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# Experiences of high-growth technology firms in Malaysia and New Zealand.

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## Experiences of high-growth technology firms in Malaysia and New Zealand

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How do technology firms experience high growth and the support available from governments? This qualitative study explores the experiences of high-growth technology-based firms in Malaysia and New Zealand. Case studies were developed for eight high-growth companies in the information and communication technology (ICT) sectors of each country. The countries differ in national cultures and the forms of government support. There were no marked country differences in growth drivers. Growth was driven by innovation and flexibility within business-to-business sales relationships. These firms faced four obstacles: intense competition; liabilities of smallness; limited human capital; and funding ability. Malaysia offers broader mainstream support with favourable tax treatment of R&D related expenditure. In contrast, New Zealand's has been criticised for a highly targeted approach, although this is now broadening. Both countries appear to be converging on a hybrid approach combining mainstream and targeted support for growth businesses.

**Keywords:** high growth, innovation, flexibility, obstacles, government support

### 1. Introduction

Many would agree with Wright, Roper, Hart and Carter (2015, p. 4) that understanding of business growth “remains partial”, creating uncertainty for policy makers and management educators. The growth of technology-based firms is critical for many countries (Hobday 2002; Lee, Venkatraman, Tanriverdi and Iyer 2010). Technology firms create jobs, generate export earnings and raise productivity (Birch, Haggerty and Parsons 1997; OECD 2013a, p. 102), but high growth is rare and often transient. Recent work by Brown and Mason (2012) advocates much greater selectivity in the publicly-funded support for high-growth firms, with local measures customised to their needs. There are few in-depth studies of how technology companies in Malaysia and New Zealand experience high-growth (Ajagbe, Isiavwe, Ogbari and Sholanke 2015, p. 219; Deakins, North and Bensemman 2015, p. 134) although they are part of the Asia Pacific region, the world's largest ICT exporter (WDI 2009).

This is a qualitative study of high-growth firms in the information and communication technology (ICT) sectors of Malaysia and New Zealand. The purpose is to explore three questions: How do these firms achieve exceptional rates of sales growth? What obstacles do they face? How do they experience the different forms of government support available to them? We found no major country differences in the drivers of high-growth. In both countries, innovation and flexibility drove growth within business-to-business relationships (Hinton and Hamilton 2013; Mason and Brown 2010). The main obstacles were intense competition; liabilities of smallness; limited human capital; and restricted funding ability. Current support

schemes align with our findings but stop short of the customisation sought by Brown and Mason (2012). The main issue among our informants is access and the quantum of support per company, affirming Mole, Hart, Roper and Saal (2011). The next section reports on previous studies and is followed by the research design. We then report findings on the drivers of high-growth firms; the obstacles they face; and their experience with different forms of government support, accessed by all of the Malaysian firms and the selected few in New Zealand. The paper ends with a broader discussion and conclusions.

## **2. Previous studies**

Malaysia and New Zealand provide contrasting national cultures within the wider Asia Pacific region (Ndubisi, Khoo-Lattimore, Yang and Capel 2011). Both countries have long recognised the importance of technology-based firms for their economic development, Malaysia doing so ahead of New Zealand (Roessner, Porter, Newman and Cauffiel 1996, p. 140). Malaysia's focus on the development of technology-based industry can be traced back at least to 1991 (Felker and Sundaram 2007), whereas New Zealand did not make this move until 2000 (Kreamer and Dedrick 1994; Ein-Dor, Myers and Raman 1997; OECD 2007). Both governments have recognised that the market can fail to support growing technology firms and, along with other countries in the Asia Pacific, have devised publicly-funded support mechanisms for such firms. In Malaysia considerable government funding has been channelled through the major universities into equity investments or direct grants that prepare investee companies for external private equity buy-outs (Ajagbe et al. 2015, p. 214). In further support of high-technology industry, Malaysia has established several technology parks and, in 1997, launched the Multimedia Super Corridor (MSC) intended to attract and support multimedia software development ventures from overseas (Lai and Yap 2004). Malaysia also allows tax exemptions for R&D expenditures. New Zealand on the other hand is better known for addressing market failures affecting technology-firms with a highly targeted "pampering" of the few selected businesses. Based on expert panel data from 35 countries, Frederick and Monsen (2011, p. 202) conclude that *'[the] New Zealand rate of selectivity in choosing grant recipients is the highest in the world, according to our data. We believe this selective pampering of some to the detriment of many may be mistaken'*. As an example of this so-called pampering, the current R&D Growth Grants scheme has been active since 2013. This scheme provides three-year funding only for businesses that have already spent at least \$NZ 300,000 per year and 1.5% of revenue on eligible R&D in each of the last two years. If selected, targeted firms receive 20% public co-funding of R&D for three years initially subject to an annual cap

