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ASIAN SME BUSINESS DOCTORAL RESEARCH OUTCOMES

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ABSTRACT

The paper documents Doctoral research undertaken by graduates of the Graduate College of Management of Southern Cross University in Australia, as they proceeded to research programs to meet the requirements of the Doctor of Business Administration or Doctor of Philosophy Awards. Up to the end of 2008, more than 250 candidates have graduated in fields of management and a relatively high proportion of these graduates either focused completely on some aspect of small enterprise management or used small enterprises in Asia in their fields studies towards the research degree. A small enterprise is defined as one owned and controlled by a few entrepreneurs often members of the same family. Small enterprises tend to have a relatively small share of the market but collectively are most significant in their contribution to national growth and development.

The importance of small enterprises is documented and doctoral research outcomes which focus on the characteristics of small enterprises and their owners, various functional areas of management such as finance, marketing, human resource management and systems and factors which influence success in these functional areas, small enterprise growth and development and strategies, management style and success in the small enterprises are reviewed and finally, small enterprise policies which have been or may be adopted by national governments and organizations to support the growth and development of small enterprise are examined. The paper ends with a review of future directions of doctoral research on aspects of small enterprise management in Asia.

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Introduction:

Small enterprises are those which are owned and controlled by one or two people – frequently, members of the same family. These enterprises generally command a relatively small share of the total market in any country and yet dominate enterprises in a country from the point of view of numbers – Table 1 below indicates that in general, about 98% of enterprises in most Asian countries are classified as small enterprises. Given this factor alone, it would be expected that doctoral research in business and management in Asia would feature small enterprise operations and management. The purpose of this paper is therefore to:-

- In brief emphasise the importance of small enterprises in Asia from the point of view of significance and contribution of the group to national economies and development.
- Identify research areas associated with small enterprises which have been a feature of doctoral research output.
- Summarise what doctoral research output has had to say about the characteristics of small enterprises and factors influencing functional management of those enterprises.
- Comment on potential future directions of doctoral research on aspects of small enterprise management in Asia.

The paper begins by examining characteristics of small enterprises and an overview of the contribution and significance small enterprises in Asia, to demonstrate the importance of the group within each nation. Output from doctorate research is reviewed with comments on what this output has had to say about the characteristics of small enterprises, success in functional management of small enterprises including financial management, human resource management, information systems and marketing, followed by a review of the doctoral research output on small enterprise

growth and development strategies and small enterprise policies with the final section examining potential future directions of doctoral research for Asian small enterprises.

Significance and contribution of small enterprises in Asia:

Universally it is recognized that small enterprises are established by and operated by entrepreneurs – those individuals who identify opportunities in the environment, establish targets and achieve those targets while accepting risk associated with their activities. These entrepreneurs establish their small enterprises in every field of endeavour – retail, service industry, manufacturing as well as agriculture sectors. The extent of small enterprises in selected Asian countries are set out in Table 1 below which indicates an estimate of non-agricultural enterprises as well as the percentage which these small enterprises represent all enterprises in the 1990's.

Table 1.

Non-agricultural SBE's in some Asian nations.		
Country	No. of SBE's 2002	SBEs as % all enterprises (1990's)
China	8000000	99
H.K. China	292000	98
Indonesia	17000000	98
Japan	6200000	99
Sth Korea	2700000	99
Philippines	820000	99
Singapore	54000	91
Thailand	350000	96

Source: APEC (2003) and national data

Universal recognition also of the significant contribution small enterprises make to national economies is accepted in the following terms:.

- Enterprises contribute heavily to total employment in any nation – frequently representing more than 50% of total employed.
- Total output is also a feature of small enterprises – it is not unusual for more than 50% of a nation's output to originate from small enterprises.

- Exports are also contributed by many small enterprises whether in the manufacturing, service or agricultural sectors.
- An important social contribution of small enterprises is the range of products and services directly available to the consuming public – in many countries, consumers rely on the output of small enterprises for the maintenance of standards of living.
- Small enterprises also produce specialist services and specialist products often in a more efficient manner than would be feasible by large enterprises.
- Contributions to the support of large forms come from small enterprises with services and products required by those large enterprises in their production processes. Thus in many countries producing automobiles for example, hundreds of small enterprises contribute by way of services and parts to the production process.
- Small enterprises also have a role in becoming distribution outlets for large firms – whether those firms are producing high technology or consumer products, frequently small enterprises are associated with the distribution process to eventual consumers.
- There is general recognition that small enterprises represent a breeding ground for new business ventures often leading to large enterprises and high technology enterprises.
- Competition in most nations or economies are created by the multitude of small enterprises providing services and products.

