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Personal Competencies for Innovation: A Case Study of Small and Medium Enterprises of Coir Industry in the North Western Province of Sri Lanka

Haritha Wedathanthrige*
*Food and Agriculture Organization of United Nations, Sri Lanka. haritha@sltnet.lk

Abstract

Sri Lanka's coir industry plays a unique role, both nationally and internationally. Coir and coir based products are one of the main industries in the North Western Province (NWP). However, many of the Small and Medium Enterprises (SME) do not focus on innovation. Instead, they produce coir fibre as a raw material for various coir-based value added product manufactures in local and international markets. Personal Entrepreneurial Competencies (PECs) of owner-managers are found as one of the factors behind innovativeness of SMEs. This study compares PECs and performances between innovative SMEs and non-innovative SMEs using primary data collected from five coir-based SMEs in NWP through interviews and observations during 2011. The sample was composed of three innovative SMEs and two non-innovative SMEs. Collected data were analyzed qualitatively. Results revealed that performance is high in innovative SMEs compared to their non-innovative counterparts. The PECs, namely, opportunity seeking, networking, risk taking, goal setting, systematic planning, persistence, commitment, independence, self confidence and persuasion, were found among owner-managers of innovative SMEs, which were not evident among the owner-managers of non-innovative SMEs in the coir industry of the NWP. This study could be useful for supporting institutions to plan their intervention programs for developing SMEs in the coir industry.

Keywords: *business performances; innovativeness; personal entrepreneurial competencies; small and medium enterprises*

1. Introduction

Coconut is one of the major plantation crops contributing an export value of LKR 47305.79 million (4.05% of total exports) to the Sri Lankan economy in 2011. Total annual production of coconut was 2808.39 million nuts in 2011 (Export Performance of Coconut Products, 2012). The palm is called *Tree of life* providing various inputs to Sri Lankan people. There are about 22.3 million coconut palms scattered in the country, occupying 0.4 million hectares, of which the majority is in the North Western Province (NWP) of Sri Lanka. Coir and coir based production in the NWP account for more than 80% of the total coir production in the country (Coconut Development Authority of Sri Lanka, 2003 and 2004).

Sri Lanka's coir industry plays a unique role, both nationally and internationally. It is

a nationally important industry as it provides livelihoods to a large number of people in the country. Sri Lanka is the largest supplier of coir fibre and brown fibre to the world market (Coir Council International, 2006). Sri Lanka produces four main categories of fibre, bristle, omat, mixed, and mattress which are either sold as raw materials in the international market or processed into value added products such as brooms, brushes, twine, matting, woven, stitched geo-textiles, rubberized coir mattresses, etc. However, the proportion of value added products still remains at a low level. In 2011, the total coir exports, including fibre, coir products and coir piths, have been LKR 18393.19 million, which was 39 percent of the total coconut based exports (Export Performance of Coconut Products, 2012).

The coir industry of Sri Lanka is characterized with a traditional, labour-intensive white fibre industry in the Western and Southern provinces and more modernized export-oriented brown fibre industry in the NWP. The coir industrial value chain consist of the full range of activities that are required to take a product from its inception through design, sourcing of plant and equipment, raw materials, skills and intermediate inputs, its processing, marketing and distribution to the final consumer. According to this, all Small and Medium Enterprises (SMEs) and large enterprises are parts of different value chains. In the NWP, there are about 250 coir based SMEs, of which some are innovative and others non-innovative enterprises. Majority of the SMEs in the NWP are non-innovative enterprises, still producing coir fibre as a raw material for various coir value added products.

It is important to investigate the reasons for the majority of SMEs operating as non-innovative, while others enjoy high profits by creating value through innovation. According to McClelland and McBer (2007) Personal Entrepreneurial Competencies (PECs) characterize the behavior of successful entrepreneurs through innovation among many factors. PECs of the owner-manager determine the innovativeness, and subsequently the performance of the SMEs. Reynaldo, Maria and Asuncion (2007) have defined PECs as "the total capability of the entrepreneur to perform a job role successfully". Therefore, it is important to assess the differences between PECs of innovative SMEs and non-innovative SMEs in the coir industry.

