INTERNATIONALISATION OF VALUE CHAIN ACTIVITIES OF SMALL FIRMS: ONE SMALL STEP, ONE GIANT LEAP

Manuel Jose Oyson: University Of Auckland Business School, Auckland City, New Zealand

Contact: Manuel Jose Oyson, University of Auckland Business School, Owen G. Glenn Building, Level 4, 12 Grafton Road, Auckland City, 1142 Auckland City, New Zealand, (T) +63 9 6260053, Email: m.oyson@auckland.ac.nz

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ABSTRACT

New and greater opportunities for cross-border activities have emerged from globalisation and new technologies. As a result, international markets are now seeing increased internationalisation among small firms, often with great speed and close to firm inception. Yet, there are limits to our current understanding of international entrepreneurship. We present in this paper the *dynamic value chain approach* (DVCA) to international entrepreneurship which we used to study the internationalisation of value chain activities of eight small, high-technology New Zealand firms. The DVCA provides a holistic view of firm internationalisation, opening new insights into the internationalisation processes of firms.

Keywords: international entrepreneurship, internationalisation, value chain

INTRODUCTION

New and greater opportunities for cross-border activities have emerged from globalisation and free trade. Trade barriers that deterred international activities have eased, opening more opportunities for firms to enter international markets (Wright & Etemad 2001). Cheap transportation and advances in information and communications technology have also ushered more opportunities for faster international exchanges and lower transaction costs (Porter 1990). As a result, international markets – long the domain of large multinational enterprises (MNES), are now seeing more small firms engaging in international activities (McDougall & Oviatt 2000), often at a faster pace (Hedlund & Kverneland 1985). For some firms, internationalisation is also happening at close to firm inception (McDougall et al. 1994). These developments have attracted greater interest in international entrepreneurship (Chandra et al. 2009) and drawn the attention of both academics and practitioners alike (Servais et al. 2006).

Yet there remain limits to current understanding of international entrepreneurship. Stage theories, while remaining popular in the IE literature (Ruzzier et al. 2006; Wickramasekera & Oczkowski 2006), have been the subject of strong criticism (Reid 1984; Turnbull 1987; McDougall & Oviatt 2000). The Uppsala "stage" model of Johanson and Weidersheim-Paul (1975) and Johanson and Vahlne (1977) suggest that firms, after developing in their domestic markets, progress through stages of greater involvement in foreign markets in a gradual, incremental manner as they gain experiential knowledge. Innovation-related models– I-models (Andersen 1993)– of Bilkey and Tesar (1977), Cavusgil (1980), Czinkota (1982), and Reid (1981) also propose that internationalising firms go international "in a slow and incremental manner" like "rings in the water," to gradually gain market knowledge in order to reduce uncertainty and risk (Madsen & Servais 1997: 561-562). Knowledge is also important in internationalisation because "the better the knowledge about a market, the more valuable are the resources and the stronger is the commitment to the market" (Johanson & Vahlne 1977: 28). But studies of Cannon and Willis (1981) and Turnbull (1987) have shown that firms do not always internationalise incrementally. Welch and Luostarinen (1988) also reported that some firms skipped "stages" and entered foreign markets with surprising rapidity. Jolly et al. (1992: 71) came across high technology start-ups that leapfrogged "some of the traditional intermediate states of internationalization."

This has led some scholars to assert that firm internationalisation is not always linear and deterministic as stage theories suggest (Reid 1981; Bell 1995). Reid (1983) argued that there are no predetermined

internationalisation pathways that firms must take to enter foreign markets. Johanson and Vahlne (1990) attempted to explain the shortcomings of stage theories by arguing that their model applies best to the early stages of foreign engagement. But this attempt to "deflect criticism of stage theory" has been even more unsuccessful in trying to explain the increasing emergence of international new ventures (INVs) that not only skipped stages of internationalisation but engaged in cross-border activities at or near inception (McDougall et al. 1994: 476). Generally accepted theories from international business: monopolistic advantage theory, product cycle theory, state theory of internationalization, oligopolistic reaction theory, and internalization theory have also been unable to adequately explain the formation processes of INVs (McDougall et al. 1994). Johanson and Vahlne's (2009: 1420) recent statement that "the establishment chain is not part of the model, but rather a summary of the empirical observations on which we based our inductive theoretical arguments" only fuel the need for a continuing search for internationalisation models that allow for a better understanding of firm internationalisation processes. Their (2009: 1411) observation that "much has changed" since the publication of their internationalisation process model in 1977 may also explain the difficulty in arriving at a model that holds universal utility. A model is a "simplified representation or abstraction of reality" (Turban & Meredith 1991: 30). If that reality changes - if that that reality is in a constant state of flux – as is the case of firm internationalisation impacted by globalisation and new technologies, it may be little wonder that models can often fall short.

We agree with Johanson and Vahlne's (1990: 14) defence of their model "that the critique should be directed at the very partial nature of the model, which is the consequence of a very conscious effort by the model builders to catch one single, and so far rather unnoticed, mechanism with strong explanatory power regarding a wide spectrum of manifestations of the internationalisation of the firm." We also echo Sullivan and Bauerschmidt's (1990: 28) concern that "our confidence in the overt logic of Johanson and Vahlne's thesis (should not hamper) developing other explanations of internationalization." This paper has two main objectives: (1) to discuss our findings on the internationalisation processes of eight small, high-technology New Zealand firms, using a dynamic value chain approach (DVCA); and (2) to develop the DVCA as a useful framework for understanding firm internationalisation.

