercises is that foundation suppliers have little effect in the overall competitive and operational readiness of a supply network. However, if the data form this study is extrapolated, then is becomes apparent that most supply networks could be significantly below the performance capability necessary to be considered robust or sustainable. Importantly, the combined mass of small suppliers, within more complex supply networks, could be “the perfect risk accelerator” and represent a clear and present danger in terms of performance realisation.

A Description of Current Supply Issues Within Australia

The study showed that that there is a significant risk that is hidden within the foundation supply base of Australia. The risk has become toxic due to three key areas, these are:

1. Change in customer trends
2. An emerging paradox in supplier availability
3. Developing of gaps in key supply capability

Change in Customer Trends

Post the global Financial Crisis there has been an increase in the urgency of many OEM’s (traditional focal companies) to lower risk in their supply networks. The typical risk reduction frameworks have included demands on greater transparency within the networks, the need for more formal (and often externally audited) business systems and quality management frameworks, and the need for guaranteed continuity of supply.

An Emerging Paradox in Supplier Availability

Whereas the change in customer trends may at first sight appear to be a move in the right direction, a paradox is rapidly presented, insofar as typically, those organisations who survived the Global Financial Crisis were those organisations who did not invest in technology, business systems and people. Put simply their financial structure was comparatively lower within their business allowing them to hang on longer than more heavily invested businesses that needed higher levels of revenue to break even. As such, a significant proportion of the foundation supply base may now be considered to be the least qualified to deliver into new and reemerging supply networks.

Developing of Gaps in Key Supply Capability

All companies contracted significantly during the Global Financial Crisis. Consumer demand dried up and supply channels became little more than a trickle of work. However, as demand has increased, typical procurement matrices such as contract value as a ratio of supplier turnover cannot be met by new or incumbent suppliers (i.e. the prospective supplier is now too small to qualify to supply into a network, because its turnover is now lower and the contract value is proportionally larger).

As companies contracted, they let go many key “knowledge rich” employees. Many became consultants, but due to market forces entered a hyper-competitive marketplace and as such, many became under-employed and others have moved on altogether. A lack of availability and/or under-employed availability generates considerable risk in the foundation of supply. Importantly much of the knowledge rich providers are no longer in positions within the supplying organisation and many customers are placing orders on organisations with the belief that the organiation concerned has the knowledge capital itself rather that outsourcing to third party providers.

A Hypothesis Moving Forward

A hypothesis has been developed from the work to date, this may be described as:

Australia's critical mass of customer demand is too small to develop traditional sustainable organisations. As such, continuity of supply cannot be guaranteed and this is exacerbated by changes in procurement policy and regulation that will erode further the foundation supply base.

Since a major risk point of current supply networks is within the foundation base, larger, "focal" companies run a clear and present risk of developing the best set of worst suppliers that do not have the capability of delivering right - on time - every time.

Background to the Study and Collection of the Sample Set

The data for this work was derived from a series of focus groups who were involved in a program of work in 2010. The program was advertised using a series of databases and also advertisements in the public media. Participants were asked to pre-register for the focus group of their choice. As such, the sample set can be determined to be random or as near as is possible random representation of Australian business (Gibilisco 2004). It should be noted that each business had their own supply base and was involved in at least one traditional customer supply network as described by Boyer and Verma (2010), and were therefore qualified to take part in the study. Furthermore, all participants were senior officers within their organisations and as such were those involved in the strategic aspects of their businesses.

No qualifying participants were excluded form the study, however, there was, as would be expected, a natural filtering process from the initial contact stage to final participation (Belch & Belch 2007, and Baines, Fill & Page 2008). The filtration ratio is shown in Table 1.0.

Table 1.0: Filtration Ratio of Study Prospects Compared to Study Participants	
Number of open (advertising) media coverage	7000
Number of prospects contacted directly	400
Number of positive registrations	235
Number of active participants	109
Ratio of Prospects to Participants	***1:64.22***

The ratio of prospects to participants is consistent with Craig and Douglas (2005) and is considered to be a robust sample within the scope of this study.

