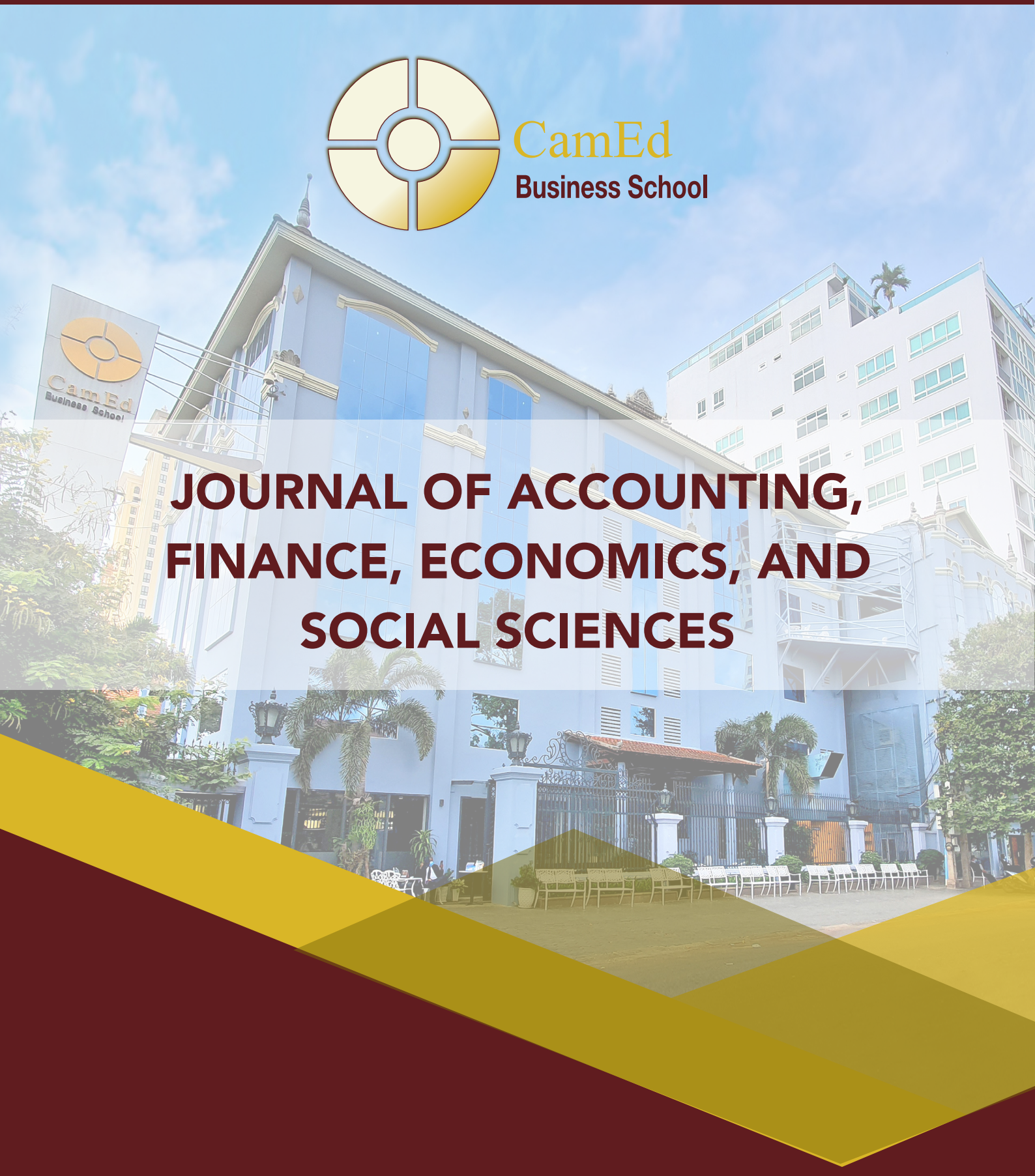
Vol 5, No 2, July – December 2020

Print ISSN : 2708-616X
Online ISSN : 2708-6178

CamEd
Business School



JOURNAL OF ACCOUNTING, FINANCE, ECONOMICS, AND SOCIAL SCIENCES

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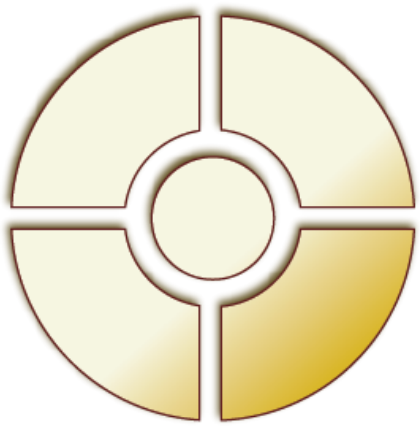