of \$NZ 5 million. In the first two years of this scheme, 110 firms were awarded grants totalling \$NZ 292 million over three years. Evidence suggests that high-technology New Zealand businesses prefer more broad-based (and less bureaucratic) tax relief for their R&D expenditure (Deakins et al. 2015, pp.142-143). From 2015, New Zealand proposes to extend the tax deductibility of R&D expenditures to include loss-making R&D intensive businesses, those investing more than 20% of annual their annual salary and wage bill on R&D activities. We should also point out that New Zealand continues to offer excellent support at the higher ‘framework’ level (OECD 2013b, p. 12), being ranked 2<sup>nd</sup> in the world (behind Singapore) for ‘*ease of doing business*’ and 1<sup>st</sup> for ‘*ease of starting a business*’ (World Bank Group 2015). Malaysia is ranked 18<sup>th</sup> and 13<sup>th</sup> respectively on these two aspects of the business framework.

Comparison across two countries and cultures is an advance over single country studies, enhancing the generalisability of findings (Ndubisi et al. 2011). However, Minkov and Blagoev (2014) conclude that there is no single business culture common to Asian countries, including Malaysia, which distinguishes them as a group from the rest of the world. Hence studies involving Asian countries need to focus on those of specific interest (Minkov and Blagoev 2014, p. 214). We have focused this study on Malaysia and New Zealand because of (a) the paucity of such studies involving these countries, either separately or together; (b) opposing cultures of Malaysia and New Zealand especially on individualism-collectivism and power distance (Ndubisi et al. 2011, p. 237); (c) strong government commitments to supporting technology industry; but (d) different policy approaches, with New Zealand’s the more selective.

### **3. Research design**

Previous studies defined high-growth in different ways (Barbero, Casillas and Feldman 2011; Barringer, Jones and Neubaum 2005). The OECD (2010) definition of a high-growth firm is used here:

*‘an enterprises with average annualised growth in turnover greater than 20% per annum, over a three year period and with more than 10 employees in the beginning of the observation period’.*

All of the firms in this study had met this OECD criterion for at least one three-year phase, see Appendix 1 for company profiles. Deloitte Touche Tohmatsu launched the Deloitte Technology Fast 500 Asia Pacific Ranking in 2002 to recognize outstanding growth in technology sectors including ICT. The awards use a ranking of the firms’ revenue growth

rates over the previous three years. Despite being the much smaller and more remote country, New Zealand has had more firms in this Fast 500 ranking than Malaysia, e.g., between 2006 and 2011, there were 238 New Zealand firms ranked but only 81 from Malaysia.

Case study research was deemed appropriate (Graebner 2004; Graebner and Eisenhart 2004). Firms from the Deloitte Fast 500 in each country feature in this study. Eight companies from Malaysia and eight from New Zealand agreed to participate and a case study protocol was developed to enhance reliability (Yin 2009). A multiple data collection method was used to triangulate evidence. Prior to interviewing, individual firms were profiled from their websites and other public sources such as industry reports and government periodicals. The owner/managers were then interviewed to understand how they achieved fast growth; the obstacles they faced; and their experiences of government support. Interviews were transcribed and then analyzed using NVivo 9.0. Following Yin (2009), steps were taken in the analytic process to enhance internal validity. First, within-case analysis was conducted on all the sixteen cases. As the study adopted semi-structured interviews, main constructs such as a firm's profile and its growth factors, performance profile and obstacles faced were created prior to coding. Cases were analysed individually and their properties classified to the main constructs. Secondly, all properties were reassessed and then re-grouped into sub-categories of the main constructs. When all the case study data had been classified, the findings within each main construct became apparent. Cross-case analysis was then done across the countries.

#### **4. High-growth drivers: opportunities and strengths**

We follow Pratt (2008, p. 501) and introduce the main sections with power quotations [in bold] which best capture the informants' views. Each company CEO provided a SWOT analysis of their situation which aligned with the NVivo constructs. As there were no marked differences between the two countries, this evidence is amalgamated into the SWOT framework in Table 1.

**Insert Table 1 about here**

The following discussion develops our findings, initially around the key drivers of creating opportunities with market potential, and innovation backed by customer-focused flexibility.

