EXPLORING THE INFLUENCE OF GLOBALISATION AND INNOVATION ON FIRM PERFORMANCE

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ABSTRACT

Understanding how to better improve firm performance and achieve firm sustainability is an underlying research motivation for many scholars. In this regard, innovation and globalization appear to contribute toward competitive advantage and productivity in firms which, in turn, lead to improved firm performance. Although it is important to understand how these constructs are linked to firm performance, it is also necessary to understand the antecedents of innovation and globalization. This is the focus of this exploratory research. This research adopts an holistic research approach by examining the internal firm drivers of innovation and globalization and how these translate into firm performance.

INTRODUCTION

Growth-oriented, entrepreneurial firms are associated with generating employment and creating wealth; they are linked to the development of vibrant economies. Entrepreneurial firms tend to outperform those that act less entrepreneurially – contingent upon environmental and organisational contexts (Lumpkin and Dess, 1996). Entrepreneurial firms are good at innovating and are good at getting innovative products and services to market (Lee and Peterson, 2000). Thus, entrepreneurship provides the context within which innovation happens.

There are many definitions of innovation (Schumpeter, 1934; Oslo Manual, 2005 and Sundbo, 1998, 2001). Simplistically, innovation is something new that creates value in the eyes of the consumer (Sundbo, 1998). Innovation comes in many different forms and can include, but is not limited to, that which is associated with products, services, operations, organisational issues, financial engineering, and/or marketing strategies (Oslo Manual, 2005). At the product level, for example, it could involve transforming an “invention” through value creation into a novel product or service that the market wants (Fagerberg, Mowery, and Nelson, 2004). Firms that innovate tend to outperform those that do not (Darroch, 2005).

Globalization has also been associated with better performing firms. Those firms that interact with global markets tend to be growth oriented and demonstrate improved performance (Zahra et al, 2000). One explanation for the improvement in performance of these firms is that, aside from access to larger international markets, these firms alter their behaviour to adapt to the wider business environment (Lee and Peterson, 2000). They become innovative in adjusting their organizational...
structures and communication channels to contend with foreign competitors and prospects of increasing environmental dynamism and turbulence (Narula and Zaefi, 2005). Thus, globalization increases market possibilities and/or options, and thus helps the firm to grow, but it also increases risk (Levitt, 1984).

The growth of firms, however, is not cost-free. No matter which way firms choose to grow, whether it is through innovation and/or globalization, there is a requirement for an investment in the future. Such investment may be seen as a trade off between today’s necessities and future growth. Growing firms tend to be short of cash and they need to be agile to deal with, as well as implement, change – and this can cause “pain”. This raises the issue of whether it is it worth it.

Questions regarding innovation, globalization, and firm growth are central to this exploratory research which is the first stage of a larger longitudinal research program. There are three questions we seek to address. First, “To what extent does globalization affect firm innovation?” Second, “To what extent is globalization and innovation related to firm performance?” Third, “What are the antecedents or drivers of innovation and globalization?” Although prior research has examined each of these constructs individually (Becheikn et al, 2005), there has been no study that investigates the combined effects of their interrelationships. This is the aim of this research.

THEORETICAL CONTEXT

The Resource Based View of the firm underpins this research. This is used as a framework to explain the ability of firms to sustain competitive advantage through their strategic choice of resources. In this research, relevant resources include the strategies or drivers that firms employ to undertake innovation or globalization activities.

Resource Based View Theory

The Resource-Based View (RBV) theory of the firm provides a relevant context for the underlying selection of resources in strategic management. RBV theory is relevant to this research since it focuses on small and medium size enterprises (SMEs). SMEs often are faced with having only scarce resources (Damanpour, 1992 and Stock et al., 2002). Their lack of resources requires them to use their existing resources wisely and to leverage off these to obtain others where possible using their skills and capabilities (Souitaris, 2002; Freel, 2003 and Guangzhou Hu, 2003). By acquiring and developing appropriate strategic resources, these firms will be better positioned to take advantage of business opportunities and to gain a competitive advantage.