The Rationale, Design and Piloting of the Diagnostics

The diagnostics program that formed the body of this research was drawn from proven business modeling, analysis and due diligence methodologies. The diagnostics had previously been used successfully in many private businesses improvement consultation programs and supplier selection protocols globally.

In an effort to prove efficacy and relevance to the study from an Australian perspective, the diagnostics were first piloted in several smaller Australian focus groups including; regional industrial groups, chambers of commerce, and professional focus groups prior to being incorporated into the study (Gill and Johnson 2010).

The study was conducted in an environment of an informed and inclusive network. In all cases, participants were provided with support and standard background information.

The diagnostics were developed around five key themes, these were:

1. Analysing Strategic Positioning and Market Trends
2. Analysing Supply Networks, Supply Competency and Capability

3. Analysing the Potential Risk Inherent within Supply Networks
4. Analysing Technology
5. An Insight into Innovation

By developing key themes for the diagnostics, it was possible to map the overall capabilities of the participants of the focus groups and provide a theoretical maximum performance level (i.e. 100%) against the recorded performance levels of the focus groups. Put simply, it was expected that a significant proportion of the sample (i.e. participants) would have achieved high conformance against the diagnostics if that sample were sustainable and robust.

It should be noted that the analysis is based on the hypothesis that the focus groups provide an initial random sample of Australian business (i.e. supply base) and the mean averages of the collective focus groups is a representative and robust indicator of Australian supply base. There is no suggestion that there were not some world class participant within the focus groups, however, it is the sample mean in this case that provides the core indicator of performance not selected "best (or indeed worst) in class" (Montgomery & Runger 1999).

A Conceptual Interpretation of Traditional Supply Relationship Management and Its Impact on Current Supply Risk

Whereas it may be accepted that there is a clear and present risk in the foundation base of Australian supply, and a duality of key factors exist that have a direct impact on current supply, these key factors are:

1. A critical mass of the supply base does not exist and key knowledge capital is limited and continues to contract in specialist areas
2. A Paradox exists where many surviving suppliers do not posses the threshold capabilities necessary to engage with current customer procurement matrices

Perversely, within the context of proven and traditional models of supplier development and procurement, business as a whole has done nothing wrong. Common wisdom has acknowledged that supply networks are complex and efficiencies and value can be added to a supply network if the Focal Company targets its effort at the first couple of tiers of supply and role shifts responsibility for managing lower tiers to its own suppliers. The rational extends to include the use of good technology (i.e. ERP) to communicate throughout the supply base. Figure 1.0 Illustrates the basic concept of bow tie thinking and the ERP cascade.