##### **4.1 Opportunities**

*Maybe in the way that we listen to their needs so that we can determine our product road map. So there's this many things that we could do, want to do, but we have to focus on the ones that will make us money first. [NZ2]*

*They perceive us as very innovative, always come out with new product. I hear in the market that a lot of things we can do. . [MY2]*

Growing technology-based business must strive to create new market potential for product development and technology advances. Huang and Tsai (2013, p. 313) confirm the importance of market potential, especially for new product success in Asia. Thirteen of the firms placed little emphasis on marketing activities in their firms. All of the firms studied were selling to other businesses, globally and/or locally, confirming the findings on high-growth firms in Scotland (Mason and Brown 2010) and Australia (Tan 2007). Relationship marketing was paramount, supported by press releases and the type of publicity gained from being ranked in the Deloitte competition. Many emphasised constant communication with their customers by appointing a key account executive to provide comprehensive support and service. One CEO explained:

*We have a Customer Relationship Manager. So they're responsible for meeting with and having conversations with a customer on an ongoing basis to get feedback about the product and their use of it and the stickiness and any problems and providing training for those customers. [NZ6]*

By offering more value-added products and services to their customers, these high-growth technology-based firms enjoyed better long-term relationships with them. Referral sales or word-of-mouth endorsements from satisfied customers were the best ways to create new market opportunities:

*The cost of acquisition of new customers is expensive compared to if you look after someone you can keep selling new benefits to them. So they play a very important role to help us sustain that growth [and] a good customer will tend to tell 10 other people. [NZ4]*

Our informants perceived their firm's image to be highly professional, easy to deal with and, above all innovative.

## **4.2 Strengths**

*The company signature is Innovation. This is the company's natural genetic. We aggressively look out to innovate process and solve problems. We were rated the most innovative SME in the country.* [MY4]

The fast growth of firms has been attributed to founders' characteristics (Davidsson, Kirchoff, Hatemi and Gustavsson 2002), industry growth (McDougall, Covin, Robinson and Herron 1994), firm's age (Siegel, Siegel and Macmillan 1993) and business practices (Barringer et al. 2005). However, for these technology-based firms competing in dynamic markets, innovation is the critical capability (Coad and Rao 2008). There are three concomitants to innovation-led high-growth, viz., customer-focused flexibility; commitment to R&D; and employee engagement.

#### 4.2.1 Customer-focused flexibility

*So the challenge really in the sales process the first thing is we have to customise. We spend a lot of time. We have our creative people do mock ups, some examples, animation and all this is costs [and] then there is the investment of time in the tender process.* [MY2]

Technology industry is highly competitive and to hold market share, companies must offer innovative products/services that are highly differentiated. Fifteen of the firms sell only to other businesses with constant modification of offerings to meet new customer needs:

*Particularly we have meetings sitting down there with customers in a team and they bring a topic and they talk and they will ask and we test them out with ideas.* [MY5]

Customisation is necessary but needs to be backed up with an ability to respond quickly to customer needs (see Huang and Tsai 2013, p 312):

*Having a very good understanding of your customers. Being responsive to your customers. Almost being simplistic, but doing things because you genuinely care about making the customer have a happy outcome...* [NZ5]

*Our agility is really important. That's also different from our competitors [who] are four, five or ten times the size of us...a lot more agility .....* [NZ3]

Innovation, customisation and a continued ability to respond quickly to opportunities and threats also requires an investment in R&D and employee engagement.

#### 4.2.2 Commitment to R&D

*It was only two years ago that we split research off from development, so now we've got research with its own team and that's built up to about seven or eight people now and development is up to 60 or 70 people, so it's a big investment, big growing investment in research and development. [NZ1]*

These companies maintained high R&D investment with amounts reflecting firm size and type of innovation. The highest expenditure was by a New Zealand company where \$NZ 3.7million [USD 2.5 million] had been spent on the latest new product development. In several instances, companies invited partners and their external network to collaborate in the R&D process to augment their innovation capability and maintain growth (Hatonen 2010; Mohannak 2007). Innovation capability is not easily imitate by competitors so provides some competitive advantage. These fast growing companies have invested continuously to develop their innovation capability and lead their markets:

*... I think we were the first in Asia Pacific and among pioneers in the world. So we had to figure out the launching of the technology, about the network architecture, design and about the best solutions to compliment the technology. [MY3]*

*We developed the first mobile application for Microsoft Windows 7 in New Zealand. That was the first application to be submitted to the global market place and get approved. [NZ6]*

Innovation capability is critical for the growth of technology companies, but an engaged workforce is also needed.