Penrose (1959), Rubin (1973), and Wernerfelt (1984) developed the theoretical foundations of the RBV theory of a firm. Barney (1991, 1995) built upon these foundations and extended them to how firms can gain a competitive advantage as a consequence of their selection of strategic resources and capabilities. These allow them to apply strategies to improve their positions in the market.

RBV theory is based on the heterogeneous selection of resources or capabilities that firms control and the imperfect mobility of them (Barney, 1991, 2001). They can be tangible or intangible and may include physical, human, and/or organizational capital resources. Firms with valuable, rare, inimitable, and non-substitutable resources have the potential to achieve a competitive advantage (Barney, 1991, 1995).

Scholars, such as Galbreath (2004, 2005), extended RBV theory to identify which resources were more important for successful innovative firms. In Galbreath’s (2004) terms, a resource is “a (firm-level) factor that has the potential to contribute economic benefit” (Galbreath, 2004, p. 2). He suggests that tangible resources contain financial or physical value and that these are measured in balance sheets. In contrast, intangible resources are non-financial or non-physical and these are not usually registered in balance sheets.

In examining intangible resources, Galbreath (2004) adopted Hall’s (1992) resource taxonomy of two types of intangible resources. These are assets - which Hall (1992) defines as things that a firm has - and skills or capabilities, which Hall (1992) defines as what a firm does. Galbreath and Galvin (2005) found that it may not always be true that intangible resources are associated with better firm performance. The significance of resources may be connected, not to the selection of specific resources, but to the way they are combined or applied (Galbreath and Galvin, 2005).
CONCEPTUAL MODEL

Figure 1 provides an overview of the conceptual model. This hypothesizes that globalization influences innovation and that internal firm drivers influence both globalization and innovation activities. In turn, these influence firm performance (the dependent variable in the model).

Internal Drivers

Firms engage in innovation and/or globalization activities for different reasons. These include product, market, efficiency, ability to learn, and/or produce change reasons (Oslo Manual, 2005). Firms implement specific strategies to achieve innovation and/or globalization. Underpinning these strategies will be a set of capability resources that include employee know-how, managerial know-how, and the ability to build and maintain advantageous external relationships (Galbreath and Galvin, 2004).

Internal drivers that affect the behavior of firms in connection with innovation activities can be divided into three groups (Galende and de la Fuente (2003). These are tangible drivers such as: size of firms and debt (the easiest to measure), intangible drivers including human, commercial and organizational resources (not so easy to measure), and strategies which include diversification and internalization.

Innovation

A central objective of innovation is to improve the performance of firms through acquired competitive advantage (Oslo Manual, 2005). Firm innovation activities are transformed into key drivers of economic growth.

Schumpeter (1934) identifies five types of innovation: new products, new production processes, new markets, new organizations, and new inputs organized by the entrepreneur (Lamboy, 2005). Innovation can also be classified in terms of product, process, marketing, and organizational innovation (Oslo Manual, 2005).

Innovation is more than invention: “Invention is the first occurrence of an idea for a new product or process, while innovation is the first attempt to carry it out into practice” (Fagerberg, Mowery and Nelson, 2005, p.4). The Oslo Manual (2005, p. 46) identifies innovation as the “implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations”. Activities that can lead to innovation include scientific, technological, organisational, financial, and/or commercial activities (Oslo Manual, 2005). Some innovation activities can be innovative themselves while others may not be novel but are “necessary for the implementation of innovation” (Oslo Manual, 2005, p. 47). Innovation activities include research and development that is not “directly related to the development of a specific innovation” (Oslo Manual, 2005, p. 47).

Globalization

Globalization is a process that generates new interconnections and integration between economies. Global markets bring opportunities but they also introduce risks (Levitt, 1984). For example, the globalization process has far reaching consequences including economic, technological, and cultural consequences.

