A Model for Innovation in Manufacturing Subsidiaries Based in Ireland

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ABSTRACT

Manufacturing subsidiaries based in Ireland are struggling to remain competitive. Their strategic options are limited. They can no longer compete based only on cost and operational excellence. Neither can they compete on technology and core product development. The appropriateness of a third strategic option, suggested by the Value Discipline model, competition through excellence in customer intimacy and collaborative innovation with customers, has been investigated through a series of semi-structured interviews with twelve research candidates. Interpretive analysis of the interviews has yielded a business model for subsidiaries of cyclical innovation and proactive divestment. The ten core aspects of the model are: customer contact, cost, control, identity, external links, innovation, incremental growth, research, diversity and divestment.

INTRODUCTION

In the wake of recent worldwide 'shock-wave' events and the opening up of low-cost economies to foreign investment, it is more important than ever for subsidiaries to regularly evaluate their competitiveness and the viability of their activities.

A business model, published in 1993 in the *Harvard Business Review*, provides some insight into the strategic options for subsidiaries based in Ireland

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(Treacy and Wiersema, 1993). This model indicates that industry-leading companies excel in only one of three value disciplines: operational excellence, product leadership or customer intimacy (developing customised solutions). If this model were applied to the manufacturing subsidiaries of multinational corporations (MNCs) operating in Ireland's high-cost environment, the suggestion is that they can no longer compete based on operational excellence. The research question that follows is whether or not subsidiaries must change to a focus on the customer intimacy value discipline. Customer intimacy, in its most advanced state, involves collaborative innovation with customers.

This concept was discussed in a series of semi-structured interviews with twelve interviewees. These included chief executives in the high technology sector, independent experts on Ireland's high technology industry, representatives of government agencies and academics. Interpretive analysis of the interviews yielded information about how subsidiaries are developing, or need to develop, their mandates.

This paper commences with a brief review of the competitive environment for subsidiaries of foreign MNCs in Ireland. It describes several strategic options for subsidiaries and presents the Value Discipline business model. The interview-based research methodology is then described. A model of cyclical innovation and proactive divestment is introduced. Quotes from the interviews are included to add richness to the data. They are attributed to the chief executives from industry (CEO), academics (AC) and independent experts (IND).

Irish Manufacturing: Threat and Transition

Foreign direct investment (FDI) has been identified as a major driver of development of Ireland's manufacturing industry (Honohan and Walsh, 2002; MacSharry and White, 2000; Sweeney, 1999; Trauth 2000). There are almost 92,000 people working in the Information and Communications Technology (ICT) sector in Ireland (ICT Ireland, 2004). This includes employment in organisations that have migrated from hardware manufacturing into software or other activities. ICT manufacturing represents 13 per cent of Ireland's manufacturing employment (McIver Consulting, 2003). This ranking places it second only to Korea. Ireland is notably most dependent on the manufacturer of computer and office machinery, at 7 per cent of the total (McIver Consulting, 2003). The importance of the sector is further underlined by the case of Dell, whose revenue in 2002 was 5.8 per cent of GDP. Exports from Dell in 2002 accounted for 7.8 per cent of total Irish exports (Skelly, 2003). Dell, Microsoft and Intel together accounted for 18 per cent of total exports in 2001. In 2002, the total value of exports of ICT products and services was €30 billion, 34 per cent of all exports (ICT Ireland, 2004).

However, industry in Ireland has been loosing cost competitiveness (OECD, 2003; Porter, 2003). In recent years, the rate of cost increase in Ireland has been seen by subsidiary managers as their biggest problem (IMI, 2003). Ireland dropped from 23rd to 30th in the Growth Competitiveness

Index rankings in 2003 (World Economic Forum, 2003). Employment in foreign manufacturing subsidiaries in the ICT sector in 2003 was only 65 per cent of the 2000 level (Forfas, 2004). A key challenge for subsidiary management teams in Ireland is to re-focus their operations on more sustainable activities. They need to consider other strategic options besides competition based on low cost, which is no longer viable in Ireland.