Tharp (2009) has identified culture of the organization as one of the main factors affecting business performance. Researchers have found that the PECs determine to a great extent the culture of the SMEs. Culture of innovative organizations is characterized by,

> *"A dynamic, entrepreneurial, and creative place to work. Innovation and risk-taking are embraced by employees and leaders. A commitment to experimentation and thinking differently are what unify the organization. They strive to be on the leading edge. The long-term emphasis is on growth and acquiring new resources. Success means gaining unique and new products or services. Being an industry leader is important. Individual initiative and freedom are encouraged" (Tharp, 2009, p.5).*

Man, Lau and Chan (2002) have developed a competency-based approach to study the firm performance. Competencies are seen as behavioural and observable (Bird, 1995), and therefore are more closely linked to performance than are to other entrepreneurial characteristics such as personality traits, intentions or motivation (Herron & Robinson, 1993). Competencies are changeable thus the development of entrepreneurship becomes more feasible. These competencies are important to play different roles, affecting SMEs' performance with their direct and indirect effects (Man et al., 2002).

Various models show the relationship between PECs and performance of the SMEs (Reynaldo et al., 2007; McClelland & McBer, 2007). Opportunity seeking, risk taking, goal setting, planning, commitment, independence, persistence, persuasion, networking and self

confidence are ten PECs commonly identified in these models.

Performance of SMEs is measured by both financial and non-financial means as single performance indicators are likely to produce biased result (Murphy, Trailer, & Hill, 1996; Gupta & Govindarajan, 1984). For instance, Fairoz, Hiribumi, and Tanaka (2010) have used sales growth, employment growth, profit, market share growth and owner-managers' satisfaction to assess the SMEs' performance.

Conceptual model of this study is shown in Figure 1. The objective of this paper is to determine the relationship between PECs and business performances of innovative SMEs in comparison to non-innovative SMEs in the coir industry in the NWP. The findings would be useful to develop the competencies of the owner-managers in SMEs and consequently to develop the coir industry in Sri Lanka.

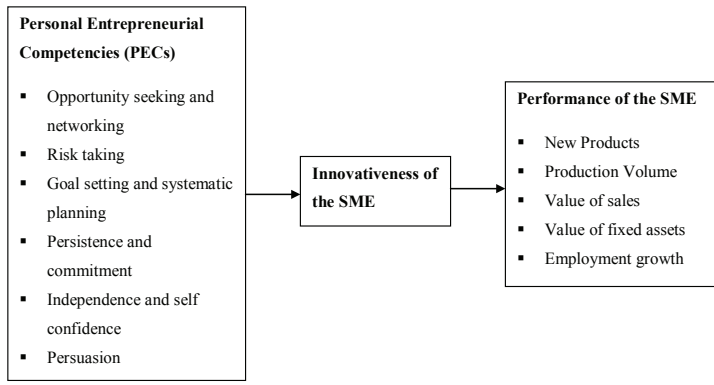

Figure 1: Relationship between PECs and Business Performance

2. Methodology

Five cases including three innovative SMEs and two non-innovative SMEs in the coir industry of the NWP were analyzed to achieve the objectives. The criteria that were used to differentiate the innovative and non innovative SMEs are given in table 1.

Table 1: Criteria for selection of innovative and non innovative SMEs

Criteria	Innovative SMEs (A, B and C)	Non innovative SMEs (D and E)
Value creation for coir fiber	Yes	No
Product range more than two	Yes	No
Product development initiatives	Yes	No
Continuous effort for quality improvement	Yes	No
Good work place practices	Yes	No

A - H.P.S. Coir Products (Pvt) Ltd; B - Golden Coir Product (Pvt) Ltd; C - Sumith Coir Fibre Industries (Pvt) Ltd
D - Ranmuthu Coir Fibre; E - Lionel Coir Fibre Mill

Field visits were conducted from April 2011 to July 2011. During field visits, individual interviews with owner-managers of the SMEs and observations were used to gather relevant data. Ten PECs were adopted, i.e., opportunity seeking, networking, risk taking, goal setting, systematic planning, persistence, commitment, independence, self confidence, and persuasion. Production volume, new products, value of sales, value of fixed assets and employment growth were evaluated to find the performances of the SMEs. Interviews with owner-managers of the

SMEs were mainly focused on PECs and business performances of SMEs. Informal discussions with workers and review of available records at SMEs were also made for data triangulation for this study. Case studies were analyzed qualitatively and comparisons were made against PECs and performances between innovative SMEs and their non-innovative counterparts.

