

MATURING BORN GLOBAL COMPANIES: AN EMPIRICAL EXAMINATION

Abstract

So far, there has been very little research regarding the continuing corporate growth of born global companies and relatively little data exist regarding their maturation, their survival as independent companies (or not) and their international strategies.

This paper is based on an empirical longitudinal study of Israeli technology-based companies that were identified in the 1990s as born global. We gathered data regarding the continuing development of these firms for the decade spanning 2000-2009.

Our findings show that maturing technology-based, born global companies that want to survive independently can increase their chances of doing so by acquiring other firms. Thus, our results show that M&A strategy, while it does not increase stock price value, does increase significantly the chance of the company to remain independent. However, the data also showed that if the owners/entrepreneurs prefer to exit by selling off the company, they are better off not acquiring any other firms.

Data showed that the most common purpose of the M&As in this sample was to enlarge the product line, thus supporting the argument that in a world which is changing very fast, the born global companies do not have the time and the resources to develop additional products in-house, but need to acquire them by means of M&As.

Taken together, it seems that while the majority of born global companies are able to continue existing once they have survived the first decade of their lives, they are not very successful doing so in terms of growth and wealth. They seem to be compelled to use M&A strategy to continue surviving even though this strategy does not increase their stock prices but only the volume of their sales.

Keywords: Maturing born global companies, Israeli high-tech, mergers and acquisitions.

Introduction

The emergence of small, entrepreneurial companies that internationalize rapidly at very early stages of their existence, has been reported since the end of the twentieth century (i.e. Autio et al., 2000; Knight and Cavusgil 2004; Oviatt and McDougall, 1994; 1995; 1999; Zahra et al., 2000) in different countries. Rapidly internationalizing, entrepreneurial companies seem to emerge more frequently in small countries with advanced economies such as Israel, than in larger economies such as the United States (Efrat and Shoham, 2011; Gabrielsson and Kirpalani 2004; Moen and Servais 2002), and are often referred to in literature as ‘born global’ companies (Autio et al., 2000; Bell, McNaughton, Young, and Crick 2003; Hashai, 2011; Hewerdine and Welch, 2012; Melen and Rovira Nordman, 2009).

Born global companies are frequently characterized as firms that have the ability to create innovative, self-developed technology-based products which are sold internationally (Bell 1995; Bloodgood et al. 1996; Coviello and Munro 1997; Dana et al. 1999; Knight and Cavusgil 2004; Rovira Nordman and Melen, 2008; Oviatt and McDougall 1994, 1997; Rennie 1993; Rugman and Wright 1999; Zahra et al. 2000). In this paper, born global companies are defined as business organizations that, from or near their founding, seek superior international business performance from the application of (knowledge-based) resources to the sale of outputs in multiple countries (Almor, 2013; Gabrielsson and Kirpalani 2004; Knight and Cavusgil, 2004; Oviatt and McDougall, 1994).

Most studies on born global companies have either focused on the definition of these firms or on the internationalization process and why, how and where born global companies internationalize early on (i.e., Hashai and Almor 2004; Jones and Coviello 2005; Rialp-Criado,

Galvan-Sanchez, and Suarez-Ortega, 2010). However, we still know very little about the development of these companies once they start maturing.

Since the existence of born global companies has been discussed in literature for almost two decades, we think that questions can now be raised regarding the maturation and continuing growth processes of these companies. So far, there has been very little research regarding the issue of continuing corporate growth of born global companies. Relatively little data exist regarding maturing born global companies, their survival as independent companies (or not) and their international strategies.

This paper aims to explore the ongoing development of born global companies once they have experienced initial success in the first decade of their lives. Growth in the international arena is part and parcel of continuing success and technology-based companies whose shares are traded on bourses such as the American NASDAQ, have to show continuing growth in sales and profits in order to remain attractive to investors (Almor, 2013). However, relatively few examples exist of born global companies that remain independent over time and continue to grow over a period of more than a decade. More common are the cases of born global, technology-based companies that are acquired by larger technology-based firms and merged into the larger business (i.e. IVC Research Center's Report on Exits, 2012; Levi, 2005; Shelah, 2006; Weber and Tarba, 2011).

In this paper we would like to explore the development of technology-based, born global companies after their initial success in the first decade of their lives in terms of survival and growth strategies. Thus we will examine empirically how born global companies continue to exist after initial success and how they continue to grow over time.

The paper is organized as follows: we will first present a conceptual framework that addresses growth of born global companies by means of different strategies and the derived hypotheses. In the next section data and methods will be described and results will be presented. In the last section results and conclusions are discussed.