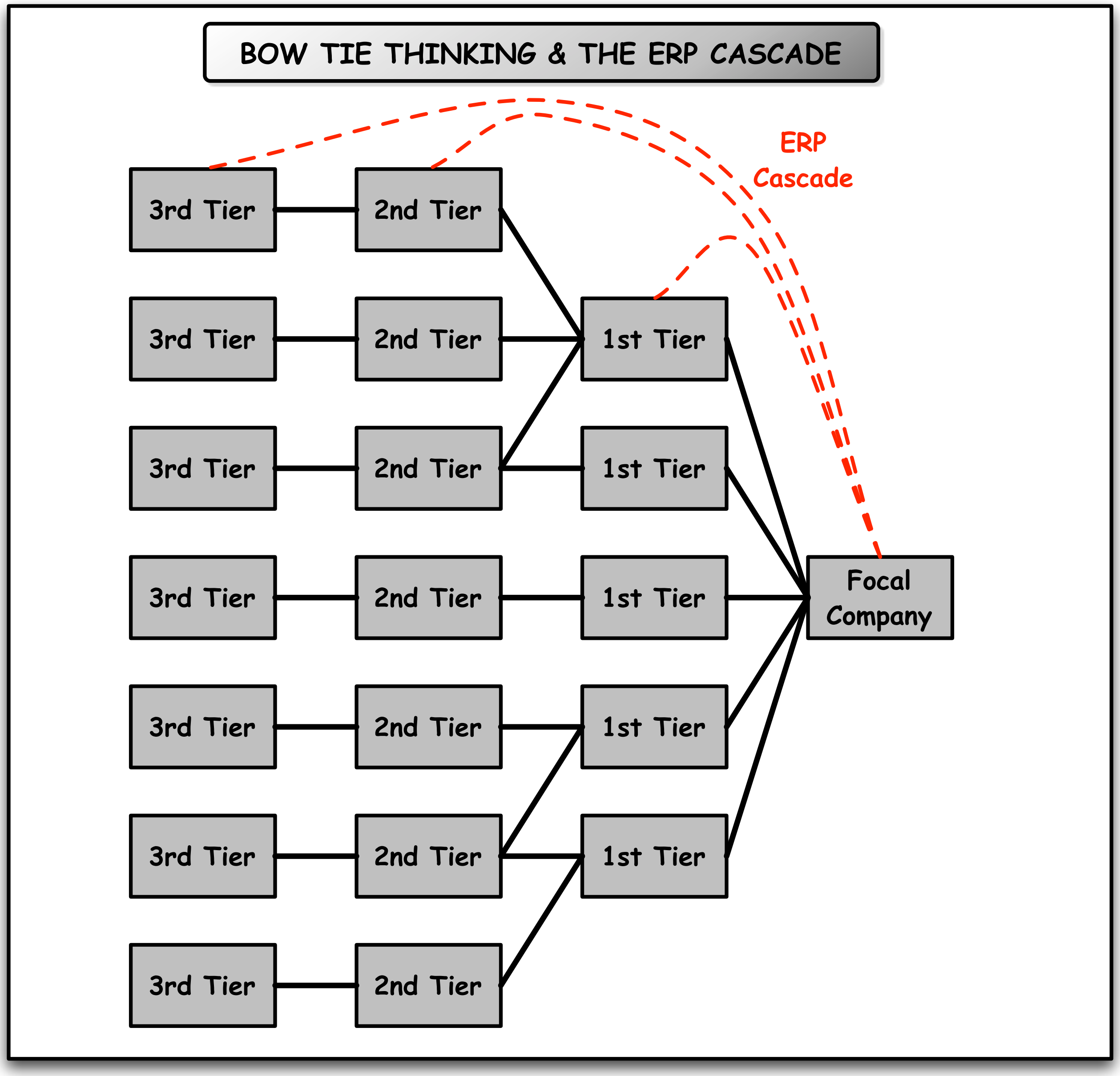

Figure 1.0 The Basic Concept of Bow Tie Thinking and the ERP Cascade

Role Shifting has been extensively exploited as a principle for focusing supply management attention on "where it needs to be focused" (i.e. core, key top level suppliers). By taking a slightly different view of supply mapping, and effectively turning the map through 90^0, it is possible to visualise a case where top tier suppliers (i.e. tiers 1 and 2) effectively block any view of other suppliers due to their magnitude compared with lower level suppliers. It is reasonable to assume that no amount of "Over - the - Horizon" (OTH) strategy is going to impact on the current status of a supply network because the Focal Company cannot achieve enough levitation to see over the blockers. Figure 2.0 illustrates the basic concept of role shifting in the context of Over - the - Horizon thinking.