Finally, it can be argued that small enterprises create an avenue for independent, innovative and entrepreneurial talents.

With this brief overview, it is self evident that governments in Asian countries respect and recognize the important role of small enterprises and their managers and owners to national economies. It is to be expected therefore that research in business and management in Asia would feature some aspect of small enterprise management.

Characteristics of small enterprises and their owners/managers:

It would be expected that any research examining aspects of small enterprise management performance, would to some extent touch on characteristics of those enterprises and perhaps characteristics of owners and managers. A selection of research outcomes from DBA theses are reviewed to reveal what characteristics of enterprises and managers arose from past research at the doctoral level in Asia.

A study of small enterprises in Indonesia resulted in the doctoral thesis: **Migrant and local entrepreneurial business networks**. The objective of the research was to examine factors influencing migrant and local entrepreneurial business networks in Indonesia. These factors included a range of influences, but the key as far as this paper is concerned, is that some factors represented entrepreneurial personal characteristics as well as some characteristics of enterprises such as support networks, business focus and market accessibility. A literature view which drew on research over several decades on personal characteristics of small enterprise owners, included self confidence, initiative taking, acceptance of responsibility, resourcefulness, innovation and creativity, initiative – taking, independence, leadership, need for achievement, desire for responsibility, preference for moderate risk, stimulation by feedback, future orientation, skills in organizing, and positive attitudes towards money and funding. The thesis also identified some characteristics of enterprises including marketing accessibility, capital accessibility, the importance of business focus and the influence of economic conditions on business success. The

conceptual model developed for the research suggested that entrepreneurial personal characteristics and initiatives as well as key enterprise characteristics had a significant impact on entrepreneurial business networking which influenced enterprise success and joint venture success. To test these concepts, a survey of some three hundred entrepreneurs in one Indonesian Province was included in the study. The outcome of this survey was to demonstrate that personal characteristics and initiatives taken by entrepreneurs were significant in influencing success as were also such characteristics as enterprise market accessibility and capital accessibility. The outcome of the research was significant in terms of government policy and local attitudes towards joint ventures associated with migrant and local entrepreneurs.

In 2005, research in Singapore in the service industry involving small enterprises and their staff in the food and beverage industry produced the thesis: **Measuring service quality performance in the food and beverage industry**, which examined characteristics of small enterprises as restaurants in their performance and also the attitude of staff serving customers in those restaurants. The qualities examined in the research included tangibility, reliability, responsiveness, assurance and empathy – the characteristics were measured based on responses to a survey of customers as well as a survey of management and staff. Output compared these five characteristics for dimensions of service in terms of importance as ranked by customers, by management, by other staff within the restaurant. The study used a instrument referred to as the SERVQUAL model, and applied this to the food and beverage Industry to determine the quality of service, in particular, attitudes of customers and staff to service quality. Thus, the research demonstrated many characteristics of successful enterprises in the food and beverage Industry in Asia. The research had obvious implications for the industry, for government, for training institutions associated with the food and beverage Industry and for potential entrepreneurs. The

research concluded with a conceptual model for improving service performance in the industry covering planning, implementation, and control leading to improvement in performance.

A research study in Thailand looked at factors influencing consumer purchase of service products and although the research focused on consumers, the study also examined the qualities and characteristics of enterprises providing services to consumers. The thesis: **Factors influencing consumer purchase of service products** – examined factors based on a literature review from which was developed a theoretical framework leading to the establishment of research problems and questions. The framework and the problem and questions were then evaluated with a survey of consumers and their approach to enterprises offering insurance policies in Thailand. The study therefore examined in detail what is regarded as a service industry, and the products available from service industries and how owners of those enterprises offering products, marketed and delivered their products for potential consumers. Thus, the study touched on characteristics of enterprise owners and the characteristics of service enterprises in Thailand. and came up with a number of recommendations including implications for government in its dealing with enterprises in the service Industry, implications for Industry enterprises and the organizations controlling those enterprises, as well as implications for consumers and future academic research. The doctoral study therefore provides a very useful summary of service sector enterprises which operate as small enterprises in Asia.