An overview of the selected SMEs and their business performances

Case study A: H.P.S. Coir Products (Pvt) Ltd is a coir-based innovative SME, which is located in Pallama Divisional Secretariat (DS) division of the NWP. The owner started his coir fibre extracting mill with four casual workers in 1996. His business reached a point where there was stagnant growth and return. The owner realized that he could not move the business beyond this point only through extracting coir fibre and understood the growth potential through value creation in coir fibre. In August 2006, he started a small factory with two machines and twelve employees to produce machine twisted coir fibre (MTF) product as an initiative for value creation. Nature of the work in this enterprise is constituent with raw material collection, cleaning of raw coir fibers, producing MTF products, coiling and recoiling of MTF products, quality controlling of MTF products, storage of MTF products and marketing and consignment management. Four years later, there were 48 permanent employees worked in this factory exporting MTF products directly to China. Performances in terms of production volume and value of sales have increased by two folds and value of fixed assets has also increased by 60 percent during the last three years.

Case study B: The owner of the Golden Coir Product (Pvt) Ltd., located in Madampe DS division, commenced the business in 2003. The owner is managing his innovative SME with the experience gained through his previous workplace. He started to create value in coir fibre with "twine" products with the help of three workers in 2005. This SME deals with the collection of raw materials, cleaning of coir fiber, processing, quality control, bobbing twine products and marketing management in the local market. The owner realized that there was another opportunity to produce a new product, coir brickets, since coir pith comes as a by-product in fibre extraction. He expanded his business to produce Coir brickets in 2009. At present, 11 employees are working in his company producing twine products and coir bricket products for the local market in Colombo. In the three year period from 2008 to 2010, production volumes and sales value have increased by about 20 percent.

Case study C: Sumith Coir Fibre Industries (Pvt) Ltd., of Bingiriya DS division of NWP, was established in 1993. The owner started his coir fibre mill with three workers. He ran this fiber mill until 1998 and recognized that the business was not moving forward and no any growth potential was seen. Then he realized the importance of the value creation in coir fiber for the growth of his business and collected information from various supporting institutions for value creation, export market and found out most technologies related to value creation. In 1998, he started to produce innovative coir products and then started exporting his products since 1999. Today, his company is a successful enterprise with 150 permanent employees, making wide range of products such as twine, fiber bale, coir chips, coco pith, coir disk, hanging buckets, flower pots and coir bricks for the export market. Production volume and sales value have increased 3.5 times and the value of fixed assets has increased by 50 percent over the three year period from 2008 to 2010.

Case study D: Ranmuthu Coir Fibre Mill is a non-innovative SME, which is located in Mahawewa DS division of the NWP. The owner has started the mill with 10 workers in 1981. They produce coir fibre (bristle) using traditional drum machine (*Pettikuttama*). According to the owner, value creation of coir fibre is unnecessary since market opportunities are very limited and difficult to handle the operations with available resources. The number of employees has

been reduced to five. Production volume, sales value and income have gradually declined due to marketing and skilled labour problems during 2008 to 2010. Value of fixed assets in the business has remained the same and no innovation has been introduced over the last three year period.

Case study E: Lionel Coir Fibre Mill is located in Madampe DS division of the NWP. It is also a non-innovative SME and had been established the mill with six workers in 1988. It produces coir fibre and supplies them for the local market. According to the owner, he receives very limited support from outside to develop the business. Production volume and sales value of the mill have gradually declined. At present, only three employees are working in the mill and the value of fixed assets in the mill remains the same during the last three years. The business performances between innovative and non-innovative SMEs are summarized in table 2.