Competitive Strategy for Subsidiaries

Porter (1990) has suggested that the alternative to cost-based competition is product differentiation. However, typically, subsidiaries in Ireland have not been involved in product design. That function has been controlled closely by the parent company (Enterprise Strategy Group, 2004).

Another strategic option for subsidiaries can be found in the Value Discipline business model, which was developed following a three-year study of more than 80 companies (Treacy and Wiersema, 1993). This model extended Porter's view by proposing an alternative to competition based on cost and efficiency (what they call the operational excellence value discipline) and competition based on product differentiation (their product leadership value discipline).

They showed that companies could opt to focus on the customer intimacy value discipline, of which there are three levels of involvement: firstly, the tailoring of products to the needs of customers; secondly, the coaching of customers in the use of products for maximum business benefit; the third, and most advanced, level is the engagement in collaborative innovation with customers. Essentially, customer intimacy involves taking responsibility for the results that the customer gets from a product and trying to optimise the way the customer does business (Treacy and Wiersema, 1995; Wiersema, 1996).

If the Value Discipline business model were applied to manufacturing subsidiaries based in Ireland, this would indicate that the strategic focus must switch from cost-cutting to customer intimacy. However, any models for competitive strategy of FDI in Ireland must first be considered in the context of the body of literature on strategy in MNCs, particularly at the subsidiary level.

While much of the early research into MNCs was concerned with the control of subsidiaries by headquarters, research into the extent to which subsidiaries determine their own strategies can be traced to the 1980s. Researchers noted the potential for subsidiaries to develop their mandates (the work that they were originally chartered by headquarters to perform). Some migrated from simply adopting corporate products and introducing them locally, to adapting products for local markets and ultimately to developing new products (White and Poynter, 1984). Bartlett and Ghoshal (1986) argued that MNCs needed to take advantage of this innovative potential of their subsidiaries. They noted that a 'wider and more diverse range of environmental stimuli', including customer preferences, were 'potential triggers of innovation and thus a rich source of learning for the company' (Bartlett and Ghoshal, 1986: 94). In the 1970s and 1980s there were limited attempts by MNCs to capitalise on this potential. However, ideas developed in selected remote R&D sites were often not successfully integrated into parent companies. In addition, management teams in those subsidiaries that had not been selected as development sites had no incentives to be innovative (Birkinshaw and Hood, 2001).

We are now in what Birkinshaw and Hood (2001: 134) call the 'Liberalism era' of the multinational. MNCs are increasingly recognising that their foreign subsidiaries are a source of competitive advantage (Ferdows, 1997). Each subsidiary is now regarded as having the potential to drive the 'local responsiveness, global integration and worldwide learning capabilities' of its parent corporation (Birkinshaw, 1997: 226). MNCs cannot rely on a few R&D sites but must tap into diverse opportunities in foreign subsidiaries (Birkinshaw and Fry, 1998). Innovation will come from those who are closest to the customer and least attached to the procedures and politics of headquarters. To prevent waste of resources, subsidiaries are encouraged to think of themselves as peninsulas, not islands. They are encouraged to engage in what has been called 'innovation at the edges' (Birkinshaw and Hood, 2001: 132).

Previous research into subsidiary strategy in Ireland has suggested that the appropriate developmental process for a subsidiary may be to seek designation as a centre of excellence in technology or design (Egelhoff et al., 1998). Another suggestion has been that subsidiaries can sustain their operations through the astute wielding of political power within their MNC network (Griffin and Fairhead, 1999). However, subsidiaries in Ireland have also been engaged in subsidiary development through local initiatives and innovation (Delany, 1998; Delany, 2000; Delany, 2003; Molloy and Delany, 1998). The development of Bailey's Irish Cream by Gilbeys, a subsidiary of IDV (now Diageo), is a good example of a successful subsidiary initiative (Delany, 2000).