New Zealand context

With New Zealand's limited domestic economy and small population of 4.4 million, New Zealand enterprises need to explore international markets if they are to grow (Bowen et al. 2003). NZ firms, however, face the twin obstacles of having to overcome distance and firm resource constraints. Apart from being located in a country that is geographically isolated, 97.2% of all New Zealand enterprises are small and medium enterprises (Ministry of Economic Development, 2010). But globalisation, lower transportation costs, and new technologies have provided new and greater opportunities for small firms to engage in cross-border activities (Porter 1990; Wright & Etemad 2001), paving the way for New Zealand firms to more actively engage with international markets. The question is how?

There are lessons to be derived from the internationalisation theories that emerged mainly from the international business (IB) literature (e.g. Buckley 1979; Dunning 1981; Casson 1985; etc.). But their context is derived mainly from the internationalisation of large MNEs. The emergent field of international entrepreneurship (IE) has also contributed greatly to a better understanding of how small, resource-constrained firms are able to expand into international markets, often rapidly and near inception (Jones & Nummela 2008). But just like the IB field, IE research has been driven mainly by studies from Western countries, and what some would call the "Nordic" perspective (Liesch et al. 2003). Western-centric internationalisation models may be less suited to the NZ context. NZ's geographic isolation is in stark contrast to the porous, interconnected borders of Europe where cross-border activities of European firms is eased by an often imaginary line that demarcates the border between countries.

The New Zealand government recognises that the involvement of New Zealand firms in international markets is critical for the country's economic transformation (Office of the Minister for Economic Development 2006). In 2007, Statistics New Zealand (2009) conducted the Business Operations Survey (BOS) 2007, a large-scale survey of NZ businesses, to gain a better understanding of the types of NZ international engagement. The survey used "generated overseas income" as the measure for international business engagement and reported that 20% (1 in 5) of New Zealand businesses generated overseas income (Statistics New Zealand 2009: 7). To conclude from this survey, however, that there is a high level of international business engagement" – i.e. "internationalisation" – by New Zealand firms may be inaccurate. Statistics NZ (2009: 7), in its definition of "overseas income," included "ownership of overseas assets (eg foreign direct investment)" and "income from overseas residents visiting or studying in New Zealand (eg

tourism and education)." Using those as proxies for internationalisation may be problematic as they have a tendency to skew the true picture of international firm engagement. Tourism – which includes expenditures by foreign students studying in New Zealand for less than 12 months – is a major industry in New Zealand and accounts for 3.8% of its GDP (Statistics New Zealand 2009b).

Other New Zealand sources indicate that NZ lags in export activities compared to other OECD nations, with only 2.5 per cent of all its potentially-exporting SMEs engaged in exporting (Bowen et al. 2003), and 33 firms accounting for 80 percent of all its export earnings (Anderson 1999). This low level of international activity is at odds with reports of NZ as one of the world's most entrepreneurial countries, ranking third worldwide in terms of entrepreneurial start-up activity, according to the Global Entrepreneurship Monitor (Howard & Chittock 2005). With this as background, this study also seeks to enhance the understanding of internationalisation processes of NZ firms to contribute to the knowledge and discourse on firm internationalisation. We develop further the *value chain approach* advanced by Oyson and Whittaker (2010a) as a framework for a better understanding of firm internationalisation processes.

VALUE CHAIN ACTIVITIES AND FIRM INTERNATIONALISATION

Porter (1985: 36) argued that a firm can be viewed as a collection of "activities that are performed to design, produce, market, deliver, and support its product." The value chain (VC) "describes a way of looking at a business as a chain of activities that transform inputs into outputs that customers value" (Pearce & Robinson 2000: 206). These activities encompass the "full range of activities" needed to bring the product into existence and final disposition after delivery to end users (Kaplinsky 2000: 206). Value activities, explains Porter (1985: 38), "are the building blocks by which a firm creates a product valuable to its customer." Different value chain configurations can lead to different value propositions (Armistead & Clark 1993). This makes a firm's VC, composed of primary and support activities, a key source of competitive advantage (Porter 1985). Primary activities - inbound logistics, operations, outbound logistics, advertising and sales, and service - involve "the physical creation of the product and its sale and transfer to the buyer as well as after-sales assistance" (Porter 1985). Support activities - firm infrastructure, human resource management, technology, and procurement - "support the primary activities and each other by providing purchased inputs, technology, human resources, and various firmwide functions" (Porter 1985: 38). An analysis of a firm's VC allows the firm to determine which activities are "a source of core competence and, hence, of competitive advantage" (Hitt et al. 2007: 91). VC analysis "begins by redefining what the company really does" (Quinn et al. 1990: 79), dividing its operations into discrete activities (Pearce & Robinson 2000), and determining which activities are value-adding (Giao et al. 2008).