Table 2: Business performance between innovative and non innovative SMEs

BP Measures	**Innovative SMEs**			**Non innovative SMEs**	
(2008 – 2010)	**A**	**B**	**C**	**D**	**E**
New Products	Launched	Launched	Launched		
Production Volume	Increasing	Increasing	Increasing	Decreasing	Decreasing
Value of sales	Increasing	Increasing	Increasing	Decreasing	Decreasing
Value of fixed assets	Increasing	Increasing	Increasing	Unchanged	Unchanged
Employment growth	Increasing	Increasing	Increasing	Decreasing	Decreasing

3. Results and Discussion

It is essential to evaluate the qualitative attributes of PECs to have an in-depth assessment of the differences among innovative SMEs and non-innovative SMEs. The case studies have provided substantial qualitative evidence on PECs between owner-manager of innovative and non-innovative SMEs. Some of the qualitative attributes are overlapped in different dimensions of PECs and complicated to be identified as a single PEC. Thus, only opportunity seeking and networking, risk taking, goal setting and systematic planning, persistence and commitment, Independence and self-confidence and persuasion are considered in this study.

Opportunity seeking and networking

Knowledge about the coir industry and environmental scanning is a vital factor to find opportunities within the industry. The innovative SMEs (case studies *A, B* and *C*) provide evidence that opportunity seeking competency of the owner-manager has supported their innovation. According to innovative owner-managers business support service providers, such as Industrial Development Board, Export Development Board, Small Enterprise Development Division, Coconut Development Authority, etc, suppliers and buyers have been useful in seeking new and unusual opportunities. The owner-managers of the cases *A* and *C* have developed a good informal information network with their clients, service providers, suppliers and competitors to find the market, technology and product information. Good interpersonal relationships have been useful to develop their networks. They have used competitive advantage strategically to minimize the competition from others. Findings of these three SMEs indicated that opportunity seeking is one of the most important PECs for innovation in the coir industry. Owner-managers in case studies *D* and *E* indicated that they could not take any initiative so far since it is difficult for them to find market opportunities for innovative coir products. Owner-manager in case study *D* mentioned that "I was not able to find a good market for other coir products since there is no place to find reliable information to seek market opportunities and other buyers are also dominating in the market. No one is helping them in seeking market opportunities". It is

difficult for them to find market opportunities due to their poor relationships with other actors in the same sector and depending on others for help all the time. This reveals that opportunity seeking and networking competencies are at lower levels in non-innovative SMEs compared to their innovative counterparts.

Risk taking

Risk taking in a business means high probability of occurrence of unwanted events and the severity of potential loss by these events. SMEs in case studies *A, B,* and *C* indicate that the degree of risk level varies with the degree of value creation and the type of trade. Level of risk in value creation depends on the value of investment and trade in local or export market. Owner-manager in case study *A* mentioned that "I did an average investment for my MTF factory. My chain buyers are always trying to bargain my price and looking for cheaper prices. I cannot produce MTF products for a cheaper price. But, if I demand more, I may lose my buyers and fall in to trouble". The risk level is usually high in international trading compared to local trading. The risk level in the business process is at a higher level in the case of *C* since it engaged in exports of coir products to many international buyers. Owner-manager in case study *C* mentioned that "the main reason for higher level risk is trustworthiness of buyers in different international markets. I have to deal with them very carefully". The owner-manager of case *C* makes a wide range of innovative products such as twine, fibre bale, coir chips, coco pith, and coir disk, hanging buckets, flower pots and coir brickets as horticultural inputs for the international market (China, Japan, South Korea, Germany, Netherland, USA, etc.). Innovating new products and finding markets involve a lot of initial risks. In addition, case study *A* reflects a high degree of risk level, when it started the new business venture for MTF product in a highly competitive export market. Owner-managers of all three innovative SMEs have made different management measures: developing good relationships and the trust with buyers, following freight procedures, quality management, insurance etc. by assessing risk factors to minimize the level of risk in their business. The case study *D* and *E* reveal the fear of the owner-managers of the SMEs for innovation in coir industry due to the uncertainty at the market. This further indicates that there is a poor degree of risk taking competency among owner-managers in the non-innovative SMEs in coir industry.