A different subset of small enterprise and their owners was examined in doctoral research in Malaysia. As the research points out with documented evidence from Malaysia, SMEs form the backbone of the Malaysian manufacturing sector in terms of number of establishments as well as number of employees. The study examined a

problem in Malaysia whereby manufacturing SMEs could be seen as meeting the demands of a local consumer group as well as the needs of larger manufacturing enterprises in the country however, as the researcher points out, frequently large Malaysian manufacturers gain supplies from overseas because of the low quality achievement of local SMEs. The study therefore looked at the mindset of small enterprise owners who could meet quality standards and also examined the actual practices that successful SMEs possessed and implemented in meeting the quality demands of large manufacturers. The research problem was therefore to examine the most appropriate quality model that could be used by SMEs in Malaysia in the manufacturing sector in order to meet the quality demands of large manufacturing customers and large manufacturers on a global basis. The study therefore looked at attitudes of owners, approaches taken by SME owners to change current practices to meet quality demands, the role of government in this exercise, and attempted to measure the level of quality practices of successful SMEs. In chapter 2, the researcher examined SMEs in Malaysia with comments on attitudes, initiatives and structures and then went on to relate the development of quality management models to the needs of SMEs attempting to meet the requirements of customers. A conceptual theoretical framework was developed meeting acceptable global standards of quality management and these were modified to meet the needs of SMEs. The outcome of the research was to provide answers to four research questions listed, to produce specific recommendations on the development of quality standards and the researcher also suggested further research to extend the research in particular to major Malaysian ethnic groups .

The above four examples of doctoral research represent no more than a sample of research studies looking at the characteristics of enterprises and their

owners/managers. In reality, every research study into aspects of SMEs, touches on the importance of SMEs in Asian nations, the characteristics of the SMEs and some aspects of SME owner/manager characteristics.

Factors influencing growth and development of SMEs.

Many doctoral studies in Asia have touched on questions of SME growth and development including factors influencing such growth and development and how governments and industry organizations can assist such development. It is generally expected that as studies examined this area, characteristics of enterprises and characteristics of owner/managers would feature in the studies and therefore, some overlap exists between the doctoral outcomes examined below and outcomes illustrated from theses in the previous section.

In Malaysia, a research program focused on growth and development of SME manufacturers in an area around Penang: **A model for SMI transition to growth.**

The purpose of the research was to understand the characteristics and capability of entrepreneurs and the transformation process necessary to ensure growth of SMEs in Malaysia. The study was designed in the usual structure for doctoral research with an examination of the theory leading to a series of six research questions to be examined as a result of case studies of eight SMEs. The research questions featured:

- Leadership characteristics and mindset in transition of SMEs to growth stages.
- Entrepreneurial attributes and capabilities in transition to growth.
- Process, methodology and culture of SMEs that is necessary for transition to growth.
- Day to day managerial capabilities necessary in managing SME transition to growth.

- Impact the environment of SMEs have on entrepreneurial characteristics in transition to growth.
- Key success factors for SMEs to pursue global competitiveness.

The research output provided a theoretical background including characteristics of entrepreneurs with vision and strategic planning and capabilities of entrepreneurs to manage change, with a detailed review of a management transformation process for growth and competitiveness. Data was collected from eight case studies of SMEs in Malaysia assisted by a questionnaire which was meant to identify successful entrepreneurial attributes, capabilities and the process in achieving growth. Criteria built into the questionnaire included characteristics of entrepreneurial personality, experience, capabilities, management practices, products, target markets, financial considerations and potential environmental threats. A literature review produced a conceptual framework identifying processes whereby SMEs transit to growth from a start up position, with a second outline identifying factors contributing to transit to growth. These factors included entrepreneurial attributes, leadership mindset, managerial capabilities, operational processes, and moderating factors including market characteristics and management qualities.