Often, firm value chains are part of a wider network of value chains or value chain systems that extend beyond the firm (Porter 1985). Value chains systems can encompass industries, and the globe– in what are known as global value chains (Sturgeon 2000; Sturgeon et al. 2008). value chain concept is evident in its has been applied in analysing these industries: retail (Pederzoli 2008), apparel (Gereffi & Memedovic 2003), and automotive (Sturgeon et al. 2008). It is also prominent in studies on competitive strategy (Porter 1985), corporate strategy (Hofmann 2010), supply chain (Pederzoli 2008), marketing (Terpstra & Sarathy 1994), service operations (Armistead & Clark 1993), and public sector management (Williams & Duncan 2008). The value chain lends itself to broad application and exploration in various ways, depending on what the analysis seeks to do (Giao et al. 2008).

Dynamic value chain approach and firm internationalisation

The value chain concept can be useful in international entrepreneurship (IE) studies because of its suggestion that a firm can disaggregate its constituent value chain activities. Firm internationalisation may mean – and typically does – "that part – not necessarily the entirety – of a firm's value chain activities has been internationalised" (Oyson & Whittaker 2010a: 8). Using the dynamic value chain approach (DVCA) in international entrepreneurship studies would allow the process of firm internationalisation to be disaggregated to determine the discrete firm activities that have been internationalised. Oviatt and McDougall (1997: 97) had observed that while "the study of the internationalization of distinct value chain activities holds promise for improving our understanding of the process of internationalization, little empirical knowledge has yet been developed about these issues, especially with regard to new and small industries." We refer to the value chain approach as *dynamic* because the international market or markets in which value chain activities may be internationalised are always in a state of flux and dynamism. As a

process of internationalising value chain activities, firm internationalisation is not static since there is a constant shifting of firm value chain activities in foreign markets.

Almeida and Bloodgood (1996) sought to determine which parts of the primary value chains of a sample of U.S.-based INVs tended to be internationalised. Porter (1985) had classified inbound logistics and operations as *upstream activities*, and marketing and sales, and service as *downstream activities*. Porter (1986) noted that downstream activities are typically associated more with a firm's attempt to enhance its reputation, brand name, and service links. The researchers found that downstream activities of these INVs were more likely to be internationalised than upstream activities. However, it may be difficult to extend their findings to small firms. Their sample consisted of large, venture-capital-backed firms with: an IPO, mean sales of \$79 million, and employee mean size of 1,668. Furthermore, their study focused on primary value chain activities and failed to examine the internationalised. Servais et al. (2006) also focused on the international value chains of small firms; in particular, sourcing and procurement. They found that small firms also extensively engage in foreign purchasing, with importing being more common among early international SMEs. Their study, however, did not systematically analyse the internationalisation of a firm's full value chain, i.e. including both primary and support value chain activities.

It would appear that while there have been attempts to examine firm internationalisation from the viewpoint of internationalised value chain activities, no systematic framework has been yet developed by which to analyse firm internationalisation using value chain concepts. Broad concepts such as exports, sales subsidiary, or manufacturing – key processes in stage theories – may not fully depict internationalisation processes and ignore the internationalisation of support value chain activities. Fletcher (2001: 45) argued that "internationalisation should be viewed in a holistic way rather than in terms of the form it takes." The DVCA also recognises that internationalisation involves both inbound and outbound activities and "a wider set of selling opportunities (and)... of sourcing opportunities" since the firm, in fact, typically engages in internationalisation processes of firms is consistent with broader definitions of internationalisation as "the process of increasing involvement in international operations" (Welch & Luostarinen 1999: 84) or "the geographic spread of economic activities across national boundaries" (Gereffi & Memedovic 2003: 4).

Viewing internationalisation broadly to comprehend the internationalisation of primary and support, inward and outward connections, and upstream and downstream activities, recognises that there is more to internationalisation than are depicted in stage theories. Internationalisation should be viewed as reflecting a diversity and depth of operational modes (Welch & Luostarinen 1999). The departure from a sales orientation is important because internationalisation may not be driven by considerations to generate foreign sales. IE studies have tended to look at firms' sales and their export activities (Servais & Jensen 2001), neglecting inbound firm activities even though they constitute a key part in international exchange (Liang & Parkhe 1997). Inbound activities have also been actively used by firms to gain foreign market entry and to support international marketing and production activities (Arnold 1989). By looking at firm internationalisation as involving the internationalisation of firm value chain activities, we address the concern of Liesch et al. (2003: p. 30) that research "on foreign operations reveals that to treat foreign operation mode in a broad ways masks important development at the process level... It is evident that empirical research is needed that explores exactly how, and to what extent, mode combinations are used by firms to advance their international activities."

The dynamic value chain approach (DVCA) to firm internationalisation has the added benefit of examining the mode of entry of firms. Choice of mode of entry is strategic and has a significant effect on firm performance (Coombs et al. 2009). The DVCA also captures the process by which firms expand the scope of their foreign operations through the expansion of their value chains. The DVCA, by capturing the increasing firm involvement in foreign markets, depicts the multidimensionality of firm internationalisation processes (Oviatt & McDougall 1997), is dynamic, and goes beyond single-dimensional approaches that focus, for instance, on modes of entry or specific internationalisation drivers (e.g. knowledge, learning, capabilities, resources, etc.). The DVCA is also a tool for analysing the international entry strategies of firms and can guide business practitioners in planning their internationalisation strategies. The DVCA locates itself in the process approach of internationalisation studies which adopts a behaviourist perspective of the organisation (Cyert & March 1963; Rialp & Rialp 2001). Liesch et al. (2003: 29) believe that current process approaches to firm internationalisation need further development and argue for a continued exploration of "new ideas that advance understanding of the dynamics of firm internationalization."