#### 4.2.3 Employee engagement

*Well, we reward patent. So if people file patents then they can be rewarded for that. If the patents get granted they get rewarded for that. But we also have kind of informal awards that recognise new ideas. [NZ1]*

These companies supported employee engagement and valued their suggestions for improvement. Open, relaxed and unstructured environments were cultivated to encourage staff



to share ideas. One Malaysian company created a unique platform for staff to share ideas:

*So we are trying to make people think differently because we know it's the cutting edge...[you] get three free passes where you can make any mistakes in your career and just take a risk, issue the card and say I won't be penalised because I have got the CEO's immunity card. [MY3]*

Innovation through customer-focused R&D and responsiveness to their immediate environment was founded on this strong culture of employee engagement. Roper (1997), found that the output of innovative small firms grew significantly faster than non-innovators and OECD (2002) also finds a positive relationship between innovation and high growth in small firms in a group of member countries. The Australian Bureau of Statistics (2007) has also acknowledged this influence of innovation on firm performance. Besides that, Holzl (2009) noted that high growth SMEs are more innovative than non-high-growth SMEs in European countries close to technological frontiers, and Mason, Bishop and Robinson (2009) found innovative firms to grow twice as fast in employment and sales than firms that failed to innovate. Chen and Yuan's (2007) study of high-technology firms in China found them to be lacking in internal R&D and absorptive capacity, hence their major innovation strategy was technology importation.

## **5. Obstacles to high growth: weaknesses and threats**

The main obstacles to high growth, identified as weaknesses and threats in Table 1 are the liabilities in human resources and funding due to relative firm size, often described as the 'liabilities of smallness' (Freeman, Carroll and Hannan 1983), and the intensity of competition in these fast-changing markets.

### **5.1 Weaknesses**

*Weakness I think would be again our size. But it depends on how you look at it. [MY3]*

*When we have been up to about 20 people...everything ends up being very inefficient and we don't get the same results that we get now by being small and nimble. So I don't see any benefits in actually getting too big. [NZ5]*

These firms found their relatively small size compared to customers and competitors to be a two-edged sword. While small size was more easily managed, most conceded that their relative smallness did handicap how they were perceived in the market and hence their growth opportunities:

*Where we struggle is the customer perception that's partly because we are a small company, but more because we're a New Zealand company. [NZ8]*

They did not have the organizational slack needed to support their growth (Penrose, 1959). Their lack of a long trading history raised wider issues of credibility with potential customers concerned about issues of continuity of supply and even survival. We see these as the inevitable liabilities of smallness rather than newness as several of these firms were no longer of recent origin.

#### 5.1.1 Human capital

*When we were growing into Australia, we just could not find qualified people. So the decision we made compromised some of our standards on people. It certainly made life a lot more difficult in managing that growth. [NZ2]*

Human capital is another key challenge for high-growth firms (Hughes 1998; Brown and Mason 2012). This group of firms realised their potential through investment in people and technology. They have constant recruitment needs because of high employee turnover and the scarcity of people with relevant skills.

External collaborations helped overcome human resource constraints (Malik and Wei 2011). All the Malaysian firms interviewed were involved in some form of collaboration such as new product testing, new technology development, outsourcing and market alliances. Such partnerships are not limited to local initiatives. One firm had a business partnership with Intel in the United States and with SK Telecom from South Korea:

*...we actually have two SK Telecom staff based here. One is Chief Strategy Officer... They are involved in our day-to-day operations and not only that, we have teams flying in and out of Korea and Malaysia going to learn in Korea and their teams coming to assist on projects. [MY3]*

The firms were willing to forgo some proprietorship in product development and market expansion in order to work with other industry players. Hughes (1998) notes that sustained growers are more likely to experience human resource constraints than non-growers, confirmed recently by Mason and Brown (2010) for technology-based enterprises in Scotland. Human capital can also be lost with migration outflows (Beine, Docquier and Rapoport 2001; Wong and Yip 1999). High-growth firms are then challenged to find the qualified people they need to support innovation and creativity, exacerbated in New Zealand by the low percentages of IT graduates (Watson and Myers 2002). Improving human capital development is a priority of the Tenth Malaysia Plan (2011-2015), see OECD (2013a, p 122).