Journal of Accounting, Finance, Economics, and Social Sciences

Publisher
CamEd Business School
Phnom Penh, Cambodia

Printer
CamEd Business School
Phnom Penh, Cambodia

Editor-in-Chief
Prof. Tapas R. Dash
CamEd Business School
Phnom Penh, Cambodia

Printed at
CamEd Business School
64 Street 108, Phnom Penh, Cambodia
Phone: (855)-23 986 522

Membership

Contents

Journal of Accounting, Finance, Economics, and Social Sciences
Vol 5, No 2, July – December 2020, pp. 1-8
Received: Sep 2020 | Revised: Nov 2020 | Accepted: Dec 2020
DOI: https://doi.org/10.62458/jafess.160224.5(2)1-8

Transparency and Corporate Reporting in Cambodia: A Compendium Approach

Muhammad M. Ma'aji*

ABSTRACT

In recent years there has been much fiddling with accounting and financial reporting standards. Studies have shown that investors and analysts across the globe suggest that current reporting models are too backward-looking and compliance-driven and are not conveying the necessary information investors and analysts need. This has been the basis of the debate surrounding the reporting model and the reason behind the increasing demand for more transparent reporting to better explain the quality and sustainability of business performance. Sustainability is becoming more important for all companies, across all industries. Sustainability is a business approach to creating long-term value by taking into consideration how a given organization operates in the ecological, social and economic environment. Sustainability is built on the assumption that developing such strategies would foster company longevity. Sustainability reporting offers a mechanism to support the creation of a more commercially attractive and differentiated picture of the business which can lead to better investor understanding and improved stakeholder relationships. Furthermore, the underlying process necessary to produce this information can also enhance Board effectiveness and improve governance. The objective of this paper is to collect relevant literature on sustainability reporting, regulations and sustainability practices across businesses in Cambodia.

Keywords: Corporate reporting; Compendium; Financial reporting; Sustainability reporting; Cambodia

1. INTRODUCTION

Sustainability is becoming more important for all companies, across all industries. Sustainability is a business approach to creating long-term value by taking into consideration how a given organization operates in the ecological, social and economic environment. Sustainability is built on the assumption that developing such strategies would foster company longevity. According to the Global Reporting Initiative (GRI), sustainability reporting can help organizations to measure, understand and communicate their economic, environmental, social and governance performance, and then set goals, and manage change more effectively[1]. A sustainability report is the key platform for communicating sustainability performance and impacts – whether positive or negative. A sustainability report is a report published by a company or organization about the economic, environmental, and social impacts caused by its everyday activities. Sustainability reporting has great potential for strengthening Cambodia's competitiveness, not only to attract foreign investment but also to improve the business environment. However, sustainability reporting is a relatively new concept in Cambodia. Most companies and their stakeholders are not aware of the strategic importance of such reporting in generating competitive advantage. Therefore, sustainability reporting must be actively promoted to companies in Cambodia.

Corporate commitment to sustainable development can significantly contribute to raising people's living standards, reducing poverty, and strengthening economic competitiveness. At present, a relatively small number of companies in Cambodia have actively engaged in sustainability reporting. Studies have showed that sustainability reporting by companies in Cambodia had increased continuously over the last ten years. The largest share is accounted for by companies in the financial sector, followed by the tourism and leisure sector and the telecommunications sector[2]. However, at present, there is no national standard for

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sustainability reporting for companies in Cambodia. Nonetheless, companies are involved as stakeholders in the country's development strategy. The majority of Cambodian companies base their sustainability reporting on the internationally recognized and employed GRI framework. Going forwards, businesses in Cambodia will need to change their mindset on sustainable practices and reporting as expectations on corporate responsibility increase. As transparency becomes more prevalent, companies are recognizing the need to act on sustainability. Furthermore, embracing international standards on good governance, transparency and disclosures across business sectors can help Cambodia set up robust financial institutions and a conducive business environment that will attract more foreign investment, ensure a healthy and sustainable growth of private sector and protect the country from corporate scandals and fraud.