RESEARCH METHODOLOGY

We adopted a qualitative research methodology in order to explore the multiple dimensions of firm internationalisation, and to generate thick descriptions (Geertz 1973) of firm internationalisation processes. A qualitative approach allows a broader range of questions to be asked (Hesse-Biber & Leavy 2004), and permits more in-depth questions on the 'hows' and 'whys' of firm internationalisation processes. We built case studies using semi-structured, in-depth interviews with the CEOs, founders, and/or General Managers of eight New Zealand small and medium enterprises (SMEs) doing business with Asia. To address the issue of retrospectivity, we used multiple sources to collect further firm data from company brochures, reports, and websites, online news, and media publications. Our development of eight case studies is consistent with case study methods which generally focus on a few cases that provide depth, detail, richness, and completeness of the phenomenon being studied (Gerring 2007). Each case does not claim to be representative of the wider population being studied (Yin 2009) but does contribute to a better understanding of a larger class of similar cases (Gerring 2007). We did not see the need to study more firms since our eight cases provided the rich and deep insight on firm internationalisation processes that we needed. They also exhibited sufficient replication of firm internationalisation processes so that further cases would have been redundant and unnecessary.

Our in-depth, semi-structured interviews lasted from one to one-and-a-half hours and were audio recorded with the informants' respective consents. The audio recordings were later transcribed by a professional transcriptionist. Each interview was done by at least two researchers: a lead interviewer who directed the interview and a second interviewer who made sure that the main research questions were covered, and helped ensure that some answers were clarified and amplified. The interviewers conducted a debriefing and exchanged notes after each interview. We used an interview protocol to record information and observations made during the interviews (Creswell 1998), as well as an interview guide to ensure that there was comprehensive coverage of key themes (Rubin & Babbie 2007). This procedure was also intended to achieve a high level of consistency across interviews. We used the interview transcripts to systematically analyse the internationalisation of firm value chain activities.

We focused on New Zealand SMEs doing business with Asia for four reasons: first, there is growing involvement of SMES in international markets (Knight & Cavusgil 1996); second, a substantial majority (97.2%) of New Zealand firms are SMEs (Ministry of Economic Development 2010); third, the IE literature has shown increasing interest in small firms (Coviello & McAuley 1999); and fourth, the process of small firm internationalisation continues to be less well understood (Chandra et al. 2009). We adopted the European Commission's definition of small and medium enterprises (SMEs) as firms that 'employ fewer than 250 employees' (Commission of the European Communities 2003; Audretsch et al. 2009). In fact, all our samples had fewer than 25 employees. It may be worth pointing out that small firms "are not smaller versions of big business" (Shuman & Seeger 1986: 8) and are "quite different from big firms and must be studied separately" (Julien 1993: 158) Smaller firms have different managerial processes (Smith et al. 1988), show quick decision-making (Julien 1993), and have structures that are simpler, less formal, and more flexible than those of larger firms (Carrier 1994; Carson & Coviello 1996). SMEs also have greater internationalisation constraints with their limited financial resources, management, time, and experience (Buckley 1989; Bell et al. 1991). They do have the advantage of being quicker, more flexible, and adaptable (Knight et al. 2003). Consequently, the internationalisation processes of small firm firms are different from those of larger firms (Miesenbock 1988; Coviello and McAuley 1999).

In addition to being small, the firms in our study were also knowledge-based and technology-intensive. This selection was influenced by the report of Bell et al. (2001) that firms which were knowledge-intensive tended to be more actively engaged in cross-border activities. Such firms are also often reported to be involved in early and rapid internationalisation (Jolly et al. 1992; Bell 1995; Jones 1999). Since we were interested in better understanding the internationalisation processes of firms, we followed a purposive sampling approach (Creswell 1998), an approach that is best suited for small-scale, in-depth studies where the choice of sampling units is based on specific characteristics that allow for a more comprehensive understanding of research phenomena (Mason 2002; Patton 2002). Eisenhardt (1989: 537) pointed out that "random selection is neither necessary nor even preferable" when one seeks to extend theory.

Our sampling frame was further limited to New Zealand firms that engaged with Asia. (Firm profiles are in *Appendix 1.*) While we considered firms that expanded their activities to other geographic markets such as the U.S., Europe, etc., for them to be considered for inclusion in our sampling frame, they needed to have business engagements with Asia as well. We came across all our samples based on the attention that they

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received from the New Zealand media. This showed that these firms had interesting stories to tell about their internationalisation processes. They were also typically described as success stories. These validated our purposive approach in selecting the samples for our research. There were two main reasons that drove our focus on firms with business engagements with Asia: first, by choosing only those firms that had Asian business engagements, we minimised the moderating influence of geographic market variables in firm internationalisation processes; and two, our study is part of a bigger research project in the University of Auckland Business School that seeks to better understand New Zealand business engagement with Asia.

RESULTS AND DISCUSSION

This paper has two main objectives: (1) to discuss our findings on the internationalisation processes of eight small, high-technology New Zealand firms that have business engagements with Asia, by analysing the internationalisation of their value chain activities; and (2) to develop the dynamic value chain approach (DVCA) as a useful framework for understanding firm internationalisation processes. We begin this discussion by expounding on value chain internationalisation analysis through the DVCA modelling of firm internationalisation.