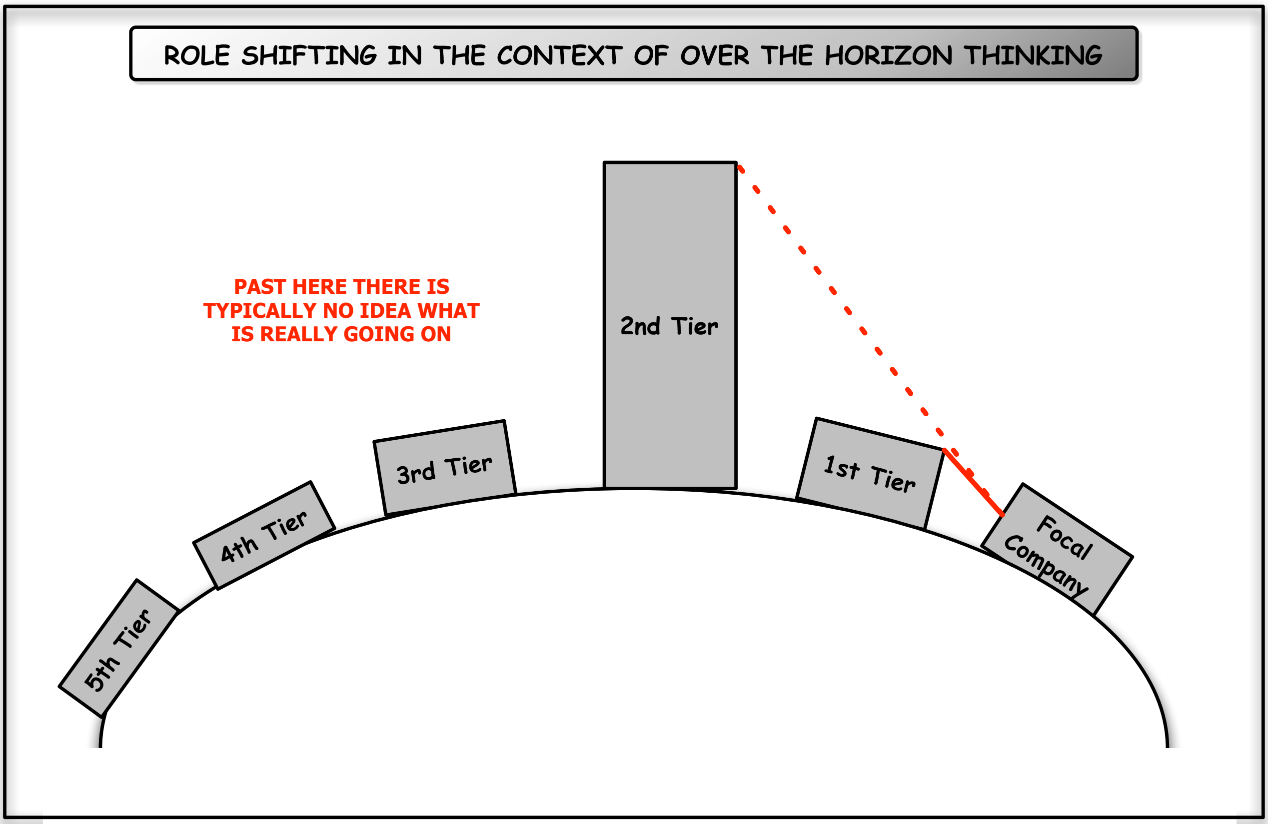

Figure 2.0 An Illustration of Role Shifting in the Context of Over The Horizon Thinking

Importantly there appears to be a significant disconnect between the space that a supplier occupies within a supply network and the corresponding framework that a supplier operates within. This may be summarised within a scenario where a focal company and its local area supply network (i.e. the top tier suppliers) operate within one local active supply network and at the same point lower level suppliers operate within their own active local area supply network. A bidirectional disconnect therefore appears to exist where the Focal Company assumes (usually incorrectly) that someone else is taking care of other (often perceived to be less important local area supply network, at the same time local area supply networks outside of the core cluster (i.e. lower tiers of suppliers) typically assume (usually incorrectly) that the Focal Company is their customer. A myth of supply integration is developed and a mantra set within the overall network, because its a convenient axiom, that is never challenged. Put simply there is no evidence to suggest that full supply integration has ever been established within any full supply network. Figure 3.0 illustrates the myth of supply integration.