CONCEPTUAL FRAMEWORK

Technology-based born global companies are often defined by their proprietary technologies and innovations which they use to differentiate themselves from other competitors (Aspelund and Moen 2001; Hashai and Almor 2004; Coviello and Munro 1995; Jones, 1999 2001; Knight and Cavusgil 2004; Lewin and Massini 2003; Oviatt and McDougall 1994; Rialp-Criado, Rialp-Criado and Knight 2002). These unique technological capabilities however, will usually have a limited home market, especially when the firm originates in a small country; therefore, born global companies are driven to international markets early in their organizational lives, in order to exploit first mover advantages and monopolistic gains (Acs et al. 1997; Amin and Thrift 1994; Keeble et al. 1998; McNaughton 2000). Yet this strategy creates a problem that is not easily resolved. Technology driven companies need to stay in close contact with their customers, not only to protect their proprietary know-how, but also to receive feedback regarding their technology through the processes of distribution and after-sales services (Almor and Hirsch 1995; Hirsch 1989). Such interaction may lead to further technological innovations; moreover, it creates customer loyalty and a strong client base. However, born global companies usually are young, small and have relatively few resources, thus impeding their ability to serve a wide variety of international markets and large numbers of customers without using strategic alliances that may threaten the relationship of born global companies with their customers as well as abuse

their technological innovations (Almor and Hashai, 2004). Many technology-based, born global companies deal with that paradox by focusing on global niches in which they typically serve a small number of organizational customers that create a high added-value (Freeman and Cavusgil 2007; Rasmussen and Madsen 2002; Rennie 1993; Rialp-Criado, Rialp-Criado and Knight 2002; Storey 1994). That way, the need for a substantial marketing infrastructure is reduced and a modest marketing entity may suffice.

Although global focus differentiation allows the technology-based, born global company to grow initially, it also creates dependence upon a very specific product life cycle. While technological products can be upgraded and updated, they still belong to a single industry, which eventually will decline when the industry becomes challenged by new industries that produce technologically superior substitute products (Christensen 1997; Hill and Jones 2004; Foster 1986). This problem becomes more acute when considering that product and industry life cycles are becoming compressed; various internet based industries for instance, have gone from initial introduction to apparent maturity within a few years (Cusumano and Yoffie 1998).

In addition, technology-based, born global companies that finance their initial growth by means of external capital, either by floating the company publicly, by venture capital or by private investments, need to continue their growth in order to remain attractive to their investors (Barrow et al. 2005; Manigart and Sapienza 1999). Thus, it is expected that technology-based, born global companies will not remain placent and will not behave like typical niche companies that remain small. Instead, they will have to examine different options for further growth, once they are established in their global niches.

While one option is to “exit”, i.e. to sell the company off to an other technology-based company, a strategy which is commonly used by many high tech entrepreneurs and is

considered very common among born global companies (PriceWaterhouse Coopers Israel Hi-Tech Exit Report, 2012; Senor & Singer, 2009), other options may be to remain in the game by growing the company at a relatively high pace. In this paper we focus on those maturing born global companies that remain in existence as independent companies.

Continuing growth of the independent born global company

Innovation is an important source of value creation in many industries. During the first decade of the 21st century, innovation occurs faster and novel solutions are created at a quicker pace than in the previous century, especially in high technology industries (King et al., 2008; Uhlenbruck, Hitt and Semadeni, 2006; Makri, Hitt, and Lane, 2010). Thus, firms have to invest many resources in quick innovation of products and processes that will allow them to remain competitive over time.

Barney and Peteraf (2001) used the term competitive advantage to describe the relative performance of rivals in a given product market environment. They argued that a company has a competitive advantage if it creates more economic value than its competitor in its product market. The economic value is the difference between the perceived benefits gained by the purchasers of the goods and the economic cost to the company. Value is created when resources that are useful in one industry are substitutes for, or complement the resources of another industry (Lien and Klein, 2006). In a rapidly changing technological environment, the ability of established firms to renew and extend internal resources and capabilities is a critical source of competitive advantage (Agarwal and Helfat, 2009; Eisenhardt and Martin, 2000). Furthermore, the firm's organizing context, valuable, rare, inimitable capabilities (dynamic and otherwise), and

core competencies rather than its static resources are essential to determining its competitive position (Newbert, 2007).

Thus, born global companies that have to function in fast changing technological environments have to find ways to access the new technologies and their accompanying resources and capabilities rapidly. Literature shows that firms have turned to mergers and acquisitions (M&As) as strategy for obtaining the knowledge needed to create innovations at the required speed and with the novelty needed to either maintain a competitive advantage or to build a new one (King et al., 2008; Tarba and Almor, 2012; Uhlenbruck, Hitt and Semadeni, 2006). Acquisition of external technologies is the method by which established firms increase their technical capabilities and products, tap into new markets, enhance their market power, and achieve strategic renewal (Agarwal and Helfat, 2009; Almor, Tarba, and Benjamini, 2009; Eisenhardt and Martin, 2000; Gomes, Angwin, Weber, and Tarba, 2013). Therefore, acquisition is a prominent strategy used by many technology firms as they aggressively seek M&A strategies to grow and leverage upon their capabilities (Sorking, 2009 ; Vence, 2009, Weber, Tarba, and Rozen Bachar, 2011).

In this paper we pose that the current fast speed of innovation and technological changes motivates born global, technology-based firms to extend, enhance, and broaden their resources and capabilities through M&As (Agarwal and Helfat, 2009; Eisenhardt and Martin, 2000; King, Slotegraaf and Kesner, 2008). M&As enable these firms to increase their competitiveness and market power and to block the moves of their competitors (Carbonara and Caiazza, 2009). By providing a method for acquiring technical skills and technological capabilities, M&A strategy enables faster access to resources (Capron 1999; Mowery et al. 1996) and entry into foreign markets (Shan and Hamilton, 1991). Compared to a M&A strategy, internal development is more expensive and time consuming. Moreover, M&A strategy is an important renewal vehicle for established firms. It speeds up the introduction of new

products, expands or enhances existing product offerings, and strengthens internal technological capabilities (Graebner and Eisenhardt, 2004; Graebner et al. 1990).