### 5.1.2 *Lack of funding*

*Without having that financial backing and because we don't want to sell down any more then we can't bring in big marketing teams and increase the size of a product development team so it has to slow down. [MY1]*

All except one technology entrepreneurs started their own firm using personal savings or family loans. But firms cannot continue to grow assets faster than its return on assets without resort to debt funding or new equity, so ongoing funding challenges are inevitable (Beck and Dermiguc-Kunt 2006; Carpenter and Petersen 2002; Gill and Biger 2012; Westhead and Storey 1997). Ahlstrom, Young, Chan and Bruton (2004) report that finance barriers are prominent in hindering the growth of entrepreneurial firms in East Asia, especially when ownership issues are involved (Newman, Gunesse and Hilton 2012). A high-growth business needs continuous innovation and marketing investments to maintain market position. One of the New Zealand firms pulled out of its joint venture in Brazil for reasons of profitability and culture. This venture did not bring in the profit expected and the firm had to retrench:

*.....we've grown and shrunk in size and in geographies, so we grew pretty quickly for a while there and we were obviously in Australia, we were in Brazil and doing stuff in the U.S but we didn't have the backing structures and even the financial reserves to do that consistently. [NZ4]*

Though foreign market expansion is an imperative growth strategy for these firms, it can have mixed results. International diversification or 'spreading', used by both New Zealand and Malaysian firms, lowers the risk of too few markets (Casey and Hamilton 2014; Cieslik, Kaciak and Welsh 2012). 'Spreading' successfully to a new foreign market requires extensive

resources of time, money and human capital, so sufficient profitability or financial reserves are pre-requisites. Many of the high-growth firms were willing to open themselves to public ownership or acquisition in order to overcome financial constraints. The interviews revealed that many of these high-growth firms opted for an Initial Public Offering (IPO) during their growth stages. This was more apparent in the case of Malaysian firms, where four opted for IPOs during their growth stages and they are now listed on the Malaysia Stock Exchange. Another one of the firms interviewed was currently preparing for its IPO. Only one of the New Zealand firms had been opened to public ownership. They did this to provide sufficient cash for overseas expansion and new product development, to promote the firm's credibility and to offer investment opportunities.

## 5.2 Threats

*When we started we had about three or four competitors. Now there are more than about 150 doing this?* [NZ5]

*It's such a fast changing. I don't think a five year vision would last six months in this place.* [NZ2]

The intensity of competition is reflected here in increasing number of competitors faced soon after start-up. Changes within technology industries create growth opportunities that attract both local competitors and global conglomerates:

*Local players have copied us. Not the international. International players find it difficult to change it throughout the whole world. But the local players, most of them our Managers that went out and start their own. So they adopted the same strategy.* [MY2]

However the frequent waves of innovation serve to create more market demand for design-driven solutions. As a result, more firms have had to find niche markets in this highly competitive industry:

*You have to be exceptionally niche, exceptionally finite [but] aware of what's going on around you in case you have to react. ...* [NZ3]

The desire to expand into overseas markets was strongly influenced by these competitive pressures. Informants mentioned similar highly-competitive head-to-head rivalry with other players. The limited customer base of the business-to-business model was another

incentive to employ international market expansion strategies to obtain more customers. The majority of new overseas markets were found in emerging Asian countries. Many capitalised on governmental support and multiple network relationships so they could enter new markets, although Gemser, Brand and Sorge (2012) caution that the smaller firm, the less likely it will cooperate with others to gain international market access.

When environments becomes more volatile or congested, high-growth firms face bigger challenges to maintain their growth (Garnsey and Hefferman 2005; Gill and Biger 2012; Nicholls-Nixon 2005; Zhang, Yang and Ma 2008), with product focus one factor differentiating high-growth and non-growth firms (Feeser and Willard 1989; Littunen and Virtanen 2009). Although our high-growth firms faced dynamic environments with new players racing to enter, they all evinced confidence. They tracked their competitors, monitoring their websites, getting customer feedback, and attending trade shows. They were sector leaders because they reacted faster than competitors to create markets through innovation.

The findings from 16 cases in Malaysia and New Zealand are summarised schematically in Figure 1 showing how issues of competition, smallness, human capital and funding serve to weaken the link between innovation capability and growth performance.

**Insert Figure 1 about here**

## **6. Government support for growth firms**

*One thing I feel upset about Malaysia government is, especially government organisations, they don't want to use Malaysian products. [MY2]*

*I think government could play a more effective and more active role in growth of high tech and high growing companies. I think unfortunately, if you look at all the high growth that is going on across the industry, you'll probably find that a lot of that is actually driven by individuals in the private sector and not necessarily by government, which is really sad. [NZ8]*

Malaysia and New Zealand provide different forms of support for their high-growth firms. The Malaysian government has the less-selective policy to incentivise technology companies and all eight techno-entrepreneurs received tax exemptions. Although the government also allocates funds to develop the ICT sector, most of these informants did not receive any direct funding support for innovation. Hence their resort to IPOs. Two have been granted direct research and development funding on a selective basis and one other company received a

subsidy to appoint interns from universities, but the human capital impact was judged to have been very limited.