Dynamic Value Chain Approach (DVCA) modelling of firm internationalisation

We examined firm internationalisation by modelling the process by which each firm's value chain activities are internationalised. A model, according to Turban and Meredith (1991: 30) is a "simplified representation or abstraction of reality." A model "describes, reflects, or replicates a real object, or process, but does not "explain" it" (Meredith 1993: 5, citing Zaltman et al. 1982). Each model attempts to abstract the complexity of a phenomenon and "isolate a few key variables whose interactions are examined in depth" (Porter 1991: 97). Johanson and Vahlne (2009: 1416) argue that the "aim of theory building is not to replicate a complex reality; it is to explain its central elements." The key challenge in model-making, therefore, is to obtain "adequate simplifications, while maintaining sufficient realism" (Meredith: 5). While "(n)o one model embodies or even approaches embodying all the variables of interest, ... models, at their best, provide insights into complex situations that are hard to understand without them, which can inform the analysis of a particular company's situation" (Porter 1991: 97-98).

We begin the DVCA modelling of firm internationalisation by using the *metaphor* of "building blocks" to depict the process of firm internationalisation. Imagine firm internationalisation as the process of building a brick wall ("firm value chain") using bricks ("value chain activities") as building blocks. Firm internationalisation would entail adding more and more bricks as the firm internationalises more and more of its value chain activities. Applying this metaphor to DVCA modelling of firm internationalisation, we can build the DVCA model of one of our sample firms, RJ Roadworks¹, a road-works machine manufacturer (Figure 1). The first brick wall to be built is that of the founded firm. The goal of the researcher is to isolate only those key value chain activities that should be examined in depth, as Porter (1991) suggested, while ignoring the rest. Since modelling involves "abstraction of reality" (Turban & Meredith 1991: 30), the researcher should also focus only on the internationalisation activities in key foreign markets to avoid unnecessary complexity. It should also be remembered that "the value chain is merely a descriptive construct, at most providing a heuristic framework for the generation of data" (Kaplinsky 2000: 122). As a dynamic tool of analysis, it should be able to capture changes in the phenomenon being studied. Just like metaphors, the model should be able to tell a story without getting bogged down in unnecessary detail that detracts from the main storyline. The first brick wall ("value chain") of RJ Roadworks in New Zealand shows all nine key value chain activities, as would be expected in a fully-operational firm: inbound logistics (IL), operations (Op), outbound logistics (OL), marketing and sales (MS), service (Se), firm infrastructure (FI), human resources (HR), technology (Te), and procurement (Pr). The second brick wall is that of its internationalised activities in the U.S. RJ Roadworks began its international operations by importing (i.e. engaged in inbound logistics) key supplies and materials from the U.S. in 1982 to support its local operations and sales in New Zealand. In 1982, it had its first export (outbound logistics) to the U.S. (This is depicted by the second building block built on top of the first.) This required providing support services as well to ensure that its road-works equipment worked well. By then, it had sourced most of its own key supplies and materials in New Zealand. Further expansion of its international activities in the U.S. occurred in 2004 (shown by the third brick wall) when it decided to set up a marketing and sales office to actively solicit more accounts in that country.

FIGURE 1. DVCA MODEL: RJ ROADWORKS



Further involvement in foreign markets occurred in 1985 with its exports to Australia which required providing service support. In 1990, it built up its presence in Australia by setting up a marketing and sales office. RJ Roadworks first sold to the Asian market by exporting its machinery to Taiwan. It expanded its operations in the Taiwanese market by setting up a marketing and sales office in 2002. It cracked the Indian and Chinese markets in 2010. Its operations in India, however, were simpler than those in China. It had sold and exported its machinery in India to a distributor who was then responsible for servicing any machinery that was sold. Thus, only outbound logistics was internationalised. In China, it sold and exported ("outbound logistics") its machinery to a Chinese distributor but had to undertake some of the assembly and production ("operations") in China; the Chinese distributor also engaged in manufacturing of equipment and insisted on this special arrangement. Having entered the vast Chinese market, it decided to set up a marketing and sales office as well to expand its sales in the country. Asked why it took so long for them to venture into the Indian and Chinese markets, RJ Roadwork's founder John Trotmann explained that its internationalisation activities were "opportunistic". He said:

You've got to know somebody there. You can't just go in. If I went along there with a heap of brochures, you know, I wouldn't get the time of day. It's resources, too. The world is huge. Everything is such a long distance from NZ, so initially it was just (name A) and (name B), and one or two guys. And to visit all these offshore markets... You could spend the resources and go to lots of different places around the world. But for us, it has been better to get a market and work on a particular market.... You can't just go cold calling. And in some ways people are coming to us... We are very reactive than proactive.

DVCA and firm internationalisation processes

The above DVCA modelling exercise demonstrates that, using the dynamic value chain approach, firm internationalisation can be explored and examined in greater depth by looking at the internationalisation of a firm's value chain activities from eight perspectives: (1) foreign market entry mode; (2) age at internationalisation; (3) level of foreign market involvement; (4) scope of firm value chain activities across countries; (5) pace and rhythm of firm internationalisation; (6) choice of markets; (7) value chain delivery points; and (8) internationalisation strategy. Due to space constraints, we will only focus on the first four internationalisation dimensions and present six of the DVCA models of our sample firms.