2. INSTRUMENTS

Law on Commercial Enterprises

Financial Disclosure – Article 224: Annual financial statements

At every annual general meeting of shareholders, the directors shall present an annual financial statement to the shareholders. The statement shall include the following: (a) comparative financial statements for the current financial year and the prior financial year. In the first year of the company's existence, the financial statement shall cover the period beginning on the date the company came into existence and ending on a date not more than 6 months before the annual meeting; (b) the report of the auditor; and (c) any further information respecting the financial position of the company and the results of its operations required by the articles, the by-laws or any unanimous shareholder agreement.

Prakas No. 013/10 on CORPORATE GOVERNANCE OF LISTED COMPANIES

[According to the G20/OECD Principles of Corporate Governance, a strong disclosure regime that promotes transparency is a pivotal feature of market-based company monitoring and is thus central to shareholders' ability to exercise their ownership rights on an informed basis. Transparency and disclosure practices remain an issue in Cambodia despite that Cambodia has implemented IFRS standards and that information transparency and disclosure requirements are included in many provisions of the LCE and the Prakas No. 013/10 by the SECC on Corporate Governance of Listed Companies.]

ARTICLE 48. Format of the Disclosure

The Listed Public Enterprise shall disclose information in an easy-to-understand form, to avoid ambiguous and complicate technical terms. Publicly disclosed information shall be easily accessible and low cost. Where the complicated terms are used in the disclosure, the terms shall be attached with the explanations so that the general public may easily understand. In the case where the documents to be disclosed is prepared in a foreign language, the Listed Public Enterprise shall translate those documents into Khmer by an agent recognized by the SECC. (…)

The Listed Public Enterprise shall designate an officer to be responsible for disclosed information, include reporting to the market and the SECC by the board, and shall have an internal information control system that can quickly transmit the material information of the Listed Public Enterprise to that officer. To disclose corporate information in a timely, accurate and effective manner, the officer shall have the right to quickly access the information of the Listed Public Enterprise.

ARTICLE 7. Right to Access Information

The Listed Public Enterprise should have a website which the shareholders and the public can access information. Shareholders shall access audited annual financial statements, operating results, any quarterly financial reports, information about the directors and senior officers, and other information about the Listed Public Enterprise. If the Listed Public Enterprise does not have the website, shareholders may request the hard copies of the above-mentioned information and are required to pay reasonable fees for the costs of printing and distribution.

Type of information that needs to be disclosed and frequency

Disclosure of financial information

Listed public companies shall disclose, in an efficient and timely manner, information that is required by laws and regulation and any other information that may influence the decision-making of shareholders and other stakeholders…" (Article 47). Listed public companies shall establish a transparent and fair mechanism when there are any actions leading to change in corporate control, such as takeovers, mergers, acquisitions and transfers of business or liquidation in accordance with the Law on the

General Statute of Public Companies and the Anukret on the implementation of Law on the General Statute of Public Companies…" (Article 46).

Disclosure of Non-Financial Information

The Listed Public Enterprise shall provide stakeholders, creditors and employees, with all relevant information necessary to enable them to monitor the performance of the Listed Public Enterprise, and shall protect their rights. The Prakas stipulates that information on the board be disclosed in line with the following: (i) The composition of the board, executive directors, non-executive directors, independent directors, board structure, management structure, incentive policies, policies regarding conflicts of interest and the code of conduct for directors and senior officers; (ii) Rights, roles and duties, and activities of the board's committees; and (iii) Activities of individual directors and the board (Article 47).

Disclosure on Protection of Stakeholders' Right

Creditors, related interest individuals or individuals who have contracted with the Listed Public Enterprise are considered as its stakeholders. All stakeholders' rights shall be protected. The Listed Public Enterprise shall ensure the protection of all stakeholders' rights, including:

1. Shall have a clear strategic management policy to support and protect stakeholders' rights.
2. Shall ensure the compliance with the Labor Law of the Kingdom of Cambodia.
3. Shall not be negligent in its corporate social responsibilities (CSR), such as consumer protection and environmental protection.
4. Shall separate the recognition and protection of individual's rights when he/she is both a stakeholder and a shareholder.