From an economic perspective, globalization is characterized by different flows of goods and services, people, capital, and technology. These can influence interest rates and price movements. Thus, while countries open their frontiers and encourage international trade, they also need to focus inwardly to remain competitive. This produces two merging processes - the integration of national economies and globalised competition. These combined processes lead to frontiers disappearing and countries having more interdependence (OECD Handbook on Economic Globalization Indicators, 2005).

Globalization is the intensification of connections between capital, labor, and states - with there being four underpinning connections: production, trade, investment and finance (Ohmae, 1993).
Globalization can also be defined in terms of a process of increasing internalization of markets for goods and services, the financial system, corporations and industries, technology, and competition (where competitive advantages of countries or regions are important clues for the reallocation of resources). International firms are looking for these locations to produce their products for the rest of the world.

Globalization is driven by “progressive forces of technological change and economic liberalization”. These lead to the breaking down of barriers “formerly imposed by the tyranny of distance and political parochialism” (Ohmae, 1993, p. 27). Thus, technology produces change, reduces transaction costs, and facilitates globalization; for example, transport, communication and travel have changed isolated places and business reality (Ohmae, 1993).

Key globalization features include continuous reduction of barriers in trade, financial markets with more integration, and foreign direct investment which plays an important role in the development of international and multinational firms that transfer technology and knowledge (OECD Handbook on Economic Globalization Indicators, 2005).

Firm Performance
Firm performance can be measured in various ways including sales growth, market share, profitability, overall performance, and stakeholder satisfaction (Lumpkin and Dess, 1996). Systems that measure firm performance help firms recognize gaps between actual and expected situations. They support decision-making processes by collecting, elaborating, and analyzing information to manage firm complexity.

There are difficulties associated with the diffusion of performance measurement systems in smaller firms including SMEs. These include getting SMEs involved in performance measurement – many do not engage in performance measurement or they measure performance incorrectly, SMEs do not perceive the need for a balanced model; there exist weaknesses in the connection between strategy and measures, and there is only a limited amount of resources for data analysis and analysis may be imprecise leading to dubious results (Garengo, Biazzo and Bititce, 2005).

Obstacles to the use of a performance management system include a lack of human resources (because employees are working on daily problems), a limitation of management capacity (because, managers are involved in a range of different tasks), limitation of capital resources, reactive approaches (because of inadequate long term planning), lack of formalized processes, and a misconception of performance measurement (Garengo, Biazzo and Bititce, 2005).

Hypotheses
Hypotheses addressed in this research include:

H1: There will be a relationship between internal drivers and innovation.
H2: There will be a relationship between internal drivers and globalization.
H3: There will be a relationship between innovation and the performance of firms.
H4: There will be a relationship between globalization and the performance of firms.
H5: There will be a relationship between innovation and globalization.

RESEARCH METHOD
This research used a questionnaire to survey SMEs. The questionnaire was based upon the Australian Bureau of Statistics’ questionnaire. The instrument included 38 questions subdivided into the following areas: firm demographics; innovation activities; globalization activities; and firm performance. The South Australian State Government supported the project and supplied the database from the Australian Businesses Register (ABR). A random sample selection from the database was applied following the setting of certain parameters.

Participants
Around 13,000 invitations were sent by email to SMEs in the greater Adelaide metropolitan area. Approximately 30% of the survey emails did not reach their intended recipients due to the database containing out of date email addresses. A total of 1,231 firms answered the questionnaire; however, only 872 were usable. Table 1 provides some of the key firm demographics.
The survey involved an email invitation to firms to participate in a website survey. A user name and password was sent with the email. Email reminders were sent and a call centre was employed to improve the response rate. Two months after the survey was completed, every participant received a descriptive report comparing their situation with that of other participating firms.