Thus we hypothesize that:

Hypothesis 1 – Technology-based born global companies which choose to use a M&A strategy, will increase their chances to survive and remain independent compared to technology-based born global companies which do not use a M&A strategy.

While this study hypothesizes that M&A strategy will allow technology-based, born global companies to mature independently, other studies have pointed out problems with this strategy. Paruchuri et al. (2006) found that post-acquisition integration is very disruptive for inventors and entrepreneurs who incur a great loss in social status and centrality once their company is acquired, leading to severe drops in their productivity. Since knowledge is difficult to transfer, a high level of post - acquisition integration may be required in order to realize the expected benefits of these acquisitions (Puranam, Singh and Zollo, 2003; 2006). Yet a high level of integration may eventually result in cultural clashes, destruction of the acquired firms knowledge-based resources due to senior management and key employee turnover as well as disruption of organization routines (Ahammad, Glaister, Weber, and Tarba, 2012; Puranam et al., 2003; 2006; Puranam and Srikanth, 2007; Puranam, Singh, and Chaudhuri, 2009; Weber, Tarba, Stahl, and Rozen Bachar, 2012).

Several comprehensive studies that examined the most frequently used variables in recent research were not able to establish clear predictors for M&A success or failure (Stahl and Voight, 2008; Haleblian, Devers, McNamara, Carpenter, and Davison, 2009). Moreover, there is no consistent confirmation, that M&A strategy enhances financial wealth of the acquiring company. King, Dalton, Daily and Covin (2004) were among the first to examine both stock

and accounting measures of post-acquisition performance among conglomerate firms. They argued that the frequently used rationale for M&A activity is based on the concept that the sum of merging two firms is greater than their individual parts. They measured the performance of acquiring firms over a series of time periods, ranging from days to years. For each of the event windows, the stock and accounting measures used for the acquisition of firms, including ROA (Return on Assets), ROE (Return on Equity) and ROS (Return on Sales), were either insignificant or demonstrated a negative effect. To conclude, the meta-analysis conducted by King, Dalton, Daily, and Covin (2004) found that none of the strategic and financial variables studied are significant in explaining the variance in post-acquisition performance, and recommended that future research pay more attention to non-financial variables.

On the other hand, evidence exists that acquisitions create synergies, increase a firm's market and bargaining power, and improve risk diversification (Hitt, Harrison, Ireland and Best, 1998; Tuch and O'Sullivan, 2007). In addition, Hitt et al. (2009) argued that firms that search for and identify targets with complementary capabilities and mechanisms that enrich their learning from the acquired firm are more likely to build new capabilities and enhance their own competitive position in the market. Thus, as found by Ranft (2006), the use of acquisitions to gain new technologies and capabilities seems to remain a durable and important feature of mergers and acquisitions in the high-tech sectors (Ranft and Lord, 2000; 2002).

Therefore, while literature indicates that established firms gain access to new technologies and know-how when they acquire startups (Benson and Ziedonis, 2009), M&A strategy does not always seem to be the best way for a company to gain short term financial profit (King, Dalton, Daily and Covin, 2004). Indeed, studies show that M&A strategy can succeed financially when the acquirer identifies and monitors the technological activities when

acquiring a startup (Benson and Ziedonis, 2009), examines if the two firms are similar in their business focus, technology, and culture and manage the post-acquisition process. Studies further show that if a buyer is larger than the acquired firm chances for financial gain also increase (Homberg, Rost and Osterloh, 2009). Thus, it is reasonable to assume that along with faster access to resources and capabilities, M&As can yield higher financial results in the long term and increase shareholders wealth when managed according to the parameters laid out above.

We therefore pose that technology-based, born global companies that use M&A will show growth in long-term financial performance.

Hypothesis 2a – Technology-based, born global companies that use M&A strategy will increase their long term, financial performance.

Studies to date have not investigated if and how the number of M&As affect a company's competitive advantage. Technology-based, born global companies frequently need to grow fast due to the speed of innovation and possible obsolescence of their product and its underlying technologies. Thus, to continue succeeding, these firms need to reach quick decisions on whether to develop in-house capabilities or acquire them.

Graebner, Eisenhardt and Roundy (2010) noted that firm leaders hope to accomplish three main goals when they implement M&A. First, by rapidly obtaining products and technologies, the buyer will harness the innovative power of smaller, young firms and access socially complex knowledge. Second, the company will expand its market footprint to new geographical regions or customer groups and eliminate both current and potential rivals. Third, M&As will provide opportunities for resource reconfiguration and recombination of technologies.

Moreover, experience in managing the post-acquisition process enhances the chances for success. Firms that are experienced in M&A strategy and in the management of the post-acquisition process usually develop methodologies that help them manage the process, thereby increasing the chances for long term success (Almor, Tarba, and Benjamini, 2009).

Thus, we expect that technology-based, born global companies that frequently use M&A will increase their long-term financial performance more than companies that use this strategy only once.