It could be argued that there is a correlation between the Value Discipline concept of customer intimacy and the innovation being practiced in some subsidiaries. This research seeks to determine the extent to which the Value Discipline model and the literature on subsidiary innovation can describe the strategic options of subsidiaries based in Ireland. Competitive strategies for business in Ireland, including the Value Discipline concept, have been discussed in fora organised by the Irish Centre for Business Excellence (ICBE) at the University of Limerick (UL). The Programme for University Industry Interface (PUII), also based at UL, is conducting research into how the education system, and the Irish workforce, can best adapt to changing modes of business. This research has been influenced by the work of the ICBE and PUII.

Research Methodology

In order to study the research question and to investigate the actual business models in operation, in-depth, semi-structured interviews were chosen as the primary data collection method (Gillham, 2000; Odendahl, 2002). Twelve highly experienced, elite interviewees were chosen. All held positions of influence at regional and national level. Five were chief executives of high-technology organisations.

Three people, in two government agencies – one involved in local-enterprise support and the other in research development at the national level – were interviewed. One interviewee had played a pivotal role in Ireland's industrial development and another is an industrial policy advisor to government. Two academics also participated: one is an internationally renowned expert on Ireland's information technology industry and the other a director of a third-level institution. The approximate average number of years of work experience was 30. There was one woman in the panel. Organisations in the east and west of the country were included.

Most of the interviews were conducted by two members of the research team. Interviewees were briefed beforehand on the research questions. The interviews were primarily interviewee-led, within a framework established by the interviewers. Transcripts were processed using the Nvivo software package for analysis of qualitative data (Seale, 2002; Tappe, 2002). Open coding was used, a hierarchy of subject categories and topics derived, and a weighting system developed to determine the priorities of the group (Trauth and Jessup, 2000).

Models of appropriate business strategies were developed (Urquhart, 2001). To validate findings and extract extra detail about the models, a second round of interviews was held, where interviewees were presented with the findings from the analysis of their individual transcripts and those from the group as a whole. Triangulation took place with the research literature on subsidiary development and on industrial support in Ireland.

The Emerging Business Model

Cyclical Innovation and Proactive Divestment Model

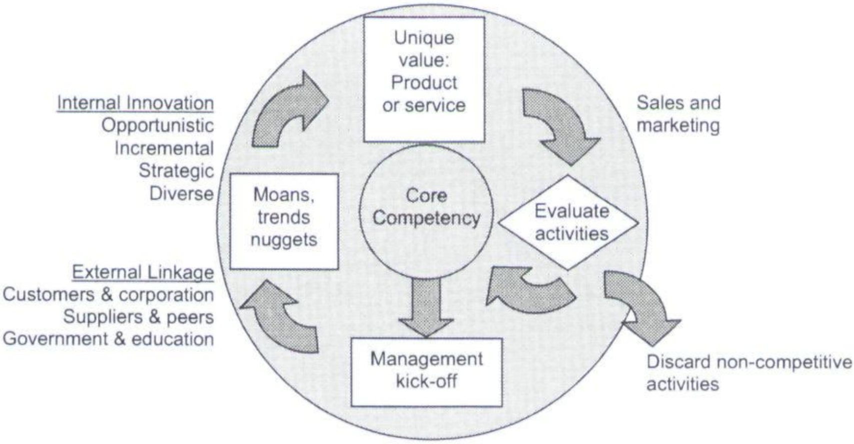
There was general agreement that operational excellence and cost competitiveness alone will not ensure the survival of subsidiaries in Ireland.

> CEO-c: Ireland has excelled in operational excellence in the last ten years. ... But that model is changing ... I think the model has to be more of product development and customer intimacy. You have to be creative in terms of developing new solutions and new products, and then also be creative in marketing and selling those solutions in Europe.

Analysis of the interviews indicated that 'customer contact' was the most important of the ten factors supporting the new business model. This broadly supported the research question. The other factors were cost, control, identity, external links, innovation, incremental growth, research, diversity and divestment.