The New Zealand government has provided direct grant assistance but on a selective basis and to relatively few companies. While most R&D expenditure is now tax deductible against profits, this was recently broadened to allow loss making R&D intensive firms to obtain cash rebates. The Foundation for Research Science and Technology (FORST) provided significant grants to four of these companies. Another company also attributed their innovation breakthrough to government research grants:

*...when we started, we were building large touch screen and we had a programme to miniaturise. That program was funded by FORST, so we had a sizeable grant to help us do that. [NZ1]*

*They've always been very supportive both financially and with resources and then with FRST with grants. So yes, those organisations have been very involved ... [NZ2]*

The R&D funding improved innovation capability as well as overcoming the human capital issue among the selected companies. In addition, five out of eight NZ companies were offered advice in their international expansion and developed networks and markets with the active support of government agencies. Three have successfully marketed their innovation to world markets, including the United States, including the ventures with longest period of high-growth performance among our sixteen cases. The other three New Zealand companies were not in high technology or international expansion, so did not meet the selection criteria and received no support. However, resort to overseas capital sources has seen a number of high-growth New Zealand firms acquired by foreign buyers and moved out of the country, taking resources developed with the government's support. This prevents these businesses from developing locally and contributing to the formation of self-sustaining clusters.

## **7. Discussion**

Recent schemes of government support in seven Asian countries (OECD 2010; OECD 2014) are re-classified in Table 2 according to the drivers and obstacles summarised in Figure 1. There is considerable alignment with our findings, but not the customisation sought by Brown and Mason (2012). Most countries are not as selective as New Zealand has been.

Malaysia and other countries provide broad mainstream support based on tax relief for R&D expenditure. Hence most firms get some support but, as we found, seldom enough for a capital base to fund radical innovation or international expansion (see Chetty and Stangl 2010). When high performers do emerge, in the case of Malaysia there is then some selectivity and direct funding. In New Zealand, targeting requires criteria which can include past growth, often a misleading indicator of future growth (Coad et al. 2013; Hamilton 2012). The emphasis on growth potential is also of concern as high-growth may not generate the profitability needed to sustain it (Davidsson, Steffens and Fitzsimmons 2009; Coad and Holzl 2012; Markham and Gartner 2002).

### **Insert Table 2 about here**

There is much emphasis on the supply-side, supporting R&D expenditures via broad tax incentives, but nothing addressing the liabilities of smallness in these highly competitive markets. Malaysia, Taiwan and China have specifically targeted technology industry by establishing numerous technology parks and research alliances to expand national innovation capability (Saxenian 2005; Saxenian and Hsu 2001). On the other hand, India, Vietnam and New Zealand appear to offer less support due to limited budgets or different foci. Nonetheless, all governments strive to improve their business and legal frameworks specifically in intellectual property protection and offer business advice and international networking opportunities. Some need to address these framework issues with some urgency. In Table 2, the countries are arranged from left to right on the basis of the World Bank Group (2015) rankings of '*ease of doing business*'. Countries such as Vietnam, China and India may need to reinforce dedicated support schemes for innovative businesses with improvements in their general conditions for doing business. The *pro* selectivity arguments of Brown and Mason (2012) and Mason and Brown (2013), supported by Mole et al. (2011) and OECD (2013b, p. 17), endorse New Zealand's more selective approach. But even with New Zealand's very strong framework conditions for ease of starting and doing business, the country's GDP growth has lagged Malaysia's and other countries such as Vietnam, China and India with inferior framework conditions (see Frederick and Monsen 2011).