Hypothesis 2b – Technology-based, born global companies that acquire more than one firm will increase their financial performance over time more than those that acquire only one other firm.

During its early years, the typical entrepreneurial company is expected to be characterized by a narrow product scope and focused on a narrow geographical market. Literature posits that growth paths traditionally lie along two axes: product scope and geographical scope (Ansoff 1957; Delios and Beamish, 1999; Geringer et al. 1989; Geringer et al. 2000; Grant et al. 1988; Hitt et al. 1994, 1997; Palich et al. 2000a). Together these two axes create various corporate paths of growth. However, born global companies seems to be following a different path (Almor, 2013; Hashai, 2011).

Almor (2013) posits that technology-based, born global companies can choose between three paths of growth: customer scope, country scope and product scope. Successful, technology-based, born global companies will frequently adhere to a single path of growth rather than combine different options (Hashai, 2011) as they have relatively scarce resources which are specific to certain applications; therefore the ability to transfer resources between different applications is highly constrained (Montgomery and Wernerfelt 1988). According to the Resource Based View (RBV), scarcity of resources constrains a company in the amount of

expansion activities it can pursue in a given time period, due to limitations of physical and intangible assets such as management time (Penrose 1956). Therefore it will select the expansion route that matches its resources best (Montgomery and Wernerfelt 1988).

Literature shows that maturation of the product life cycle and even of the industry life cycle is quickening and that industry life cycles are becoming more condensed, especially in cases of high tech industries (Weber and Tarba, 2011; Weber, Tarba, and Rozen Bachar, 2012). Thus, technology-based companies have to upgrade their products frequently, as newer technologies and newer interfaces appear, thereby creating a product line of upgrades and/or updates. Thus, we argue that technology-based, born global companies which want to remain independent, will have to invest their resources first and foremost in the extension of their product line offerings and grow in terms of number of products offered. These products may be complimentary to their existing product line, they may be related to the core product but provide different solutions or they may even be unrelated to the core product. This leads us to the following hypothesis:

Hypothesis 3: M&A strategy is used more frequently for product scope expansion than for other purposes among technology-based born global companies.

METHOD AND SAMPLE

In order to examine the existence and growth of maturing technology-based, born global companies, the researchers conducted a longitudinal study by focusing on born global companies in the *Information and Communication Technology* (ICT) sector, which were established before the 21st century in Israel and were identified as such in 1999 by Almor and Hashai (2004). The researchers went back to the original sample of 1999 and tracked all the firms in that sample since 1999. The current study is based on those firms that already existed in the year 2000 and

continued to exist independently until the year 2010 at least. All firms in the study were publicly traded on stock exchanges outside Israel.

Population: Israeli technology-based born global companies

Israel is poor in natural resources but rich in human capital. It has a high proportion of scientists and engineers in the population, with approximately 130 scientists and engineers for every 10,000 workers (Chorev and Anderson, 2006), compared with 80 in the U.S. and 75 in Japan. Israel has the greatest R&D expenditure in the world as a percentage of GDP (Traston, Sarusi, Kochavi, Zisapel, and Ayalon, 2002) and the highest number of startups in the world relative to population size. During the last decades, Israel has emerged as an important global center of innovation and entrepreneurship, which has brought about prosperity for a large part of its population (Bank and Almor, 2013; Engel and del-Palacio, 2011). Knowledge-intensive industries, as well as private and public venture capital, have allowed for industry and service sectors to flourish and for hundreds of born global companies to be established (Economist, 2008; Zilber, 2006).

Since the beginning of the 1990s Israel's government created an environment that would be conducive of entrepreneurship. It established dozens of incubators, enabling entrepreneurs to start out in a protected environment. At the same time, the government stimulated the establishment of a venture capital industry to encourage financial investments in the budding start-ups. It also set aside a significant budget for the Chief Scientist Office, which in turn allocates funds to subsidize the development of applications of new technologies. In parallel, throughout the past two decades, Israel has seen hundreds of entrepreneurial firms being listed on the American NASDAQ stock exchange, which specializes in high tech companies. Israeli start-

ups have also been listed on other foreign stock exchanges (Avnimelech & Teubal, 2006; Senor & Singer, 2008). As a result, Israel's export (when excluding diamonds) is for about 75% technology-based since the last fifteen years (Almor, 2011). Therefore, Israel presents a good case study for maturing technology-based, born global companies.

Sample

The sample of the population that was examined empirically in this study was based on a previous study of 75 Israeli, technology-based, born global companies that existed prior to the year 2000 (Hashai & Almor, 2004). The current study focused on 57 firms within the sample that belonged to the ICT (the Information and Communication Technology) industry and focused on their growth during the following decade from 2000 to 2009. All ICT firms that were part of the original Hashai & Almor (2004) study were traced and their annual reports were examined. The sample for the current study was created as follows:

- 1) The researchers initially focused on 57 born global companies in the ICT sector that existed in the year 2000 and were included in the previous study.
- 2) Data showed that 40 of these firms has survived independently until 2009, 16 were acquired and one ceased to exist.
- 3) Out of the 40 that survived, 33 had acquired at least one other company during that decade. However, only 28 of these survived after the year 2009. As the follow up study was conducted in 2012 and after exhaustive and careful research, annual data were found for only 28 maturing born global companies that acquired at least one company during the years 2000-2009.