A cyclical innovation and proactive divestment business model is shown in Figure 9.1 below, which was developed from the research. This model indicates that innovation has its roots in a strong core competency in manufacturing. Success at the core mandate builds trust in the subsidiary at headquarters level. It gives a motivated and entrepreneurial management team the opportu-

Figure 9.1: Cyclical Innovation and Proactive Divestment



nity and resources required to begin to innovate. External linkages are crucial: they bring in new ideas, opportunities and resources with which an internal innovation process can develop something unique and of value. This is exploited for revenue by sales and marketing. The cycle of innovation results in enhanced competencies within the organisation. A regular review process ensures that non-competitive activities are discarded in favour of those of higher value. The following sections will explore the main factors in more detail.

Cost

The interviewees from industry emphasised the importance of cost control in sustaining an operation. While other factors have played a role in the attraction of foreign investment, cost control and financial return will remain crucial in the minds of management at headquarters. Subsidiaries must maintain excellence in their core, manufacturing mandate.

> CEO-a: In the real world what matters is the cost of performing a function …
>
> Warehouse space in Ireland now is the most expensive in the world. I have been given orders to do everything that I can to vacate it …
>
> Messing around with taxes is the quickest way to overshadow all the other positives in a heartbeat.

However, while low costs are necessary, they are not sufficient to sustain an operation in Ireland.

Control

The key for a management team in sustaining a subsidiary is to gain what one CEO described as 'emotional control' over the decision-making process in relation to businesses. Expansion of the range, complexity or specialisation of activities undertaken can result in increased influence and value of the subsidiary to the corporation. However, control over the future location and nature of those activities still rests with headquarters. In times of downsizing, they may become vulnerable. However, if the business is owned and located in Ireland, then the power to control the valuable flow of current and future revenue from these businesses is embedded in the subsidiary, in its people and their technical and management expertise, and in its complex networks of regional linkages and customer relationships.

> CEO-b: It is not to do with the brains. It is to do with the heart. It is where people's … minds are in terms of, 'Well I live in Huston and I've been running a company from Huston. I won't say it, but Huston is what matters to me.' Because everything else is … 'over there' and unless there are very strong emotional ties, it's easy for those things to fall off the map.

Identity

Success at subsidiary level depends on the motivation of the staff and how it identifies with the subsidiary and the corporation.

> CEO-b: I genuinely believe that there is a … West of Ireland factor. I have a great belief in tribalism in a positive sense. When people identify with a place or thing … they want that identity to succeed. You are in the community and you want to be a success for the community.

Local initiatives must be in tune with the needs of the corporation, otherwise they will fail for economic or corporate political reasons.

> CEO-c: I don't buy that [Skunk Works] model … Any enlightened corporation will expect people working geographies like ours to maximise, on their behalf, all the attributes that it's got.
> CEO-b: The identity becomes quite complex … You are working for a company … It has an identity of its own and a brand. You must be loyal to that … But you then have this other identity, 'so what's in it for us' … You have got to marry those two things.

Employees in subsidiaries also need to adjust their perspectives. They need to see themselves as equals in a network of subsidiaries, as potential leaders in the corporation and as experts in the needs of their local and extended customers.

> CEO-b: We are corporate. The psychology is very, very important … To me the biggest challenge that I face is trying to get people to think corporate. To think like they are the headquarters. Not in any arrogant sense. In the sense of, 'We have as much right to run a successful piece of the business for this

> corporation as somebody sitting in [headquarters] or anywhere else'. Why wouldn't we? If we are the best at it and we know more about that business and if it makes logical sense.

Having generated new ideas, the subsidiary can then tap into the MNC's international sales networks to bring the new products to worldwide markets.

Contact with Customers

A feature of this research was that the data analysis supported the contention that links with customers were the best protection for a subsidiary in times of economic downturn and corporate downsizing. Strengthening linkages with external customers is seen as a first step in developing unique, locally customised and valuable businesses, managed by the subsidiary on behalf of the corporation.