Disclosure on Information and Stakeholder's Observation

The Prakas No. 45 by the SECC on Corporate Governance stated that all Listed Public Enterprise shall provide stakeholders, creditors and employees, with all relevant information necessary to enable them to monitor the performance of the Listed Public Enterprise, and shall protect their rights.

SUSTAINABILITY REPORTING IN CAMBODIA

OXFAM, Responsible Business Practices: Cambodia's Changing Business Landscape

Cambodia has undergone enormous development in recent decades which is characterized by a rapid growth of the country's economy. Fueled by a population of more than 15 million — with half of the workforce working in the agriculture sector— Cambodia has established itself as a potential economic playmaker in the South East Asian region. However, just like in many developing countries, sustaining this growth is a major challenge. The government of Cambodia wants to secure and further promote growth through a consistent concentration in its national development strategy on socioeconomic inclusion and environmental sustainability. To implement the plans and policies, the government frequently calls upon the contributions of the private sector and civil society. Accordingly, in recent times the government focuses on its national strategy for sustainable development and increasing national competitiveness by stimulating corporate social responsibility (CSR) performance among the private sector.

Moreover, while there is recognition of the contribution that private sector investment has had on economic growth to the Cambodian economy in general, the contribution to social and environmental sustainability in some areas are far from explicit. As a result, irresponsible business practices coupled with weak regulatory framework overseeing the private sector have put communities and workers at risk[6]. This has resulting in an apparent imbalance of social, economic and environmental concerns. Companies can contribute to sustainable development through a number of approaches, especially CSR. CSR is however being relatively a new concept and is not widely understood among enterprises, companies, and consumers in Cambodia.

At present, a relatively small number of companies in Cambodia have actively have such a report which is term sustainability reporting. Studies have showed that sustainability reporting by companies in Cambodia had increased continuously over the last ten years. The largest share is accounted for by companies in the financial sector, followed by the tourism and leisure sector and the telecommunications sector[7]. Moreover, there is no national standard for sustainability reporting for companies in Cambodia. Those companies that have sustainability report base

it on the internationally recognized and widespread Global Reporting Initiative (GRI) framework. Sustainability reporting has great potential for strengthening Cambodia's competitiveness, not only to attract foreign investment but also to improve the business environment. Accordingly, sustainability reporting in Cambodia must continue to be actively promoted, and companies must be made aware of it. Corporate commitment to sustainable development can make a significant contribution to raising living standards, further reducing the poverty rate and strengthening economic competitiveness.

ACLEDA Bank Plc, Sustainability Report

Environmental and social sustainability (ESS) mission statement

ACLEDA Bank is committed to achieving strong, sustainable financial returns, while respecting the environment and community within which we live. We subscribe to the concept of triple bottom line ('people, planet, profit') reporting and are constantly developing indicators for measuring and reporting on our performance and impacts on the society and the environment and to implement a reporting structure based on the guidelines of the Global Reporting Initiative. (…)

3. COMMUNITY

ACLEDA recognizes that playing our part as good citizens in the community in which we abide is vital to our mutual interests and prosperity. Major initiatives we are taking are:

- Developing and offering appropriate products and services carefully selected and developed for the particular needs of Cambodian society. In 2006 the Bank launched a housing loan scheme, with interest rates fixed for up to 10 years to enable Cambodians, especially in the lower wealth segment, to purchase their own homes.
- Expanding outreach: opening up banking services to new communities in new locations by expanding our network in the provinces and extending online banking services to mobilize savings. The expansion of our 24 hours a day/7 day a week ATM network to all provinces in 2010 has enabled our customers to access their funds at their own convenience, irrespective of the normal opening hours of the Bank or national holidays. In April 2017 we launched 'ACLEDA Unity ToanChet' — a FinTech Application running on Smart Phone, enabling customers to do all ACLEDA Bank services at any time. — Which extends access to financial services in the Khmer language as well as English to every village and commune in Cambodia.
- From November to December 2019, we conducted an annual survey on our small-sized enterprise loan and medium-sized enterprise and corporate loan customers' living standards that get loans at least twice from our branches to test the impact of our credit services. This involved 1,961 respondents (female: 53.34%) randomly selected from our 316,758 active borrowers of whom 66.95% were traders, 21.32% were farmers/workers and 11.73% were private companies/NGOs/civil servants. The responses indicated that across all sectors there were 92.40% who considered that their wealth had increased as a result of credit provided by ACLEDA Bank, 3.57% who did not detect any noticeable change while only 4.03% had the perception that they were worse off than before.