- 4) The 28 maturing, born global, ICT firms had acquired 110 other firms during the examined decade. The 110 M&As that were performed during 2000-2009, formed the basis for part of this study.

By focusing on firms that are traded publicly, we were able to examine the historical development of firms with a proven track record of business activity and use public data such as yearly financial reports, analyst reports, newspaper articles and so forth, to conduct a content analysis of the development of these firms over a decade, from 2000-2009.

Descriptive statistics presented in table 1 show that the 28 firms in the sample remained relatively small both in terms of sales and number of employees. The firms have a very strong international orientation: most of their revenues are generated from multiple international markets rather than from the Israeli market. Moreover, it is noteworthy that 54% of the firms located their R&D efforts in Israel, however 75% of the firms located their Marketing and Sales efforts in more than one country.

Insert Table 1 About Here

Data analysis of annual reports of the 28 firms in the sample, as well as other publicly existing data bases, showed that together they firms performed 110 M&As during the 2000-2009 period. The data gathered for each M&A included the acquirer firm, acquired firm, year of acquisition, location of the acquired firm, acquisition price, the major reason for the M&A (that was based on quotes from the firms' official websites, annual statements or financial websites), type of integration (vertical/horizontal) and type of product (complementary/competitor).

Descriptive statistics presented in table 2 show that the 110 M&As that were performed by the 28 firms in the sample generally occurred for complementary product purposes (80%),

which allows them to keep developing their current product line and expand it with new related products. In addition, the common use of integration is horizontal (63%) which generally occurs when a firm is being taken over by, or merged with, another firm which is in the same industry and in the same stage of production as the merged firm. Both 'complementary products' and 'horizontal integration' allow these firms to enhance their product offering. It is also noteworthy that the average acquisition price of these 110 M&As stands at \$20 million, thus indicating that most acquisitions were of small firms.

Insert Table 2 About Here

Figure 1 presents the dispersion of the M&As over the period of a decade. Figures show that there was relatively less M&As activity during the two great recessions periods (bursting of the high tech bubble in 2000 and the financial recession of 2008) that occurred during the period.

Insert Figure 1 About Here

Figure 2 shows that nearly half of all M&As (47%) took place between Israeli and US based companies. The EU and Israel both were equally frequent bases for M&As, each representing 22% of all M&As performed during the studied period. Together, these three locations represent 91% of all M&A locations.

Insert Figure 2 About Here

Data and Measures

A company was defined as 'Independent' when during the period 2000-2009:

- it continued publishing its annual report;
- the stock of the company was traded on a stock market;
- the firm's official website existed and specified the businesses and activities of the company at least until the end of 2009.

A company was defined as 'acquired' when during the studied period:

- no or not all annual reports were found;
- the stock of the company was not traded on a stock market anymore;
- the firm's official website could not be found;
- internet search results indicated that the company was acquired by another company;
- the acquirer's official website specified information regarding the acquisition (acquired company, year of acquisition, price and reasons);
- the original product name still existed, but ownership of the name was acquired by another company.

A company was defined as 'ceased to exist' when:

- annual reports were not published anymore;
- the stock of the company was not traded in a stock market anymore;
- the firm's official website could not be found anymore;
- internet search results indicated that the company ceased to exist;
- no indication existed that it merged with another company.

This study focused only on acquisitions made by Israeli, maturing ICT born global companies that remained independent for the period of 2000-2009. Information regarding the acquisitions was found in annual statements of each company. Due to the fact these companies

are publicly traded, the acquiring company must specify the details regarding the acquisition in a section within the annual report. This section includes the name of the acquired firm, acquisition price, and reasons for this action, product type and type of integration. In some cases, other sources such as the firm's official website and press releases were used as well.

No single measure captures all the important dimensions of acquisition performance (Graebner, Eisenhardt and Roundy, 2010; Zollo and Meier, 2008). Commonly used measures in M&A studies are abnormal stock returns surrounding the announcement of the deal or 1-3 years after and accounting measures such as sales, net income, shareholders equity, ROE etc. from financial statements (King, Dalton, Daily and Covin, 2004; Homberg, Rost and Osterloh, 2009; Benson and Ziedonis, 2009). Alternative measures include product releases and patenting activity (Graebner, Eisenhardt and Roundy, 2010). In order to measure post-acquisition performance in this research, three groups of financial parameters were used that were calculated from the balance sheets, the P&L statements and from data gathered on stock price:

- growth in sales;
- various measures of profitability;
- profitability to shareholders.

In order to determine the reason for the acquisition, we reviewed the companies' annual reports prior to and after the acquisition as well as sources such as a company's official website and press releases that were published near the acquisition's announcement, regarding location of the acquired firm, acquisition price, product line, type of integration and the reason for the acquisition. Subsequently a content analysis was performed. For each of the 110 acquisitions in this study, three experts reviewed the veracity of the data and their categorization regarding the purpose of the acquisition. In 85% of the cases there was an unequivocal agreement of the three

experts; in case of disagreement the information was reexamined and discussed and a decision was taken by the most experienced expert with the agreement of the other two.