Foreign market entry mode

Internationalisation studies have examined foreign market entry modes "to explain the organizational forms that have evolved in response to the nature of the interface between the firm and its foreign markets, and the forms that are appropriate for particular foreign markets" (Liesch et al. 2003: 30). This was motivated in part by an attempt to determine "the optimal mode for entering a market by analyzing their costs and risks based on market characteristics and taking into consideration their own resources" (Johanson and Vahlne 2009: 1412). The Uppsala internationalisation model and the innovation-related models reflect the importance of foreign entry modes. We begin our discussion of this part of our findings from that perspective and show the constraints of such research stream.

Except for one firm (Alffa Software Solutions), all the other seven firms in our study had ventured into multiple foreign markets. One observation was evident. Firms used various entry modes in entering different foreign markets (see *Appendix 2*). A single firm would also typically use various entry modes in entering new foreign markets. Only one firm, KC Friendly Rewards – a "born-again" global – adopted exporting as the single, preferred mode of foreign market entry. All the others regularly changed foreign entry mode strategies. DOTelCo NZ, an INV, engaged in exporting, set up a sales office, and relocated its headquarters in different countries. Another firm, RJ Road Works engaged in imports, exports,

distributorship, and licensing. Another INV, RM TeachTech, set up subsidiaries in Brazil and Australia, a sales office in China, and entered into a licensing agreement in South Africa. These findings do not support the proposition of stage models that foreign market entry typically begins with exports. Furthermore, while two of our sample firms expanded their involvement in particular foreign markets by setting up subsidiaries, these same firms did not always set up subsidiaries in their other foreign markets. In most cases, the initial foreign market entry did not lead to an increasing involvement or commitment in a foreign market. These findings further demonstrate the limits of stage theories.

More importantly, by focusing on the foreign entry mode, the complex processes involved in firm internationalisation are obscured. Liesch et al. (2003: 30) cautioned that research "on foreign operations reveals that to treat foreign operation mode in a broad way masks important developments at the process level." Broad mode of entry concepts may mask other internationalisation processes that may be involved. For instance, although DOTelCo NZ, a service firm and a server platform provider, "exported" its services to Spain, Indonesia, and the Philippines, it actually had to internationalise some of its service and technology activities as well (*Figure 2*). In addition, there were differences in the component value chain activities across foreign markets. In Spain, exports were accompanied by services and technology. In Indonesia where a subsidiary was established from the start, firm infrastructure, human resources, and technology were similarly internationalised. In the Philippines, operations were not internationalised, mainly because DOTelCo NZ had outsourced the delivery of its services. It should also be pointed out that to label the delivery of services in foreign markets as "export" may appear tenuous. Services are not like physical, tangible products that can just be shipped out.

FIGURE 2. DVCA MODEL: DOTELCO NZ



Age at internationalisation

Interest in the age at which an organisation internationalises grew with McDougall's article on the international new venture (INV) in the Journal of Business Venturing in 1989. At that time, she proposed a definition of IE as the "development of international new ventures or start-ups that, from their inception, engage in international business" (McDougall 1989: 388). This definition notably "excluded all established firms and included those firms that were international from inception" (Coombs et al. 2009: 33-34). Interest in the INV gained momentum with the publication of Oviatt and McDougall's article, "Toward a Theory of International New Ventures" in the Journal of International Business Studies in 1994. Since then, a body of literature has grown that focuses on internationalising firms soon after their start-up (Crick 2009). Such internationalising firms have also been called "high technology start-ups" (Jolly et al. 1992), "global start-ups" (Oviatt & McDougall 1995), "born globals" (Knight & Cavusgil 1996; Madsen & Servais 1997), "entrepreneurial instant exporters" (McAuley 1999), "international ventures" (Kuemmerle 2002), and "born-international SMEs" (Kundu & Katz 2003). INVs defied the gradual, incremental stages of foreign market involvement proposed by stage theories (Oviatt & McDougall 1994).

The DVCA captures clearly the age at which firms internationalise. In our study, we studied the internationalisation activities of four INVs: DOTelCo NZ, SO Hobby Light (*Figure 3*), TS SunWear, and RM TeachTech). What is notable is that all four firms were established in 2000 and afterwards. In our interviews with them, they had all pointed to international opportunities that emerged from the internet and globalisation. In the case of SO Hobby Light, its products was launched into the international market through a single web page that mentioned what the product was. Recalled John McAllister, its founder:

So then with three weeks to go before we were able to ship the product, we launched the full website and you could go on and you could buy one. But it would say that this product is in pre-release form, is not yet available, thank you for your order... we will ship your order to you before, and then there was the date for delivery. And hence, rest assured if anything happens with our launch plan, you will be offered to have the chance of a full refund or wait. But, it has happened.

FIGURE 3. DVCA MODEL: SO HOBBY LIGHT



SO Hobby Light sold its products in Japan, Korea, Europe, the U.S., and Singapore in less than two years from inception. A similar rapidity in firm internationalisation was experienced by TS SunWear (*Figure 4*). One year after its launching in 2006, it had begun to ship its products to customers in the Netherlands. It subsequently entered and sold its products in the U.S. market in 2008, in Korea in 2009, and in Oman in 2010. There were differences, however, in the internationalised activities across markets since while SO Hobby Light sold its products through wholesalers in the Netherlands and Oman, which then distributed its products to its own distributors— thus, dispensing of the need for marketing and sales, and service, it had greater involvement in the U.S. and Korea. In these latter markets, it sold its products directly to distributors which then had to be supported by marketing, sales, and service activities.