Measures
The questionnaire sought responses in relation to internal drivers, innovation activities, globalization activities, and firm performance during the 2005 and 2006 period. Measures used in this research were as follows:

Internal drivers: Participants were asked which drivers were more important for them in terms of the following …

- **Profit drivers** - included improve productivity, increase in revenue, and reduce costs.
- **Market drivers** – included being at the cutting edge of the industry, increased responsiveness to customer needs, increased market share, establishing a new market, exploiting new ways to manage your business’s supply chain, increased export opportunities, and high degree of price competition in your business’ product markets.
- **Legal drivers** - included being environmentally responsible, improvements in safety or working conditions, and meeting government regulations or standards.

Innovation activities: Questions focused on any new or significantly improved innovation in products, operational processes, organisational and/or managerial methods, and marketing methods.

Globalization activities: Questions were asked about respondents buying technology from overseas, exporting any products or services overseas, having products for sale that were imported from overseas, and having inputs in production that were sourced from overseas.

Firm Performance: Firm performance was measured in terms of changes in sales growth.

RESULTS

Tests of Hypotheses
Each part of the model was tested separately and different statistical methodologies were applied.

To test the relationships between internal drivers and innovation activities, Poisson regression was applied since the dependent variable (innovation activities) is a count data variable. The distribution was justified on the basis that the means and variance were similar. Internal drivers were subdivided into three parts: profit, market, and legal. With the internal drivers-globalization activities relationship, negative binomial regressions were used instead of the Poisson process since the model did not provide a good fit and so a more robust method was preferred. The internal drivers were subdivided into the same three groups as before.

In order to test relationships between innovation and globalization with firm performance, ordinal regressions were used since performance was measured on an ordinal scale. Simple regression was used to measure the relationship between innovation and globalization since both Poisson regression and Negative Binomial regression showed significant lack of fit.

Hypothesis 1: There will be a relationship between internal drivers and innovation.
The model showed a good fit for associating profit drivers and market drivers. The regression was significant (p<0.01). The rate ratio is 1.10, which means that every unit change in profit drivers produces, as a result, a 10% increase in innovation activities. The rate ratio is simply the inverse natural logarithm of the coefficient and shows the proportional increase in the response variable (innovation) as profit drivers increase by 1 unit.

In the case of market drivers, the rate ratio is 1.06 which means that every change in a market driver unit produces a 6% increase in the innovation activities. There was no significant result with legal
drivers and the model did not fit well. We can therefore conclude that there is no association between legal drivers and innovation activities.

**Hypothesis 2: There will be a relationship between internal drivers and globalization.**
With globalization activities as the dependent variable and internal drivers as the independent variable, the model showed a good fit. There was a significant and positive association in the profit and market drivers but not in the case of legal drivers. In the case of profit drivers, the rate ratio is 1.09 which means that every change in the profit drivers produces, as a result, a 9% increase in globalization activities.

**Hypothesis 3: There will be a relationship between innovation and the performance of firms.**
Ordinal regression was used with performance as the dependent variable. Figure 2 provides the plot for Hypothesis 3. The number of innovations was the independent variable and was not designated as a fixed variable but rather a free variable. The result of this can be seen in Figure 2.

The statistics show that the model has a good fit. The $R^2$ statistic for this model is 75.74% which indicates that innovation activities explained 76% of the changes that were produced in the sales growth performance. The analysis, allowing for the free independent variable, shows a big gap between companies that realized any innovation activities and firms that undertook one and two innovation activities. Moreover, there is another relevant gap between firms that undertook one or two innovation activities and the ones that undertook three or four innovation activities. As a result, there are three different groups in the analysis: those firms without innovation; those firms with one or two innovations; and those firms with three or four innovations.

**Hypothesis 4: There will be a relationship between globalization and the performance of firms.**
The model has a good fit and the regression is significant. Figure 3 provides the plot for Hypothesis 4. As can be seen, globalization activities have a positive and significant association with performance. The $R^2$ statistic for this model is 40.49% which shows that globalization activities explained 40% of the changes produced in sales growth performance.

The output reflects that it does not seem to matter whether the firm had two or four activities but three activities seems as significant. The result is due to the fact that firms that have four globalized activities are rare and as a result only one, two, and three globalization activities should be considered. Allowing for the independent variable to be free allows this to be seen very clearly.