RESULTS

In order to test the first hypothesis which stated that technology-based, born global companies which choose to use a M&A strategy, will increase their chances to survive and remain independent when compared to technology-based born global companies which do not use a M&A strategy, a data base was created in SPSS (PASW Statistics 18) that consisted of two columns: (1) a numeric variable that specified if a firm performed or did not perform M&As, and (2) a numeric variable that specified what happened to the firm after ten years, if it survived and remained independent, if it was acquired by another firm or if it ceased to exist. As noted earlier, 57 firms participated in this test. A chi-square test was used to determine if a relationship exists between the two categorical variables and, in particular, if one (or both) variables have more than two levels (IsM&A has 2 levels: Yes and No, and IsSurvived has 3 levels: Yes, Acquired and Ceased to exist).

Insert Table 3 About Here

Table 4 presents the joint frequency distribution of the examined 57 companies. Findings show that 39 (68%) of the examined companies acquired other firms during 2000-2009 and the remaining 18 (32%) didn't use such a strategy. Moreover, 40 (70%) of the companies remained independent after a decade, while 16 (28%) companies were acquired by other firms and 1 (2%) company ceased to exist. When examining only the 40 companies that survived after a decade, 33 (82.5%) of these companies acquired other firms during this period, and only 7 (17.5%) did not.

While a negative relation exists between 'being acquired' and 'acquiring', findings shows a positive relation between the decision to acquire other firms and the ability to remain independent. The findings lead to conclude that if a company prefers to be acquired by another company it should not acquire other firms, however if a company prefers to remain independent it should use M&A strategy and acquire other firms.

Table 4 demonstrates the Chi Square Test of independence. Results indicate that a statistically significant relationship ($P < 0.05$) exists between the decision to use a M&A strategy and the ability to remain independent ($\chi^2 (2, N = 57) = 14.363, P = .001$), thus, supporting *hypothesis 1* that technology-based, born global companies that use M&As, will increase their chance to survive and remain independent companies.

Insert Table 4 About Here

Hypotheses 2a and 2b refer to the relationship between the use of M&A strategy and financial performance. We posed that technology-based, born global companies that use M&A strategy will increase their long term, financial performance and those that acquire more than one firm will increase their financial performance over time more than those that acquire only one other firm.

In order to study these hypotheses we focused on the 28 companies that acquired other firms between the years 2000-2009 and remained independent during these years. Financial data from the annual statements that relate to growth in sales, profitability and profitability to the shareholders were compared for the first and the last year of the decade studied. In order to test the hypotheses, the Wilcoxon signed rank sum test was employed since we could not assume that

the difference between the two variables was interval based and normally distributed, however we did assume that the difference was ordinal. The Wilcoxon signed rank sum test is the non-parametric version of a paired samples t-test.

The Wilcoxon signed rank test statistics indicated a statistically significant difference ($P < 0.05$) in long term sales performance between the years 2000-2009 when acquiring other firms ($Z = -2.07, P = .04$). In other words, firms that employed a M&A strategy, increased their sales significantly during the 2000-2009 time period. When examining the individual companies, only 60% (17) companies experienced an increase in sales, the other 40% (11) experienced a decrease in sales revenue. Even so, the overall results show that the firms in the sample which decided to acquire other companies increased their sales revenue significantly over a decade, thereby supporting hypothesis 2a.

The Z statistics for all the other financial measures in this study were insignificant except for stock price. Stock price was related inversely to the M&A strategy, thus showing that acquisitions are related negatively to long term stock prices of the acquiring company in this sample. Taken together, the results indicate that the relationship between M&A strategy and increase in long term financial performance of the company is not related except for increase in sales.

Hypothesis 2b allowed us to examine the relationship between the number of acquisitions and the financial performance of the firms in the sample over a ten year period. In order to test the hypothesis, the 28 companies that acquired other firms between the years 2000-2009 were divided into two groups: the first group included 9 companies that acquired only one firm during the last decade, and the second group included 19 companies that acquired two or more firms during the previously mentioned period.

The Wilcoxon test shows that the mean value of sales for companies that acquired only one firm during the first decade of the 21st century, decreased by 20% (from \$104,199 in 2000 to \$83,582 in 2009) and the median value of sales decreased by 12% (from \$48,463 in 2000 to \$42,535 in 2009) during that period. On the other hand, the mean of value of sales for companies that acquired two or more firms during that same time period increased by 168% (from \$211,475 in 2000 to 567,328 in 2009) and the median value of sales increased by 75% (from \$71,798 in 2000 to \$125,894 in 2009).

The Wilcoxon signed rank test statistics indicates that there is a statistically significant difference ($P < 0.05$) in long term sales performance for companies that acquired two or more firms during the first decade of the 21st century ($Z = -2.777$, $P = 0.004$). However, there is no statistically significant difference ($p < 0.05$) in long term sales performance for companies that acquired just one firm during that decade ($Z = -1.244$, $P = 0.25$). Results further show that 79% (15) of the companies that had two or more M&As during the tested period increased their sales revenue, while 78% (7) of the companies that acquired only one firm during the tested period experienced a decline in sales revenue. Thus, based on these findings it can be concluded that the companies in the sample which decided to acquire two or more firms significantly increased their sales revenue over a decade, and thereby supporting hypothesis 2b.