> CEO-b: We started to think of other markets and to engage other customer bases. The other customer bases were actually still the same pool of customers, but we found ways to get in touch with those customers, to get close to them and to discover what they actually needed ...We basically led a corporate programme from here, which was kind of unheard of at the time. So we put the business proposition on the table. We invented the programme. We invented the technology. We found the customers ourselves.

Many management teams, due to the position of their subsidiary in the MNC network, find it difficult to access end customers. One interviewee, an expert in industrial development, described the approach of building up external customer contact capability gradually, by lobbying at a corporate level for ownership of a low-risk market. This can allow the subsidiary to develop some customer-interaction skills and experience.

Bartlett and Ghoshal's (1986) early ideas about the importance of the role of the subsidiary in feeding environmental stimuli into the innovation process were echoed within this research.

> AC-b: One of the motivations for American companies to come to Ireland was to be closer to the European market ... It is taking that notion of being close to the customers, which was originally interpreted as a geographical closeness, and also a policy closeness ... and interpreting it as also a closeness in terms of understanding.

Innovation

At the heart of the new business model is an environment that supports innovation. This is not restricted to technological development. It involves business process innovation and a shift in thinking. It requires high levels of commitment and skills from staff.

> CEO-b: Quality and lean and mean and six sigma … that's yesterday's conversation. Now the real challenge is: How do you reinvent? So what we have been doing for the past four years, five years is inventing new businesses and we have invented three substantial new lines of business.
>
> CEO-d: Innovation is about toughness. It's about difficulties. It's about challenges. In this company I set very close-to-impossible tasks for my management. And I recruit the absolute best.

Operational innovation and the pursuit of mandate expansion or moves into services may not be sufficient to sustain an operation.

> IND-a: Innovation in services … is a level up from manufacturing, but again I believe that this will get attacked in the same way as manufacturing gets attacked… [it is merely] 'moving up the value chain', as opposed to things that really have intellectual property or things that are really innovative, which comes from dealing with customers.

Incremental Growth: Going up the Value Chain

Development in manufacturing subsidiaries will not happen simply by parachuting in design groups and investing in higher levels of technology. Growth must be incremental. Management needs to evaluate competencies and build on strengths. Going up the value chain has more to do with the organisation's starting point and the mindset of staff than with technology.

> CEO-b: Unless you have been moving up the value chain for quite some time, you're going to find that that's not something that you just start. It actually becomes a way of life.
>
> CEO-e: 'Why not just stick to the core and just get better at that?' Well, people want to broaden their horizons … If we develop these further capabilities, it cements our future. We've a huge IT organisation … and we've a large automation capability for running the operation … So we've merged those together and we started to create new value added beyond the core work.

As a further example of this there one of the CEOs spoke of 'Pac-Man™-ing' up the value chain; seizing opportunities that fit with the requirements of the subsidiary and the corporation. He described this in the context of greater customer intimacy with internal, corporate customers. His subsidiary's engineers have become an essential part of the MNC's new product development process. Involvement with the design team has also brought his subsidiary staff into contact with end customers.

The ultimate goal of opportunistic, incremental mandate growth is not simply the accumulation of responsibilities and functions. It is the development of the skill sets and the linkages to be ultimately in a position to assist the corporation by developing new businesses with external customers.

Mandate expansion must be carried out while bearing in mind that credibility with end customers and internal corporate customers comes from a strong manufacturing heritage.

The central position of manufacturing in the value chain, between design and the customer, can be exploited as a strength, rather than being regarded as a weakness.

> CEO-b: You get to be a broker. You get to look both ways.
> IND-a: As opposed to us saying 'we don't need the bit in the middle', we just need to take what we have and try to extend it.