**Hypothesis 5: There will be a relationship between innovation and globalization.**
In this case, innovation activities was the dependent variable and globalization activities was the independent variable. The results are significant but the association is weak ($R^2=9\%$).

**DISCUSSION**
Overall, there was general support for the proposed model; however, the model shows weak results in the first and the third parts.

The first part of the model connected the drivers with innovation and globalization activities. Here, the model fits correctly. There are significant results between profit and market drivers with innovation and globalization activities. However, the rate ratios are low and only explained between 6% and 9% of the changes in the dependent variables. In the case of legal drivers, there is no significance, which shows that this type of driver is irrelevant for innovation and globalization activities. The second part of the model connects innovation and globalization activities with firm performance. This shows a good fit to the model and is significant. Moreover, innovation and globalization both explained changes in firm performance. The third and last part of the model shows
that the association existing between globalization and innovation is weak and, as a result, globalization could not be justified as a driver of innovation activities.

There were some results, however, that had not been hypothesized. As previously mentioned, in the case of the innovation activities-performance relationship, there were three distinguishable groups: on-innovative firms, firms with one or two innovations, and firms with three or four innovations. In the case of the globalization-performance relationship, it was rare to find four globalization activities and only the first three should be included in the study.

It appears that there are more factors than the drivers or strategies that firms follow that affect innovation and globalization activities. Only profit and market drivers appear significant for SMEs (not legal drivers). Thus, globalization and innovation helped to explain firm performance. However, globalization activities did not explain or influence innovation activities. As a result, Hypotheses 1 and 2 are accepted partially; Hypothesis 3 is rejected, and Hypotheses 4 and 5 are accepted.

**RESEARCH IMPLICATIONS**

The research makes a contribution at two levels. First, at the scholarly level, it contributes toward theory development by improving our understanding of the role that innovation and globalization plays in driving firm performance. By examining the combined interrelationships of the internal drivers, innovation, globalization, and performance constructs, we help to develop a more holistic theory.

Second, at an applied level, the research provides insights for policy makers for developing relevant programs that can educate entrepreneurs about implementing relevant strategies that could enhance firm performance. It is clear that innovation and/or globalization activities are connected with firm performance. However, the strategies of firms undertaking innovation and globalization activities are not very focused. This could be connected with the difficulties involved in developing long term strategies in order to cover the day to day necessities.

Although this study is exploratory and further research needs to be undertaken, it may be that SMEs do not have enough incentive or drivers to undertake innovation and/or globalization activities which affect firm performance.

**RESEARCH LIMITATIONS**

This exploratory research has some inherent limitations. First, participants were selected randomly but one of the restrictions was that firms should have a registered email address. Firms without registered email address were excluded. Second, a range of SMEs did not want to reveal their performance related data. This limited the analysis. Third, participants were from the greater metropolitan area of Adelaide. Although Adelaide is probably similar to other Australian capital cities, there may be Adelaide firm characteristics that differ from firms in other cities. In addition, rural firms were not surveyed. As such, the research may not be generalizable to rural or other Australian capital city firms and the results should be interpreted with caution in extrapolating them.

**SUMMARY**

This research developed a model and hypotheses that examined four constructs and their interrelationships: internal drivers, innovation activities, globalization activities, and firm performance. Internal profit and market drivers demonstrated weak relationships with globalization and innovation activities but legal drivers did not show any relationship. Relationships were also identified between innovation activities and performance and globalization activities and performance. There was no relationship between globalization and innovation activities.

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REFERENCES
Fagerberg J; Mowery, D and Nelson, R (2004), The Oxford Handbook of Innovation, Oxford University Press.


Figure 1: Conceptual Model
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<th>Details</th>
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Table 1: Firm Demographics.
**Figure 2:** Plot for Hypothesis 3

**Figure 3:** Plot for Hypothesis 4