	2019	2018	2017	2016	2015
Income Situation					
Growth	92.40%	90.90%	88.13%	94.13%	91.96%
Stability	3.57%	6.23%	7.46%	3.27%	5.44%
Reduction	4.03%	2.87%	4.41%	2.60%	2.60%

- Transparency and 'truth in advertising' are strictly enforced when developing, advertising and selling our products and services and full and detailed information is provided through brochures, our website and other promotional materials.
- In 2019, ACLEDA Bank Plc. took part in important social and humanitarian activities through the following donations:
  - ☞ **Education**
    - Donation to the ACLEDA-Jardines Education Foundation (AJF) to support the construction of two concrete primary school buildings (Kampong Preah Ent and Pu Cha) in Preah Vihea and Mondulkiri provinces.
    - Donation to the Ministry of Education, Youth and Sport to support their program "Our Business". (…)
  - ☞ **Health Support**
    - Voluntary blood donations by ACLEDA Bank staff to the National Blood Transfusion Center to help patients in emergency situations.

- Donation to the Cambodia Kantha Bopha Foundation. (…)

NagaCorp, Sustainability Report

NagaCorp [a Cambodian company listed on the Hong Kong's Stock Exchange] strives to be a good corporate citizen by carrying out business in a socially responsible way and aim at creating long-term values for our stakeholders and contributing to make the world a better place. This report covering the calendar year 2016 is prepared in accordance with the Environmental, Social and Governance ("ESG") Reporting Guide of the Stock Exchange [in Hong Kong]. It provides an overview of management approach of NagaCorp and its performance relating to ESG. Nagacorp has complied with the "comply or explain" provisions set out in the ESG Reporting Guide for the Year. (…)

3.1 Workforce Overview

NagaCorp prides itself on providing a safe, fair and healthy workplace for all staff, with a diverse workforce and equal opportunities for all. As at 31 December 2016, the Group had a total of 6,153 employees, representing over 29 nationalities, with 99% of the employees based in Cambodia. Priority is given to developing our Cambodian workforce, which represents 94% of total employees. Employees follow designated working hours, meal breaks and rest days according to a rotating shift schedule prepared by each department on the basis of three 8-hour shifts per 24-hours and six consecutive days or 48 hours per work week. Employees based in Cambodia, are entitled to 1.5 days of paid annual leave for every month of service rendered. (…)

1. Attracting Talent: (…) In 2016, we hired 1,095 employees (2015: 878) while 660 exited (2015: 691). Reductions in attrition have been achieved by focusing on stricter sourcing and selection criteria, providing more training and development opportunities, increased employee engagement and continuous improvement on the work environment and welfare. (…)
2. NagaWorld Olympians: In May 2016, we held the first NagaWorld Olympians. This competitive event provides a platform for employees to showcase their professional skills, attitude, appearance and manners. Future competitions will inspire our employees to achieve further growth and success – not because they are driven to win or lose – but because they are recognized as doing their best at something that they care about. (…)

Naga Academy

Founded in November 2012, Naga Academy's goal is to be an effective and comprehensive apprenticeship-based hospitality training institute. In 2016, Naga Academy trained 297 interns of whom 246 were in apprenticeship based vocational programs of three months or more duration, of which 43% were hired by NagaWorld. During the Year, Naga Academy provided more than 159,420 total training hours to its interns which included 112 hours of pre-deployment training prior to internship in their department of choice.

Smart, Sustainability Highlights 2017

Our sustainability framework adheres to that of the Axiata Group and guides Smart's sustainability efforts under four key pillars: Beyond Short-Term Profits, Nurturing People, Process Excellence, and Planet & Society. By aligning our practices to the tenets of these four pillars, we can ensure that everything we do is balanced by meeting the needs of all stakeholders who support us in many ways. We go a step further by empowering Cambodians to look at positive and sustainable ways to help their families and communities through CSR initiatives in the fields of education, community sports, technology and environment. We committed to spending more than 1% of our annual revenue on CSR initiatives.