A further research study in Malaysia undertook a review of a service industry – engineering services. The study looked at the question of globalization of engineering services by local as well as international engineering firms in Malaysia. The author, in his thesis: **Globalisation of engineering services: challenges for Malaysian consulting firms** – undertook a literature review to identify components of developing a competitive attitude by owners and managers and then from a theoretical framework, identified a research problem and research questions. The research problem was to examine the competitiveness of Malaysian Engineering

Consulting firms confronting globalization of services through a growth process. From this and the framework, the researcher developed three research questions: looking at the level of competitiveness, factors affecting competitiveness and changes expected within the service firms due to globalization. To test the model, the researcher prepared a questionnaire and distributed this to registered members of Consulting Engineers in Malaysia. Feedback from the questionnaires form the basis for a review of the research problem and research question. The study examined in detail, leadership, networking, competencies associated with skill and knowledge in examining the concept of competitiveness. This provided interesting insights into characteristics of small consulting firms and the approach taken by owners and managers of those firms. The research argued that influencing factors on this question of competitiveness, included competency, customer focus, leadership, networking and the impact of government regulations.

At some stage in their career development, entrepreneurs make a decision to establish or start up a new enterprise. A doctoral research study which examined the characteristics of entrepreneurs who intended to start up a new enterprise was undertaken in Singapore and the research produced a thesis: **Determinants of small business startup intention in 2005**. The researcher used as his field study, a group of students within a college of business and management, from the People's Republic of China. The research commenced with a statement of a problem: ***Identify factors which influence decisions leading to small business startup*** . A literature review was undertaken and six dependent variables identified as having direct impact on the ability and willingness of entrepreneurs to start up a new enterprise, referred to by the researcher as entrepreneurial capacity and entrepreneurial cognition. The six variables were: gender, family background, geocluster, entrepreneur status, education, and work experience. From this initial

review, the researcher developed a model which he referred to as entrepreneurial capital being made up of two components – social capital and human capital. The human capital included education and work experience while the social capital covered gender, family background, geocluster and entrepreneurial status. The researcher saw entrepreneurial capacity as representing five fundamental management competencies: vision, strategic planning, leadership and associated communications with people, operations, resources, and strategies. Entrepreneurial cognition refers to what entrepreneurs use in making assessments, judgements and decisions and involves opportunity evaluations, venture creation and hopefully venture growth. The research model indicates that researcher intended to measure linkages between social and human capital, entrepreneurial capacity and cognition and the final startup intention with an additional influence from enterprise education.

An evaluation of the model with data from a group of international students was completed, and based on the data analysis, the research model was modified to strengthen key aspects of social and human capital in the influence on entrepreneurial capacity and cognition and hence small business intention. Highlights of the outcome were:-

- The main path of small enterprise startup intention became social capital influencing entrepreneurial cognition and hence small enterprise startup intentions with a major emphasis placed on the first two components being social capital and entrepreneurial cognition.
- Entrepreneurial capital and entrepreneurial education are seen as the foundations supporting entrepreneurial capacity / cognition in starting new ventures.
- Entrepreneurial cognition is the most important concept for business startup intentions.

- A high proportion of female students indicated that they intended to start up a new enterprise within five years and the influence of parents on students was focused on male rather than female students.

The study concluded with implications in terms of development of economies, career choice for potential entrepreneurs, selection of education and educational institution, and importance of social capital in the business startup decisions. Hence, there were implications for industry, government, tertiary institutions, as well as individual entrepreneurs.

A final example of doctoral research focusing on future strategies, growth and development, is research undertaken and completed in 1999. The research produced a thesis: **Strategic pathways toward sustainable competitive advantage.**

Data for the field study was selected in Indonesia – the researcher prepared a questionnaire based on the research problem “What are the strategic routes towards sustainable competitive advantage?” and from the theory, the questionnaire was developed to evaluate a research model and a census technique for collecting data was employed involving over 500 financial institutions in Central Java, Indonesia. Questionnaires were sent to senior managers of each institution and over 200 completed questionnaires were available to the researcher to analyze data and test his research model. From the literature, many variables were identified which produced enterprise strategic instruments including specific resources of the enterprise, specific organizational capacities, environmental strategic factors and competitive market orientation. These in total identified whether the enterprise had a specific advantage in the marketplace which in turn affected company performance and hence sustainable competitive advantage.