FIGURE 4. DVCA MODEL: TS SUNWEAR



Level of foreign market involvement

Internationalisation has been defined by Welch and Luostarinen (1999: 84) as the "the process of increasing involvement in international operations." This acknowledges the attempt of firms to gradually increase their level of involvement in foreign markets over time as they gain greater market knowledge (Johanson & Vahlne 1977; Madsen & Servais 1997). Stage theories depict the increasing involvement of firms in foreign markets as they internationalise more of their value chain activities. It denotes both a horizontal and vertical expansion of internationalised value chain activities. Foreign market involvement typically involves market commitment, composed of "the amount of resources committed and the degree of commitment, that is, the difficulty of finding an alternative use for the resources and for transferring them to it" (Johanson & Vahlne 1997: 27). Foreign market involvement can also refer to the degree by which value chain activities have been internationalised. Although a higher degree of foreign market involvement typically involves the commitment of greater firm resources and the internationalisation of more value chain activities, the two may not always coincide. A firm can increase its level of foreign market involvement by internationalising more of its value chain activities, and yet not increase its level of resource commitment when, for instance, it enters into joint venture agreements. In this case, more of the resource commitments may come from the other party. Take the case of RJ Roadworks which we cited earlier. It increased its market operations in China by internationalising part of its production and service activities. The resources for these latter activities were handled, however, by its Chinese counterpart.

Our study also showed varying levels of foreign market involvement. PG Transport Carousel (*Figure 5*) set up a manufacturing subsidiary in the U.S. The firm expanded its involvement in the U.S. market to be able to compete as a domestic firm and to avoid the imposition of higher taxes and duties on foreign firms. This was also necessary for it to attract venture capital funding in the U.S. In other foreign markets such as in Australia, Malaysia, and Indonesia, however, it has not increased its level of involvement. DOTelCo NZ also set up a subsidiary in the U.K. in order to attract equity funding from U.K.-based investors and to be able to operate as a U.K. company with a stronger global image, rather than being viewed as a New Zealand company. Other firms such as SO Hobby Light and TS SunWear, however, have not increased their levels of foreign market involvement – and do not intend to, according to their founders, belying the incremental expansion into foreign markets proposed by stage theories.

FIGURE 5. DVCA MODEL: PG TRANSPORT CAROUSEL



The importance of inbound logistics was also highlighted in our research. The lead entrepreneurs of three internationalising firms – TS Sun Wear, RJ Road Works, and Hobby So Light – acknowledge that the importation of key components and resources (inbound logistics) was critical to the ability of their firms to venture into other foreign markets. Typically, key components were unavailable locally in NZ. Also, importing from abroad often permitted them to lower their production costs, enabling them to sell their goods abroad at better prices. These findings support broader notions of internationalisation as comprehending inbound and outbound activities (e.g. Monczka & Trent 1991; Servais & Jensen 2001).

Scope of firm value chain activities across countries

Researchers on firm internationalisation continue to struggle with measures of firm internationalisation (Wickramasekera & Oczkowski 2006). Sullivan (1994) pointed to the limitations in determining the "degree" of firm internationalisation as researchers use different measures such as: foreign sales as a percentage of total sales, foreign assets as percentage of total sales, and the number of foreign subsidiaries. One other measure can be the number of foreign markets in which a firm operates. This would be consistent with the definition of internationalisation as "the geographic spread of economic activities across national boundaries" (Gereffi and Memedovic 2003: 4). Using the dynamic value chain approach permits an examination of the scope of value chain activities across countries. In the case of KC Friendly Rewards (*Figure 6*), it has a broad scope of internationalisation stretching from Asia, to the U.S. and South America, the Middle East, and Europe. But it built its broad international presence through a period of close to 40 years, displaying the characteristics of a "born-again global" – a firm that exhibits bursts of dedicated internationalisation after years of strong domestic focus (Bell et al. 2001). Its behaviour can be distinguished from those of DOTelCO NZ, TS SunWear, RM TeachTech, and SO Hobby Light – international new ventures that entered multiple markets early in their inception.

FIGURE 6. DVCA MODEL: KC FRIENDLY REWARDS



CONCLUSION

A firm's entry into an international market typically starts with one small step: the internationalisation of one or two of its value chain activities, seldom the entirety of its value chain. Often, that one small step precedes the taking of the next big leap as the firm increases its involvement in foreign markets one value chain activity at a time. We have shown that firm internationalisation may be more fully understood by examining the internationalisation of discrete firm value chain activities. The use of the *dynamic value chain approach (DVCA)* in the study of firm internationalisation allows the examination of the full range of a firm's value chain activities and its exploration in greater depth by looking at the internationalisation of a firm's value chain activities from multiple dimensions. This provides a more holistic view of firm internationalisation processes of firms.