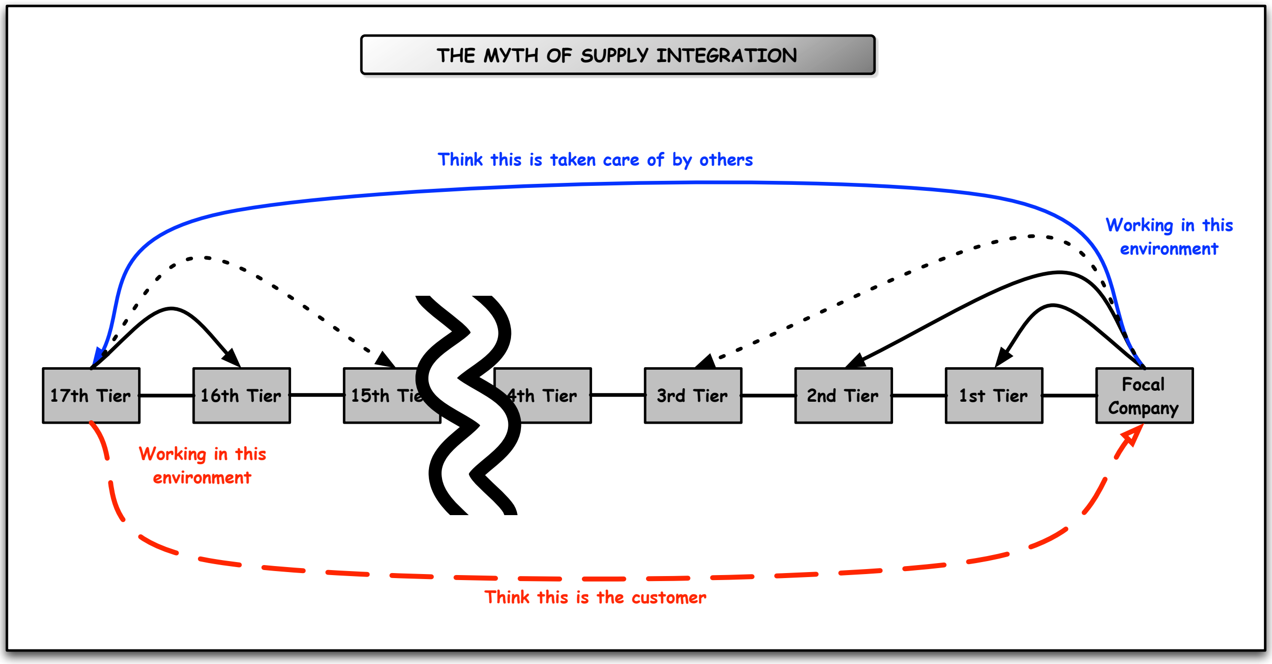

Figure 3.0 The Myth of Supply Integration

Key Feedback From the Focus Groups - An Indication of Supply Readiness

The focus groups generated significant qualitative data concerning the current operational readiness of the foundation supply base within Australia. Importantly, the focus groups enabled a profile of risk to be developed.

The key data my be considered significant, however, when MindMapping techniques (Buzan 2005) are applied to the key data then associations can be made that assist in developing a big picture view. Figures 4.0 and 5.0 illustrate MindMaps of the key findings of the focus groups.