Further analyses showed that while the Z statistics for sales, gross profit and operating profit were low and significant, values of the Z statistics were high for net income, EPS, ROE and shareholders' wealth and thus insignificant. Similarly to results reported in other studies (King, Dalton, Daily and Covin 2004 Benson and Ziedonis 2009), the stock price decreased consistently during the decade studied, for all companies that acquired at least one other firm.

Insert Table 5 About Here

The third hypothesis posed in this paper concerned the reason why a maturing born global company would acquire another firm. In this paper we posed that M&A strategy is used more frequently for product scope expansion than for other purposes among maturing technology-based born global companies.

Overall, the results presented in Table 2 demonstrate that 80% of the M&As had the purpose of accessing complementary products. Statistics regarding the purpose of the acquisition, showed that the majority 68% (75) of the examined acquisitions were reported to enlarge product scope, while 13% (14) acquisitions were reported to enlarge country scope, 4.5% (5) acquisitions enabled firms to enlarge customer scope, 5.5% (6) (5.5%) enabled the firms to enlarge both the product and country scope, 5.5% (6) the product and customer scope, 3% (3) to the country and customer scope, and the remaining 1% (1) the product, country and customer scope all together. Table 6 presents the one proportion Z-test testing the purpose of the 110 M&As that were performed by the firms in the sample. The One proportion Z-test indicates that there is a statistically significant difference ($P < 0.05$) between the decision to grow along product scope vs. the decision to grow along each one of the other paths ($\chi^2 (6, N = 110) = 267.236, P = .000$) when the expected value is equal for all paths of growth. Thus, we can conclude that when M&As strategy is used it is used more frequently for product scope purposes than for other purposes among Israeli technology-based, maturing born global companies thus supporting hypothesis 3.

Insert Table 6 About Here

DISCUSSION

The existence of born global companies has been discussed in literature ever since the early 1990s. Since then about twenty years have passed, thus creating the question if such companies are able to mature and if so, how they go about it. Popular literature as well as newspapers and magazines mostly address the “exits” that such companies frequently make. In this study however, we were interested to examine the continued independent existence of such companies. Therefore, we conducted an empirical longitudinal study of the time period between 2000-2009 of Israeli born global, ICT companies that were identified in the 1990s as born global and were at time about a decade old on average.

In this study we decided to conduct a follow-up of these 57 maturing born global companies and examine their survival during the years 2000-2009. Results show that 40 companies (70%) survived the next decade independently and 16 companies (28%) were acquired, thus implying that once born global companies pass the first decade of their existence and mature, their survival rate remains quite high, however their chances to “exit” by selling the company off diminish considerably.

Furthermore, 33 out of the original sample were able to acquire at least one other firm during the decade examined in this study. However, the 110 acquisitions performed by the 28 maturing technology-based, born global companies in this sample, did not increase the stock value of these maturing companies. Indeed, our findings showed that stock value diminished

significantly during the decade that we examined even though sales volume increased significantly during the studied time period.

Our findings show that maturing technology-based, born global companies that want to survive independently can increase their chances of doing so by acquiring other firms. Thus, our results show that M&A strategy, while it does not increase stock price value, does increase significantly the chance of the firm to remain independent. However, the data also showed that if the owners/entrepreneurs prefer to exit by selling off the company, they are better off not acquiring any other firms.

Data further showed that multiple M&As have a significant positive relation with increased financial profit and loss results. Thus, it is related positively to sales, gross and operating profits, however it is not related to other measures of profitability such as ROE, EPS and shareholder wealth.

We also found that the most common purpose of the M&As in this sample was to enlarge the product line and add products to the existing product basket, rather than to add market segments or types of customers. Thus supporting the argument that in a world which is changing very fast, the born global companies do not have the time and the resources to develop additional products in-house, but need to acquire them by means of M&As.

Taken together, it seems that while the majority of born global companies are able to continue existing once they have survived the first decade of their lives, they are not very successful doing so in terms of growth and wealth. They seem to be compelled to use M&A strategy to continue surviving even though this strategy does not increase their stock prices but only the volume of their sales. While their sales volume grows, the maturing born global companies remain relatively small even after two decades. While these firms operate in tens of

countries around the world they employ on average less than 1,000 people and have a sales volume of less than 200 million USD after two decades in existence. Thus, while born global companies grow by hundreds of percent during the first decade of their lives, usually increasing their sales volume from zero to tens of millions of USD, they seem to become less attractive in the second decade of their lives, increasing their sales volume at a much lower pace and becoming significantly less attractive to investors, while on the other hand, being forced to invest in acquisitions of other companies in order to enlarge their product lines. This strategy seems to be used more as a survival strategy than as a growth strategy.

It should be kept in mind that this study suffers from a number of limitations by focusing only on Israeli, maturing born global companies that belong to the ICT industry. Furthermore, in-depth interviews in real time could have added much understanding regarding the decision making process in the maturing born global companies regarding the strategic choices. By using only secondary materials the researchers were not privy to the variables that were taken into account while deciding how to continue to manage the growth process of the companies in the sample. Also, we do not know if some of the independent companies in the sample are independent out of choice or out of necessity, i.e. they were willing to exit, but did not receive offers of interest and were forced therefore to continue independently.