Using the DVCA, our study showed that the internationalisation processes of New Zealand firms do not exhibit any stereotypical patterns of foreign market entry. The common use of broad concepts such as exports or sales subsidiaries often masks other value chain activities involved in firm internationalisation. Neither have we seen firm internationalisation to follow the gradual, incremental process proposed by stage theories. For one, internationalising firms did not always expand their value chain activities in a foreign market. As well, in a number of cases, the cross-border activities of firms exhibited bursts of speed both in terms of increasing involvement within a foreign market, often leapfrogging "stages," or across foreign markets. We also came across four INVs that ventured into multiple foreign markets with great rapidity, raising further questions about the "establishment chain" of stage theories.

Space constraints have prevented us from providing explanations for the non-linear and non-stereotypical processes of firm internationalisation. But the emergence of new and greater opportunities from globalisation and new information and communications technologies and the idiosyncratic responses by firms to these opportunities may hold part of the answer. Perhaps, too, exploring the subjective dimensions of the entrepreneur and the way he discovers and creates international opportunities, as suggested by the opportunity-based approach to international entrepreneurship (Oyson & Whittaker 2010b; Oyson 2010), may shed important insights. A comparison of the internationalisation of value chain activities of INVs, traditional internationalisers, and born-again globals may also provide new ideas. Finally, we have found the DVCA to be helpful in understanding the internationalisation processes of firms. We hope you will, too.

NOTES

¹ The names of individuals and firms have been disguised for confidentiality reasons. Most New Zealand firms are privately-owned with most of their owners/key executives desiring confidentiality. We have also changed some information and facts when doing otherwise would identify the firm and/or its executives.

² We would like to acknowledge the support of the Asia New Zealand Foundation (Asia: NZ) and the New Zealand Asia Institute (NZAI) for this research project.

Firm	Founder	Product	NZ Staff No.	Foreign Sales as % of Total Sales	
DOTelCo NZ	Derrick Lane	Server platform	Below 25	100%	
TS SunWear	Simpson Duane	Technology sunwear	Below 25	95%	
RM TeachTech	Dick O'Reilly	Technology mentoring	Below 25	95%	
RJ Road Works	John Trotmann	Roadworks machine	Below 25	100%	
SO Hobby Light	John McAllister	Hobby lighting equipment	Below 25	99%	
Alpha Software Solutions	Mike Plaster	Software Solutions	Below 25	10%	
KC Friendly Rewards	Graham Scott	Loyalty scheme program Below 25		10%	
PG Transport Carousel Kerr Smith		Transport carousel	Below 25	100%	

APPENDIX 1. Firm Profiles

Firm	Start Up	Market(s) Served	Year	Entry Modes	Internationalised Activities
	Year				
DOTelCo NZ	2000	Spain	2005	Exports	Op, Se, Te
		U.K.	2006	H.Q. set up	FI, HR, MS
		Japan	2006	Sales office	Op, MS, SE, Te
		Portugal	2006	Exports	Op, Se, Te
		Indonesia	2007	Exports	Op, Se, Fl, HR, Te
		Philippines	2010	Exports	OL, Se
		Singapore	2010	Sales Office	MS
TS SunWear	2004	China	2008	Outsource manufacturing	IL
		Netherlands	2007	Exports	OL
		U.S.	2008	Distributorship	MS
		Korea	2009	Distributorship	OL, MS, Se
		Oman	2010	Exports	OL
RM TeachTech	2003	Brazil	2007	Subsidiary	Op, Se, Fl, Te
		Australia	2007	Subsidiary	Op, Se, FI, Te
		China	2007	Sales office	MS, Op, Se, Fl
		South Africa	2010	Licensing	OL, Se
RJ Road Works	1982	U.S. & Europe	1984	Imports	IL, OL, MS, Se
		Australia	1985	Exports	OL, MS, Se
		Taiwan	2000	Exports	OL, MS, Se
		India	2010	Distributorship	OL
		China	2010	Licensing	OL, Op, MS
SO Hobby Light	2004	China	2007	Outsource manufacturing	IL
		Japan & Korea	2008	Distributorship	OL, MS, Se
		U.S. & Europe	2008	Distributorship	OL, MS, Se
		Singapore	2009	Distributorship	OL, MS, Se
Alffa Software	1993	Vietnam	2007	Subsidiary	Op, MS, Se, Te
KC Friendly	1980s	Thailand	1997	Exports	OL, Se
Rewards		Singapore	1997	Exports	OL, Se
		Hong Kong & Philippines	1998	Exports	OL, Se
		Europe	2000	Exports	OL, Se, Op, MS, Se, Fl
		Malaysia	2001	Exports	OL, Se, Op, MS, FI
		South America	2000s	Exports	OL, SE
		Middle East	2000s	Exports	OL, SE
		Indonesia	2009	Exports	OL, Se
PG Transport	1972	Samoa	1978	Exports	OL, Se
Carousel		Australia	1979	Sales office	OL, MS, Se
		U.S.	1983	Exports	OL, MS, Se, HR, Op, FI, Te
		Malaysia & Indonesia	1990s	Exports	OL, MS, Se
		U.S.	1983	Exports	OL, MS, Se, HR, Op, FI, Te
		China	2004	Sales office	IL, Op, MS, FI, HR

APPENDIX 2. Summary of Internationalised Value Chain Activities and Entry Modes

Explanatory Note: IL – Inbound Logistics; Op – Operations; OL – Outbound Logistics; MS – Marketing & Sales; Se – Service; Te – Technology; HR – Human Resources; FI – Firm Infrastructure

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