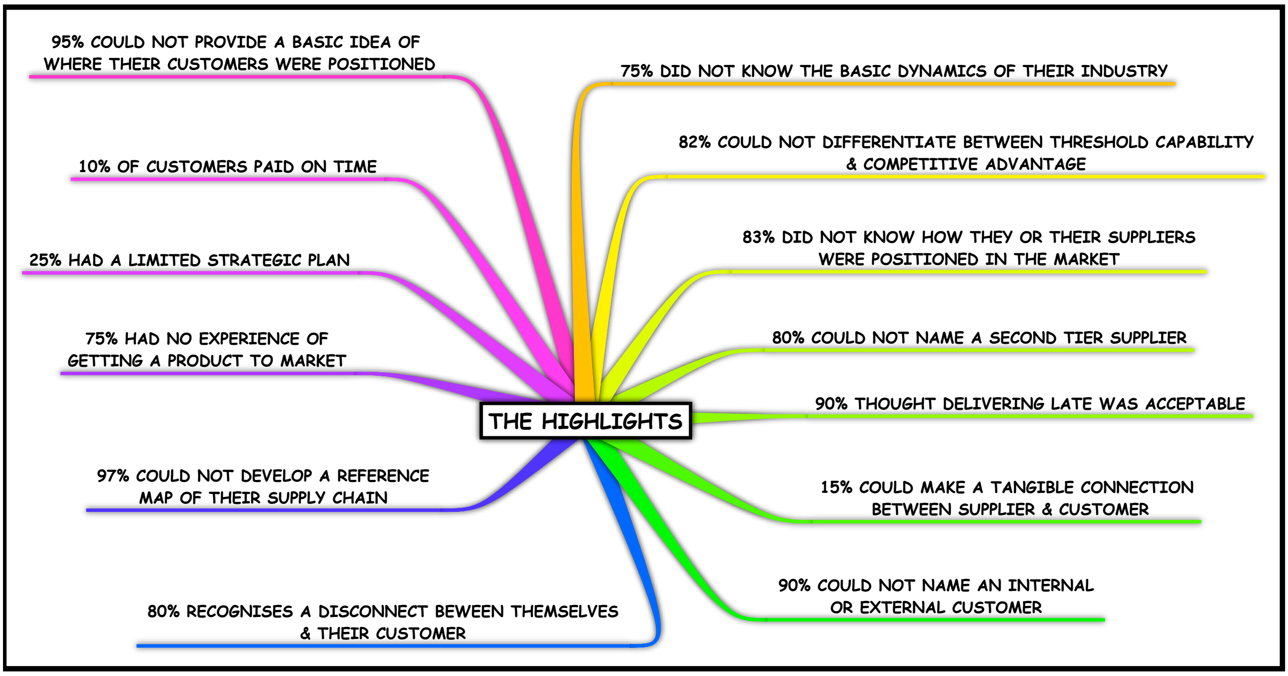

Figure 4.0 A MindMap of the Key Findings of the Focus Groups

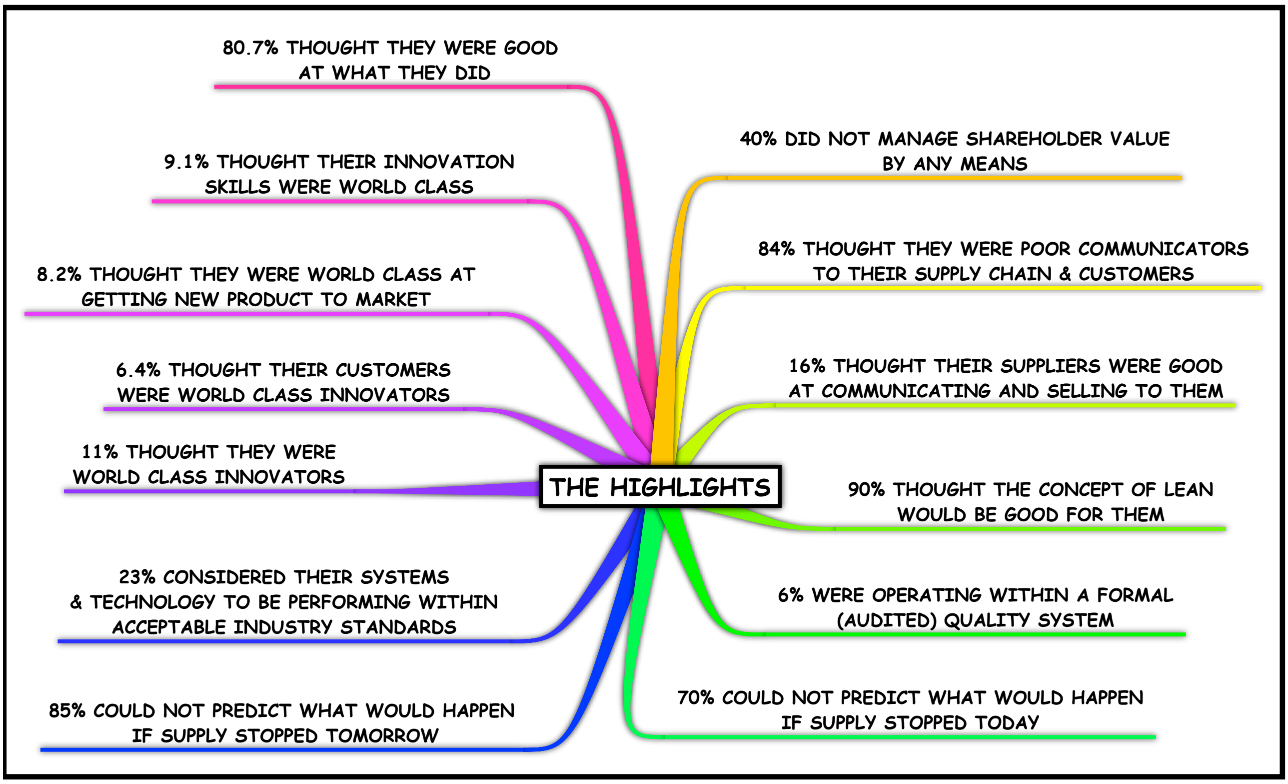

Figure 5.0 A MindMap of the Key Findings of the Focus Groups

An Analysis of the Findings of the Focus Groups

Overall there is a significant disconnect between supplier and customer. Sector business dynamics are typically not monitored and/or understood. There is a significant lack of formal business and quality management systems underlying a lack of investment in these systems couples with technology and people. Most organisations are unable to map their supply networks further than a few core (close to home) suppliers and there is no risk assessment concerning possible factors that could stop supply. Although collaboration and integration concepts are recognised, there is little evidence to suggest that these principles are actually being practiced.

Whereas most organisations would publicly indicate that they are performing within industry recognised performance measures, core performance matrices are not cascaded through supply networks and key performance indicators are not consistent.

Lack of customer focus is evident in the near universal response that delivering “right - on time - every time” was only a consideration not an imperative. It was evident that few organisations had any experience of getting new products to market and most were ready and willing to offer “re-gifted” product without any customer consultation. This one action alone could be the initial and destructive factor that will drive customers away from current suppliers.

There is little evidence of any mid to long term planning. Corporate and supply strategy could not be articulated by most of the focus group participants suggesting it was lacking in most cases.

Overall, most foundation suppliers appear to have been “hanging in there” for a considerable period of time (certainly longer than the recognised time span of the Global Financial Crisis), and recent changes in supplier engagement and communication protocols by Focal Companies is likely to be the death nail for many organisations.

Global Feedback from the Findings of the Work

The findings of this work have been presented globally and there is a consensus that Australia in not alone in terms of the current risk level in its foundation suppliers[1]. As such, offshoring and global migration strategies may not offer any measurable reduction in supply risk.

Conclusions

This work has delivered a unique cross sectorial and cross regional study giving a snap shot of the state or level of readiness and competitiveness within the “hard core, foundation” of the supply base of Australia