The outcome of the research led to support for a number of hypotheses, and this support can be stated as follows:

1. An enterprise will strive for a stronger place in its differential position by effectively employing its resources and capabilities – specific resources and specific organizational capabilities.
2. In a competitive market, an enterprise will strive to balance the external and internal factors to sustain its performance by taking into consideration environmental pressures and supports and directing attention to the customer instead of competitor in a strategy formulation process.
3. An enterprise strategic objective can be stated as to generate a long term viable position through enhancing enterprise specific advantage, improving its marketing activity base performance, and enhancing the sustainability of competitive advantage.

The researcher concluded with implications of the research for managers, organizations, government and teaching institutions and finally recommended further research to strengthen the outcome of the study.

The four examples of DBA research quoted above, do no more than illustrate the number of research programs which focused on small enterprises, growth and development factors in Asia.

Management style and success

In examining characteristics of small enterprise owners, researchers generally touched on questions of management style and factors that influence success of managers. In this section, some examples of other DBA theses which focused on various aspects of management style and management success are reviewed to illustrate areas of small enterprise research based on DBA theses from Southern Cross University.

One project looked at questions of leadership within small clothing enterprises in Hong Kong in 2001. The examination of leadership was linked to quality

management and the impact on employee satisfaction. The objectives of the research study were to investigate-

1. leadership behaviour at different levels of an enterprise within the Hong Kong clothing industry.
2. the effect of a range of leadership styles on quality of management practice.
3. the effect of quality of management practices on performance and employee satisfaction.
4. the effect of a range of leadership practices on employee satisfaction.

As for other studies looking at aspects of small enterprise, the researcher presented an evolution of the Hong Kong textile industry over a number of years and its performance in terms of output, exports, number of establishments and employment. Within the industry in Hong Kong, the researcher carried out data collection through surveys and also multiple case studies. The survey was adapted from an instrument used to identify leadership styles at various levels of management within enterprises. The survey was supported by case studies resulting from interviews with four (4) entrepreneurial owners within Hong Kong. The research outlined and supported the methodology developed for the research – both survey and case method.

In chapter 1, the researcher defined leadership as an individual's personality, character, competence and approach in managing issues, problems and decisions relating to particular tasks. Transformation leadership is seen to have four qualities – idealized influence, intellectual stimulation, inspirational motivation and individualized consideration. These are the factors the researcher examined in his study within the Hong Kong clothing industry.

Based on an analysis of data from the survey and case study interviews, the researcher concluded:

1. Leaders exhibit more transformational leadership when they are at senior positions of an enterprise rather than at a secondary or lower levels. At this senior level, leaders display intellectual stimulation, and significant idealise influences.
2. Leaders at a manager (lower level than senior positions in the enterprise) exhibit more transactional leadership than at other levels.
3. Leaders in organizations that implement quality management practices tend to be transformational in their leadership styles.
4. Concepts of management by exception and laissez-faire leadership are seen as undesirable.
5. The impact of a range of leadership styles on performance improvement and employee satisfaction was not consistent.
6. In quality management implementation, quality awareness and in-house practices stand out to be more conspicuous to performance improvements and employee satisfaction than other elements.

The researcher concluded by looking at the implications of the study for various groups within Hong Kong and suggested further research in the general area of leadership.

A study which examined the broad area of human resource development and policy associated with development was undertaken in 1999 using the electronics industry of Malaysia as a basis for field study review of a theoretical framework.

The thesis: **Enhancing technological capabilities in the Malaysian indigenous Electronics Industry**, had as its research problem: "How can human research development policy approaches contribute to enhancing technological

capabilities in the electronics industry for sustainable competitive advantage?" with a series of research questions reviewing appropriate national technology policy, appropriate approaches at the enterprise level for successful technology fellowship strategies, responses of employees to national incentive schemes in human resource development, ways to strengthen vocational and educational systems and finally, measures required to increase total productivity in the electronics industry.

Technology in the research was defined as accumulated knowledge required for better manufacturing of final products or processing of immediate inputs; while human resource development was defined as the planned continuous effort by management to improve employee competency levels and organizational performance through training, education and development programs.

Research methodology involved the use of focus group meetings to collect sensitive information in the electronics industry in Malaysia and in depth case studies which allowed careful examination of complex situations within the industry.