Goal setting and systematic planning

SMEs in case study *A* and *C* demonstrate a strong vision and mission in their business while case *B* reveals moderately powerful vision and mission. These visions are time bound and measurable. Missions of cases *A, B,* and *C* focus on value addition, creating employment for local community, producing high quality products using local resources, eco-friendly products and providing customer satisfaction. Goals are set within the mission to reach their visions in both cases *A* and *C*. Strategies were identified by owner-managers to face competitive market situations. Case *A* emphasizes producing high quality products with a minimum cost for China market, while case study *C* emphasizes producing eco-friendly horticultural inputs for international market (Japan, German, Netherland, and USA) as demand for the food never decline as strategies which are lined up with international market trends.

SMEs of case studies (*A* and *C*) focus on a systematic planning process based on external environment and their strategies, available information, resources, and man power and capacity of the factories to reach the goals. Annual plans, breakdown of tasks into sub-tasks and work priority are other features in these SMEs. Feedback of the employees, past records and experiences are used by owner-managers for planning in cases *A, B* and *C*. It seems that information seeking capability of owner-manager has been a complementary competency for

planning. Outsourcing or sub-contracting of tasks have been used as a contingency plan in case of failure in the ongoing plans of SMEs in cases *A* and *C*. Findings of the above case studies correspond to earlier research efforts demonstrating an entrepreneur's ability to become alert to and interpret environmental conditions (Kristiansen, 2002; Minniti, 2004) together with the use of various internal and external resources to the advantage of the firm (De Carolis & Saparito, 2006) and to plan for the long-term success of the firm (Harris & Emmanuel, 1999; Kisfalvi, 2002).

Owner-managers of non-innovative SMEs in case study *D* and *E* have no clear vision, goal plan and work priorities to run the business. Employees' feedback and keeping records are hardly seen in these non-innovative SMEs. The case studies have provided sufficient evidence to understand the degree of goal setting and systematic planning in innovative SMEs at a higher level compared to the two non-innovative SMEs in the coir industry.

Persistence and commitment

The cases *A* and *C* show that measures have been taken by owner-managers to resolve continuously occurring problems and obstacles in their SMEs. Problems and obstacles may be from the internal process (technology, human resources, etc) or external environment (client requirements, suppler issues, social and political pressure, etc). However, owner-managers of innovative SMEs have handled problems and obstacles successfully meeting the requirements without obstructing the expected output. SMEs in cases *A, B* and *C* strongly indicate that personal sacrifices are essential to achieve tasks in the business for their successes. A good interpersonal relationship with employees as well as suppliers and clients has enhanced their task achievements. These SMEs are dedicated to meet client requirement and satisfaction in terms of supplying higher quality products on time, sometimes sacrificing their profits, which have resulted in building up long term goodwill for the business. In addition, these SMEs have performed extraordinary work at operational level in some occasions to meet the requirements. For instance, the SME in case *A* had an order placed by a new buyer from China in 2008. It was a high quality product (MTF) but the specifications were given with a very limited time period. It was impossible to complete the task within the given time period through the routine work process. However, owner-manager accepted the order and put an extraordinary effort, working day and night with his team of employees to complete the task successfully.

Findings of the case studies indicate that owner-managers in cases *D* and *E* still have many unresolved problems and obstacles. Therefore, the output of these non-innovative SMEs in terms of production process is not persistent. Interpersonal relationships of these non-innovative SMEs are not strong enough with employees as well as with suppliers and clients. They have been unable to meet clients' requirements in many occasions. These two SMEs are more focused on short term gains. The case studies emphasize the persistence and commitment PECs of innovative SMEs are at a higher degree than non-innovative SMEs in the coir industry.

Independence and self-confidence

Cases *A, B* and *C* demonstrate the ability to function without depending on others' help to make their innovations in the coir industry. They listen to others, search for support but not depending on anyone's help and make own judgments for the success or failures in the business. This illustrates the competency of making independent decisions at SME level in the competitive business environment. In addition, it is interrelated with the competency of self confidence which was demonstrated by the owner-managers of SMEs to make decisions in innovation in the coir industry and face difficult challenges successfully in the competitive business environment even at the international markets. It can be further substantiated by the success

of their SMEs in terms of finding international buyers, developing new products and meeting clients' requirement, employment growth and financial returns.