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[1] A core paper -An Analysis of the Sustainability and the Future of Innovation Readiness within the Australian Supply Base - A Cross-Sectorial, Cross-Regional Snapshot - was presented at ERP-SCM 2011 in Penang Malaysia where it was awarded best paper status.
Further industry presentations and closed session have been conducted in Australia, Asia and Europe.

In many cases those organisations who have been able to weather the storm of the Global Financial Crisis are less able to supply now, and in many cases poorly positioned to supply into the future.

The findings from this work indicate that there is a significant risk present within the foundation of Australian supply. This risk is typically hidden due to Focal Companies concentrating on their major suppliers and trusting in their major suppliers to do the same throughout the supply network. However, there is a serious disconnect between suppliers and customers (Focal Companies and next in the line of supply) and a clear and present risk that supply networks will become inoperable because of the inability of foundation suppliers to deliver seemingly unimportant products and services.

Remarkably, this situation has been manifest because supply and procurement professionals have adopted recognised and accepted industry protocols and focused on suppliers closest to them (i.e. tier 1 and 2) and expected these suppliers to do the same along the network. There is little evidence to suggest that there has been any holistic or total supply network development.

Put simply. supply and procurement professionals have done nothing wrong, but by doing nothing wrong they now run the risk of continuing to develop the best set of worst suppliers.

Recommendations for Further Work

The recommendations for further work include:

- Extending the supply chain focus group diagnostic tool into more regions and a larger base to establish more data

- Extending the supply chain focus group diagnostic tool into other regions globally and establish if there is a correlation with other regions and the trends noted with the Australian study
- Use the same diagnostic tool, but deliver it into specific supply networks on both a regional and sector specific basis and establish if regional or sector specific supply networks are more or less robust than the core foundation supply base of Australia
- Develop a robust benchmarking protocol for total supply networks

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