The thesis placed emphasis on national technology policy for Malaysia, enterprise technology strategies that could be adopted by entrepreneurs, approaches to the development of technological capabilities including attention to skilled labour supply and productivity and examination of factors that provide global competitive advantages to enterprises in the electronic industry which adopt and apply appropriate technologies. Looking at management styles and success of management, five research propositions were examined covering national technology policy, enterprise technology strategies, enterprise training, vocational and educational training, and global comparative advantages. From the data collected through focus groups and case studies, conclusions were reached on

each of these research propositions, and implications for Malaysia – in particular policy in the Government and private sectors, were elaborated.

From Vietnam, a research project examined information gathering and use of information by small enterprise owners and the process, commented on management style and enterprise success or at least the implications for these areas. The thesis: **Business environmental scanning practices and SME performance**, was submitted in 2001 and the researcher examined various types of information collected by entrepreneurs, methods of collection, and use of information in business decision making. Thus, the thesis provided some insight into management styles linked to information and enterprise success. For purposes of the research, business environmental scanning was defined as gathering and using information about events, trends and changes in an enterprise's external environment, the knowledge of which assists owners and managers in enterprise decisions. The need to find and collect such external information is a reflection of the attitudes of owners and managers and hence this area of small enterprise research is relevant in looking at management styles and success in Asia. This thesis and its research outcomes is referred to also in the following section dealing with functional and technical procedures adopted by owners and managers of small enterprises in Asia.

Management techniques and procedures

A significant contribution to research on SMEs is any examination and review of management practices adopted by entrepreneurs as they negotiate competitive environments. Strategies may include financial management strategies, strategies associated with marketing, human resource development, systems development, exporting or importing strategies or the equivalent. Given the commonality of

financial management within all SMEs, it is to be expected that a number of doctoral studies may focus on this area and two examples are reviewed below – from Vietnam and Indonesia. Comment has already been made on SME use of information .

In 2001, a researcher submitted a thesis: **Financial management and profitability of small and medium enterprises – data collected from small enterprise owners in Vietnam.** The objectives of the research were to investigate and describe features of financial management practices and financial characteristics of SMEs in Vietnam, to develop and test a model of SME profitability, and to contribute knowledge of the relationship between financial management and characteristics to improve SME profitability by using tools of efficient financial management. As for other research theses on aspects of SME, the thesis provided background to SMEs in Vietnam including finance, use of finance and financial management techniques adopted by managers. In looking at financial management practices, the researcher examined information systems, financial reporting, financial analysis, working capital management, fixed asset management and capital structure management. The thesis developed from theory, a model showing leakages between financial management practices, efficient financial management and financial characteristics and the product of management, small enterprise profitability. This profitability was measured in terms of profit return on sales, profit return on assets and on equity. Financial characteristics were measured in terms of liquidity and financial leverage ratios as well as activity ratios.

The researcher developed a sample for a survey based on the documented number of SMEs in Vietnam. This provided a sample of 160 enterprises, and data

from these enterprises were used to test the relationships between financial management SME characteristics and SME profitability.

As for other DBA research theses, the study concluded with an examination of implications for enterprise owners, Governments, those responsible for training and guiding small enterprises in Vietnam. Some suggestions for further research were presented.

A further study on aspects of financial management of small enterprises was produced in 1999: in a thesis: **Financial characteristics and performance of small enterprises**. This study was undertaken in Indonesia and the research problem addressed was to determine whether financial structures and financial performance of small enterprises, with cooperatives and non-cooperative structures, differ and explain any differences identified. The study was restricted in terms of data collection, to small enterprises that operated in one province of Indonesia and to those cooperatives selling products or services to members in the province. In this study, a cooperative was defined as a business enterprise with members that include individuals or legal entities and one that operates its activities based on cooperative principals as defined within Indonesia. A theoretical framework was developed indicating that financial characteristics and performance and also cooperative structure were likely to be affected by financial skills of the enterprise owner and manager, various financial institutions in the marketplace, and the environment – economic, legal and fiscal. Field data was collected from about 160 cooperatives and some 70 non-cooperative enterprises in the province with a final total of some 130 usable bits of data. This data was used to calculate various measures of financial performance and tests were made to examine the relationship between factors in the research model. As an overall conclusion, the study demonstrated that there were significant differences in

financial characteristics and performances of small enterprises structured either as cooperatives or non-cooperatives. The researcher examined the implications of these outcomes, and suggested further research.