## **8. Conclusions**

The firms in this study struggled to fund their growth, with continuous innovation and expansion frequently exhausting their financial resources. The lack of technical, marketing and managerial expertise negatively impacted expansion plans, especially when expanding into new markets. One important issue not being addressed is the dual challenges of firm size, coupled with intense competition in the sectors inhabited by these firms. The dilemma for owners is that their firm may be too small to be visible but quickly become too large to be managed effectively. We see this as one specific challenge to management educators, responding to Wright et al. (2015). Governments are expected to play a part in supporting technological innovation and growth firms. The different approach between New Zealand and Malaysia in offering incentives brought diverse responses. Targeting can provide more immediate capital funding for innovation and marketing but many deserving companies must miss out. Generic policies based on tax exemptions are critiqued as insufficient to generate and retain high-growth firms (Mason and Brown 2013; Martin and Sunley 2003). The findings align with Brown and Mason's (2012) argument that government needs 'custom-made' policy based on the special requirements of high-growth firms, targeting firms with growth ambitions, good management and a track record of high growth. The benefit of greater selectivity in support schemes are also emphasised in the findings of Mole et al. (2011), viz., that 'deeper' interventions had more positive outcomes than 'broader' strategies that stretched resources over too many firms. Mason and Brown (2013, p. 217) do not advocate the removal of all generic support, but cutting this significantly on the grounds of "questionable effectiveness and high displacement". Growth ambition or growth potential would become the criteria for hands-on selectivity, especially where international expansion was part of the growth ambition. But their approach is essentially to advocate a hybrid model, one moving closer to New Zealand's selectivity whilst retaining some broader mainstream support, such as that provided in Malaysia and elsewhere. Given the recent broadening of support in New Zealand with the tax rebating for loss-making R&D companies, hybridisation is a pragmatic policy compromise between the generic and the selective.

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**APPENDIX 1: Profile for companies interviewed**

Code	Country	Year Founded	Number of founders	Number of Employees	Fast growing phase
MY1	Malaysia	2003	4	< 50	5 years
MY2	Malaysia	2000	5	100-150	5 years
MY3	Malaysia	2000	1	> 250	4 years
MY4	Malaysia	1996	1	< 50	4 years
MY5	Malaysia	2000	2	< 50	3 years
MY6	Malaysia	2000	2	50-100	3 years
MY7	Malaysia	1997	3	100-150	3 years
MY8	Malaysia	1997	3	> 250	3 years
NZ1	New Zealand	2000	3	100-150	7 years
NZ2	New Zealand	1999	2	100-150	6 years
NZ3	New Zealand	2000	2	< 50	5 years
NZ4	New Zealand	1999	3	< 50	5 years
NZ5	New Zealand	1992	2	< 50	3 years
NZ6	New Zealand	2001	5	50-100	3 years
NZ7	New Zealand	2003	2	< 50	3 years
NZ8	New Zealand	1998	2	< 50	3 years

TABLE 1 SWOT Analysis from Interviewed Firms

<p style="text-align: center;"><b><u>Strengths</u></b></p> <p style="text-align: center;"><b>Innovation (9)</b></p> <p style="text-align: center;"><b>Customer-focused flexibility (8)</b></p>	<p style="text-align: center;"><b><u>Weaknesses</u></b></p> <p style="text-align: center;"><b>Relative firm size (8)</b></p> <p style="text-align: center;">Human capital shortages (7)</p> <p style="text-align: center;">Lack of funding (6)</p>
<p style="text-align: center;"><b><u>Opportunities</u></b></p> <p style="text-align: center;"><b>Creating market potential (10)</b></p> <p style="text-align: center;">New technology/product development (6)</p>	<p style="text-align: center;"><b><u>Threats</u></b></p> <p style="text-align: center;"><b>Intensity of competition (11)</b></p>

Note: To be included in this table, items had to be mentioned by more than five informants. Those in bold font were mentioned by at least half of the sixteen firms. Number of 'mentions' are in brackets.