While this study suffers from many limitations, it does offer a glimpse regarding the strategic choices and behaviors of maturing, technology-based, born global companies in Israel. The findings of this study may for the basis for future research regarding the maturation processes of such companies in Israel and in other countries.

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Table 1 - Descriptive statistics for the year 2000 of the 28 technology-based, maturing born global companies that performed M&As during 2000-2009 and remained independent during those years

Variable	Average	Range
Year of establishment	1988	1966-1996
Year of selling the first product	1990	1969-1996
Time span between incorporation and first international sale (years)	2	0-9
Sales (thousands US\$)	176,991	10,626-1,118,320
No. of employees	919	33-8,300
Ratio of investments in R&D to sales (%)	16	3-38

Table 2 - Descriptive statistics of 110 M&As during 2000-2009

Variable	Average	Range
Competing product (%)	20	-
Complementary product (%)	80	-
Horizontal integration (%)	63	-
Vertical integration (%)	37	-
Acquisition price (thousands US\$)	20,183	237-1,080,000

Table 3 - Frequencies of M&A activity and the status of the 57 companies after a decade

		Status after a decade			Total
		Survived	Acquired	Ceased to exist	
Used M&A	Count	7	11	0	18
	% within used M&A	38.9%	61.1%	0.0%	100.0%
	No % within Status after a decade	17.5%	68.8%	0.0%	31.6%
	% of Total	12.3%	19.3%	0.0%	31.6%
	Count	33	5	1	39
	% within used M&A	84.6%	12.8%	2.6%	100.0%
	Yes % within Status after a decade	82.5%	31.3%	100.0%	68.4%
	% of Total	57.9%	8.8%	1.8%	68.4%
	Count	40	16	1	57
	% within used M&A	70.2%	28.1%	1.8%	100.0%
Total	% within Status after a decade	100.0%	100.0%	100.0%	100.0%
	% of Total	70.2%	28.1%	1.8%	100.0%

Table 4 - Chi-Square Test of company independence

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.363	2	.001
Likelihood Ratio	14.124	2	.001
Linear-by-Linear Association	8.975	1	.003
N of Valid Cases	57		

Table 5 - The Wilcoxon signed rank test statistics of the difference in sales for the years 2000 and 2009 for the 28 surviving companies

Sales (thousands US\$) 2000 and 2009	
Z	-2.07
Exact Sig. (2-tailed)	0.04

Number of M&As	Sales (thousands US\$) 2000 and 2009	
One M&A	Z	-1.24
	Exact Sig. (2-tailed)	0.25
Two or more M&As	Z	-2.77
	Exact Sig. (2-tailed)	0.004

Table 6 - One proportion Z-test for 110 M&As that were performed by 28 companies for the years 2000-2009 when expected value is equal

Purpose of M&A	Observed N	Expected N	Residual
Product	75	15.7	59.3
Country	14	15.7	-1.7
Customer	5	15.7	-10.7
Product & Country	6	15.7	-9.7
Product & Customer	6	15.7	-9.7
Country & Customer	3	15.7	-12.7
Product & Country & Customer	1	15.7	-14.7
Total	110		
Purpose of M&A			
Proportion			
Chi-square	267.236		
df	6		
Asymp. Sig.	.000		

Figure 1 - Number of M&As distributed by years 2000-2009

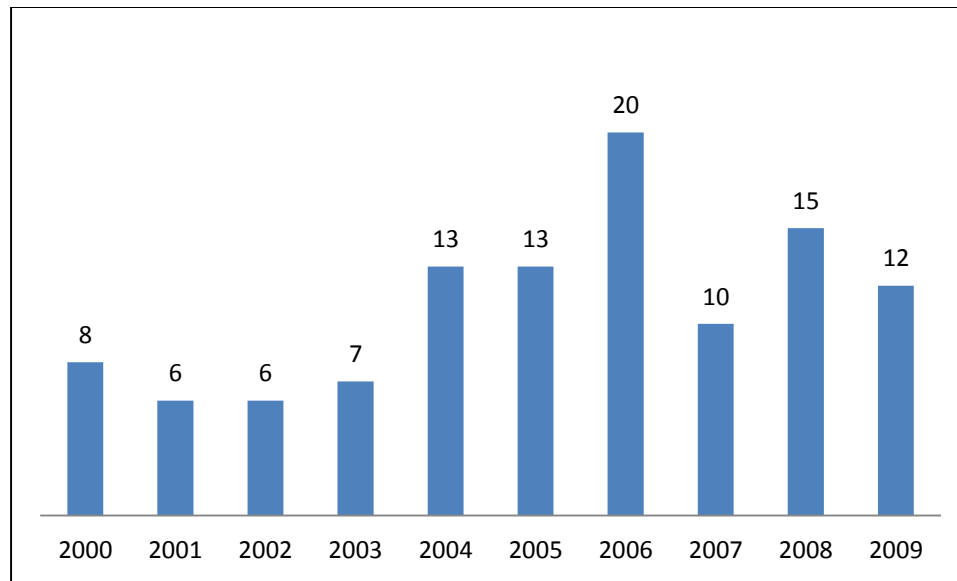


Figure 2 - Geographical location of the acquired firms