Non-innovative SMEs in cases *D* and *E* indicate that the owner-managers have depended on help of others to develop their business. They have received limited support and help from outside. In fact, these two SMEs have not made any effort for innovation and still remain as raw material suppliers in the coir industry. Hence, findings indicate that the degree of independence and self-confidence level in innovative SMEs is higher compared to non-innovative SMEs.

Table 3: PECs between innovative and non-innovative SMEs

PECs	Innovative SMEs A, B and C	Non-innovative SMEs D and E
Opportunity seeking		
Environmental scanning	Good	Weak
Unusual opportunities	Capitalized	Missed
Networking		
Interpersonal relationship	Good	Weak
Business contacts	High	Low
Risk taking		
Type of product	Creative	Traditional
Type of Market	A and C: Export, B: Local	Local
Goal setting		
Vision and Mission	Clear	Unclear
Strategies	A and B: High quality products; C: Eco friendly products	Raw materials extraction
Systematic planning		
Internal and External environment	Considered	Infrequently considered
Work prioritization and Record keeping	Yes	Hardly done
Persistence		
Problems and obstacles	Mitigate	Struggle
Personal responsibility	High	Low
Commitment		
Personal sacrifices and Extra-effort	High	Low
Focus on goodwill	Long term	Short term
Independence		
Pragmatism	High	Low
Dependence	Low	High
Self-confidence		
Challenges	Successfully faced	Try to avoid
Persuasion		
Customer Relations	High	Moderate
Regular follow-ups	High	Inadequate

Persuasion

Good customer relations and customer satisfaction are important to make decisions by clients to buy innovative coir products as per cases *A, B* and *C*. It has helped to create positive change in customer beliefs about products of these three SMEs. On the other hand, this has also helped to develop a good network with stakeholders. Regular follow ups are important to build up good

customer relations according to the case studies. There is also positive interpersonal relationship with employees in these SMEs, which resulted in getting employees to take necessary actions in operations and accomplish tasks to meet clients' requirements. An employee in case study *C* mentioned that "our boss is a very pleasant person and always behind us and helps in many ways. The boss always says this is your company and we also feel the same". This has proven a higher level of competency of persuasion in these innovative SMEs. The weak interpersonal relationships indicate the inability to persuade employees, suppliers and clients, which are more prominent in two non-innovative SMEs. The summary of PECs and performance between innovative and non-innovative SMEs of case studies are given in table 3 and table 4 respectively.

Table 4: Business performance between innovative and non-innovative SMEs

Business Performance (2008 -2010)	**Innovative SMEs**			**Non innovative SMEs**	
	A	**B**	**C**	**D**	**E**
Capital growth	60%	30%	50%	0%	0%
Production volume growth	200%	20%	350%	-20%	-25%
No. of new products introduced	5	2	8	0	0
Employment growth	3	1	2	-0.4	-0.3
Market destination	China	Local	China, Japan, Korea and USA	Local	Local

4. Conclusions

The objective of this study was to find the link between the performance of innovative and non-innovative SMEs and PECs of the owner-managers for further development of SMEs in the coir industry of the NWP. Performances of innovative coir-based SMEs in terms of production volume, value of sales, value of fixed assets and number of employment have increased over the three years from 2008 to 2010. In contrast, non-innovative coir-based SMEs hardly showed any growth in performances during the same period. The findings revealed that PECs of owner-managers in innovative SMEs are different from those of non-innovative SMEs. Therefore, it can be argued that PECs of the owner-managers of innovative SMEs affect on their performances.

Findings of the above case studies are associated with earlier researchers' works. Man et al. (2002) have confirmed that PECs are important to play different roles, affecting SMEs' performance with their direct and indirect effects. Reynaldo et al. (2007) has also disclosed correlations among PECs and confirmed that low to moderate correlations are seen between and among domains of PECs. Thomas et al. (2008) have found empirical evidence to prove that entrepreneurial competencies determine the performance of SMEs. However, further empirical support through quantitative research studies are needed to prove the correlation between performance of SMEs and PECs. Findings of the study also revealed that, owner-managers of innovative SMEs have a strong personal determination to develop their PECs. They continuously receive training, technical assistance, management assistance and business advice from business development services and other supporting institutions. This will help supporting institutions to rethink their interventions in SME development in the future.

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