The outcomes of research have already been referred to in this paper where the researcher looked at the question of business environmental scanning practices and the relationship between these practices and SME performance with data from Vietnam. Business environmental scanning was defined as a gathering and using information about events, trends and changes in an enterprise outside or external environment, the knowledge of which presumably assists owners and managers in business decisions. The outcome of this research summarized types of information collected by entrepreneurs, sources of this information, sources used to collect each type of information, methods of information collecting, and usage of information in decision making. As such, the study made a contribution to literature and the author raised a number of implications and suggested further research to expand the knowledge of information usage by SME owners and managers.

Doctoral research outcomes – SME policy:

As previously noted, the majority, if not all, doctoral theses examining aspects of SME organization and activities, tend to comment on policy particularly in terms of the outcomes of the research. However, some DBA theses focused heavily on policy at national and enterprise levels. An example of this is a research leading to the thesis: **Enhancing technological capabilities in the Malaysian indigenous electronics industry**. Given the direction of this research, the author devoted a chapter to significant research issues linked to national technology policy, corporate technology strategies and developing technological capabilities all leading to global competitive advantages. At the national level, the

researcher looked at the evolution of technology policy, apparent directions of policy in Malaysia at the time of the research, and the impact of institutional structure incentives and funds linked to policies and then presented a review of adequacy of government measures.

This was followed by a section focusing on internal or enterprise technology strategies with an emphasis on key variables involved in such strategies. This was concluded with a critical appraisal of enterprise strategies linked to national policies in Malaysia.

Whether the SME research focused on management practices, factors influencing growth and development, characteristics of enterprises and owners or style and success of managers, researchers invariably found that there were significant areas of policy important from the point of view of national strategies and individual enterprise strategies. This is to be expected and applauded.

Summary:

A major objective of this paper was to illustrate examples of doctoral research undertaken by candidates supervised by Southern Cross University in the field of business and management but with particular reference to small and medium enterprises. It was argued that SMEs are of such significance in Asia that it would be inevitable that many doctoral studies would either examine aspects of SME management or at least use SMEs in the data collection process to evaluate concepts developed in theoretical frameworks. The paper also emphasized the key role of staff attached to the Graduate College of Management at SCU in initiating research into SME activity and supervising that research. The fact that more than 250 doctoral theses have been produced, including a significant proportion focusing on aspects of SME management, supports the role of Southern Cross University staff in this field.

The Paper then proceeded to illustrate with examples, research into various aspects of SME management – characteristics of SMEs and their managers and staff, growth and development of SMEs, management practices and techniques adopted to develop enterprise success, SME policy and management style and enterprise success.

Achievements as at 2008 do not suggest that SCU can be complacent, rather it is more important to identify gaps in SME activities which still remain to be examined through doctoral research. These include performance of various groups of SMEs – it is a fallacy to assume that “SMEs” represent one group of enterprises – rather within definitions adopted by most Asian countries, there are many sub groups that have yet to be examined at this level of research. In addition, little to date has been achieved in examining different performance levels or different characteristics of SMEs in different industry groups – service, retail, manufacturing, agriculture as well as sub-sections of each of these fields.

By definition, SMEs are defined as those managed by individuals who do not have expertise in all areas of management and who therefore rely on advice externally by way of consultants or professionals or government personnel dedicated to this activity. Little research has been undertaken in terms of the success of such advice, the format of the advice and the outcome of advice. While there have been some doctoral dissertations or theses looking at the impact of education and training on small enterprise performance, the outcomes are not finalized and more research needs to be undertaken in terms of type of education and training, quality of education and training and the best mix of education and training to ensure enterprise success.

Finally, we can say that comparative studies between nations within Asia would be a completely new field worthy of consideration by future doctoral candidates.

What would be the outcome for example, of comparing the performance of a group of SMEs in Indonesia with a common or like group in Malaysia or Thailand or Mainland China or some other Asian nation? It may be that such studies identify comparative advantages of SMEs in particular industries in particular countries and this is a future area for doctoral research.

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