Research-Driven Development

Basic R&D can have a role in the subsidiary's survival strategy. Two of the subsidiaries in the study have become involved in major research collaborations with third-level institutions and funding agencies, such as Science Foundation Ireland.

> CEO-c: The hope is that we'd be able to find niches of expertise that reside in Ireland ... Our corporation doesn't really ask us to do that but we sort of see that as a natural mandate of being in this location, the geography, and use the smarts we have.

However, as one interviewee, who has studied the development of Ireland's ICT industry, noted, it can be difficult for a subsidiary to receive corporate support for performing basic research outside its core mandate. Applied, customer-focused research, where the subsidiary has a natural advantage is easier to justify.

One former CEO further pointed out that, although R&D activity is high in value, in times of cutbacks it can be easy for a parent to remove this capability if it is perceived to be merely a cost centre. What is required is not simply the generation of new intellectual property, but the development of revenue streams and long-term customer relationships.

External Links

Subsidiaries need to look outside their walls for assistance from a range of groups. Third-level education institutions and government agencies can be sources of information about technology trends or may provide resources to help test out new concepts. Industry lobby groups and peer companies may offer synergies and business opportunities. The ICT expert interviewed suggested that Ireland's small size can facilitate cooperation and a unity of purpose, which can be turned into an advantage. The former CEO also noted that it is the quality of its network of high-value suppliers that is critical in sustaining a subsidiary. This network includes, not just the nuts and bolts component suppliers, but the financial, legal and wider range of services involved in getting a product to market.

Proactive Divestment

Low-cost economies, many with well-developed infrastructure and education systems, offer MNCs attractive locations in which to perform low-value-added activities. Subsidiary management teams in Ireland need to be continually evaluating the future competitiveness of their current activities. They need to identify the activities that are becoming less viable in Ireland. Rather than trying to hold on to them, subsidiaries need to plan to develop locally grown replacement activities. When these alternative products and services have reached a viable state, the non-competitive activities must be proactively divested. Trying to hold on to non-viable activities will result in a loss of trust in local management and in cost inflation, which may put the entire Irish operation in danger.

Diversity

Subsidiaries need to build up portfolios of value-adding activities, rather than relying on a single core activity. The CEO of a large ICT manufacturing plant described this in terms of an 'intertwined' or 'patchwork quilt' set of activities. However, as two other CEOs pointed out, diversity in activities needs to be closely monitored. If cost control is not maintained, corporate headquarters may begin to question the motives of local management.

Conclusion

The research indicates that the Treacy and Wiersema (1993) Value Discipline model can add value to the debate on the future strategies of subsidiaries based in Ireland. In particular, it points to the effectiveness of a strategy based on customer intimacy as an alternative to competition based on cost. It further indicates that customer intimacy will be most effective when combined with innovation.

The strategies proposed fall clearly into the category of 'innovation at the edges' proposed in the subsidiary strategy literature. Initiatives, taken in the subsidiary, result in the generation of new products and services for customers, within the area covered by the mandate of the subsidiary. This is seen as a more viable option than the pursuit of 'centre of excellence' designation or political power-playing. Additional factors necessary for innovation in subsidiaries have also been identified.

The relevance of this research for industry in Ireland is further underlined by the recent findings of the Enterprise Strategy Group (2004). This cross-functional group, including industrialists, academics, union representatives and financiers, conducted a one-year investigation into Ireland's future industrial development policy. The report puts the need to develop expertise in international markets top of the list of its five key areas in which Ireland can develop a competitive edge. It states that, 'Foreign-owned subsidiaries in Ireland that identify market needs and work with the Irish research base to satisfy them will become strategically important to their parent organisations and embedded in the Irish economy' (Enterprise Strategy Group, 2004: 51).

The new subsidiary business model represents a shift away from 'black-box' manufacturing. It does not involve dumping manufacturing in favour of services or research. It requires that excellence in manufacturing and cost control be maintained, but that new competencies be developed that are extensions of the existing ones. It requires staff to 'think corporate', 'think customer' and innovate.

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