FIGURE 1: High-growth drivers and obstacles

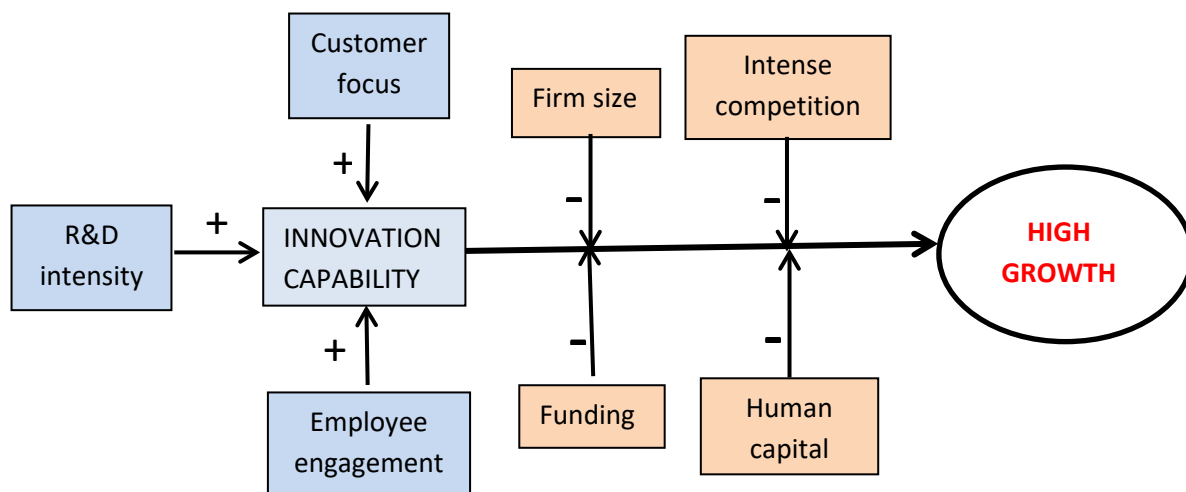


TABLE 2: Business support policies in selected Asia Pacific countries

Model/focus	New Zealand	S Korea	Malaysia	Taiwan	Vietnam	China	India
<b>Innovation:</b>	Business growth agenda 2012 changing focus to innovation, skilled and export markets. Callaghan Innovation (2013): targeted R&D funding.	S&T Basic Plan, ICT is one of the main national priorities	National Science, Technology and Innovation Policy (2013-2020). Multimedia Super Corridor (MSC) program.	Emphasis in technology industry since early 1990s, set up many agencies to support	Export-led growth strategy emphasise on low technology, high-labour industry	Issued “Opinions on Deepening Reform of S&T System and Speeding Up the building of National Innovation System”	Limited resources to support, more focus on inclusive innovation to provide innovative solution for the ‘bottom 500 billions’
<b>Research and development support:</b> Grants Tax credits	Selective grants to growth and export oriented companies; technology transfer voucher, Growth Grants, Project Grants and Student Grants.	20-35% tax credits to SMEs and Research and development intensive firms. World’s most R&D intensive country, at 4.36% of GDP.	Tax exemption of 100% for 10 years to MSC status firms; Research and development grants such as TechnoFund and ScienceFund	Provide tax incentives; manpower training grants	Technology transfer fund supported by international trade partners	Revised tax incentive in 2012 to expand range of eligible R&D cost, reduced corporate income tax and value added tax for ICT firms.	100% Research and development tax credit, aim to spend 2% of GDP on R&D by 2020.
<b>Customer focus:</b> Networking Market responsiveness	New Zealand Trade and Enterprise offer business advisory services and international trade visits.	International trade shows and visits. Developed comprehensive plan for STI Global Co-operation.	Industry park, Science for Action to encourage interactions among government, academia, industry and society.	First technology park in Asia: Hsinchu Science Park; organised international conferences and R&D activities	Establishment of high-tech zones to encourage FDI	Innovation Demonstration zones enjoy preferential policies.	Technology transfer from developed countries. Hosting top R&D investors in automotive/ industrial machinery and IT.
<b>Employee engagement</b>	High-skilled workers,	High-skilled workers, developed Plan for the Scientifically Gifted and Talented (2013-17)	No restriction to hire foreign skilled workers, improved science publication and budget for R&D (ISD 428.6 million)	Encourage returnees from overseas; high-skilled workers	Low level of Research and development skilled workers	Thousand Talents Program aim to attract and retain top-tier academics from local and overseas.	Low labour cost and low skilled workers. Set up Confederation of Indian Industry Skills Centres.
<b>Competition:</b> Patenting IP support	Strong IP registration and innovation with foreign partners	IP protection is available but low patent registration among OECD	IP protection and comprehensive framework of cyber laws	Industrial Technology Research Institute (ITRI) had more than 60,000 patents in force worldwide	Adequate IP law but lack an IP courts and enforcement mechanism	RMB100 million to subsidise international patent applications.	Science and technology XI Plan to strengthen IP registration
<b>Funding:</b> Equity Debt Grants	Formed NZ Venture Investment Fund. Technology Incubator	Not found.	Business loans to SMEs and strengthen venture capital formation	Low interest loan, duty free importing of equipment and materials	Lack venture capital companies; support from World Bank to provide seed-funding	Lack of venture capital.	Limited
<b>Framework conditions*:</b>							
‘Ease of doing business’ (rank, of 189 nations)	2	5	18	29	78	90	142
‘Ease of starting business’ (rank, of 189 nations)	1	17	13	15	125	128	158
<b>Annual GDP growth**</b> (range 2012-2015)	2.8-3.5%	2.4-3.9%	5.4-6.5%	0.6-4.3%	4.7-7.0%	7.0-7.6%	4.5-8.2%

\*Framework conditions are as ranked in the World Bank Report (2015), which relates to the policy frameworks at June 2014.

\*\*Data collected from [www.tradingeconomics.com](http://www.tradingeconomics.com) based on reports from various governments’ statistical report.