Thalias Hospitality Group, Sustainability Report

Waste management and recycling

Our waste management and recycling efforts have garnered us an industry awards – and now we have our sights set on reducing plastic across our supply chain, improving product traceability and sustainable agriculture. Our goal is to create a sustainable system for managing our waste, and reducing — or, where possible, eradicating — disposable plastics and other damaging materials from our daily operations. Every Thalias outlet has a CSR ambassador dedicated to waste management. On average, we recycle 25kg of metal cans and over 50kg of plastic bottles per month. Plastic bags from Topaz go to Siem Reap to be upcycled into craft products, while non-profit social enterprise Naga Earth makes around 2,000 litres of used cooking oil into biofuel and soap per quarter. For recovered materials, each month we recover roughly 400 kilos of used cooking that Naga Earth transforms into biodiesel which emits 90% less hydrocarbon, 50% less carbon dioxide than standard diesel and also has zero sulphate emissions. Since we started,

we have also collected more than 130kg of plastic bottles, 50kg of cans, and around 370kg of paper and carton, which are in turn sold to local recyclers.

Co-operation Committee of Cambodia, Multi-stakeholder initiatives in Cambodia

The Project Steering Committee (PSC) for the Implementation of the Social Accountability Framework (ISAF) is an initiative involving development partners. At the sub-national or local level within the context of the ISAF project there are CSOs – both local and international – who are directly involved in supporting the Cambodian government to carry out ISAF. These include: World Vision (WV), Save the Children (SC), Star Kampuchea (SK), CARE and Racha. The main aim of ISAF, grounded in social accountability principles, is to enhance cooperation among local authorities (i.e. district and commune councilors), local service providers (i.e. schools, clinics, and commune offices), and citizens in a way which enables these service providers to improve their performance. According to the project document for ISAF: it consists of 4 components: 1) access to information and open budgets, 2) citizen monitoring, 3) facilitation and capacity building, and 4) learning.

By all account ISAF is having a considerable impact on governance at the local level in Cambodia. At present ISAF is intervening in 98 districts and 187 communes, working in approximately 4,000 government schools, and 1,000 CSO run schools. Across these areas, more than 80,000 citizens have become better able to demand services from their local departments. These achievements have been made possible because of clear planning, mechanisms, and strategies, as well as the common goal of all stakeholders. There are numerous success stories from the implementing CSO partners themselves. The strategic approach of ISAF, multi-stakeholder in nature and focused on service delivery, is making a difference in the relationship between the state and its citizens. In short, the institutionalizing of a new set of relationships is the key impact of ISAF. As a first start, ISAF is decentralizing education and health systems. In the next five years, there will be other sectors, possibly including environment, social protection, and others.

Miethlich, B. Sustainability Reporting in Cambodia: The Hidden Champion of ASEAN Countries

This study aimed to present and analyze the current situation of sustainability reporting in Cambodia to determine whether and in what way sustainable development and its reporting is a concern of Cambodian companies. (…)

The analysis of the GRI Sustainability Disclosure Database showed that sustainability reporting by companies in Cambodia had increased continuously over the last ten years. The largest share is accounted for by companies in the financial sector, followed by the tourism and leisure sector and the telecommunications sector. The companies in the manufacturing sector, most of which are suppliers, do not appear to have sustainability reporting. In terms of company size, it is mainly large companies that carry out sustainability reporting. What is surprising, however, is that SMEs is increasingly disclosing and communicating its commitment to sustainable development. MNEs, on the other hand, only started doing so a few years ago and still make up the smallest share. (…)

Despite the efforts of the Cambodian government to promote sustainable development, only a small proportion of companies in the country communicate their CSR and sustainable development efforts. This is not unusual in the sense that companies are unable to provide sustainability reporting due to the lack of CSR data or available data, associated costs, lack of motivation, or poor corporate performance. (…)

In comparison with the other ASEAN countries, in terms of sustainability reporting, in relation to GDP (PPP), Cambodia is the leader. Thus, it can be said that considering Cambodia's enormous and rapid development to date, the consistent strategy towards sustainable development pursued by the government and especially in relation to current economic performance, Cambodia today could be seen as a hidden champion of sustainability reporting by ASEAN countries and can thus also serve as a role model for other developing countries.

4. CONCLUSION

Whilst companies are facing increasing demands for more transparent reporting, the breadth and depth of information provided in the annual report cannot change overnight. The development of such a report should therefore be seen as a process of evolution, not revolution. There is no time to lose and therefore, the sooner companies start to prepare for it, the better positioned they will be to avoid the possible downsides (e.g. competitor pressure, regulatory challenges, unreliable and incomplete data) – and reap the potential benefits (e.g. competitive advantage, improved board effectiveness, enhanced investor understanding, increase customer loyalty). To make it easier for companies to make informed decisions, the following are some questions that can be asked to help identify and address issues on sustainability reporting [14]:

1. What framework or certification system are you using?
2. Have you published a Sustainability or Corporate Responsibility Report?
3. Have you set reduction goals?
4. Are you tracking, reporting and reducing your energy use?
5. Are you tracking, reporting and reducing your water use?
6. Are you tracking, reporting and reducing your waste and emission?
7. Are you tracking, reporting and reducing your transportation impact?
8. What are your "green" product trends?
9. How are you addressing social equity?
10. Are you supporting any groups opposed to sustainability?

Future research should seek to examines the perception of businesses, professional accountants and other stakeholders the intention to engage in sustainability reporting in Cambodia. Future studies in Cambodia could investigate the factors (branches, size of the organization, level of profitability, or gender diversity on the board) that determine whether a company will issue a sustainability report. Moreover, future studies could also sort to identify the accessibility of corporate sustainability reporting instruments for Cambodian managers and their role in increasing the financial performance of organizations.

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Journal of Accounting, Finance, Economics, and Social Sciences
Vol 5, No 2, July – December 2020, pp. 10-16
Received: Aug 2020 | Revised: Oct 2020 | Accepted: Dec 2020
DOI: https://doi.org/10.62458/jafess.160224.5(2)10-16

Deep Learning Application – Identifying PII (Personally Identifiable Information) to Protect

Anil K. Makhija*

ABSTRACT

This paper presents application of deep learning and machine learning models in detecting personally identifiable information (PII) in unstructured text (emails). The proposed models use support vector machine (trained using sequential minimal optimization) and long short term memory (LSTM) artificial neural network. Synthetic email dataset has been used to train and validate the proposed models and the outcomes are measured by standard measures of accuracy, precision, recall and F1-score of each of the proposed model. The experimental results on the model that uses support vector machine (trained using sequential minimal optimization) showed most promising results on detecting the personally identifiable information in the email dataset. The LSTM model also showed equally promising results.

Keywords: Personally Identifiable Information, Deep Learning in detecting PII, Machine Learning in detecting PII, Artificial Intelligence in protecting privacy, Protecting Personally Identifiable Information.

1. INTRODUCTION

Technological advances and proliferation of internet and online social network has made the entire world super-connected. Organizations have tremendous focus on provide best in class customer experience and are thus leveraging technology to enable it. In order to provide best in class customer experience and to provide personalized recommendations to the users, organizations gather lot of personal data and information from their customers. This also creates a risk to users' private sensitive information, especially their personally identifiable information (PII) being leaked to users with malicious intents, putting user's privacy at risk. One of the important steps in protecting PII is identifying the PII and protecting it. In recent years, research has focused on applying machine learning algorithms to identify PII. The advances in deep learning present an opportunity to apply deep learning algorithms to identify PII. This research proposes machine learning and deep learning models, to identify the PII in the unstructured text data. Support vector machine, training using sequential minimal optimization model and long sort term memory (LSTM) based models are trained and tested for accuracy, precision, recall and F1 score. Both the models give promising results in detecting PII. The SVM model performance was most promising.

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2. RELATED WORK

What is Personally Identifiable Information:

With the technological advances and digital becoming reality for businesses and governments across the globe, personal data of individuals is being collected at an ever-increasing scale. Information about web-searches, browsing history, social relationships, medical history and many other similar data is collected and shared with business organizations, advertisers, government agencies, researchers and so on. A significant portion of this data can be information that can be used to identify the person individually, directly or indirectly (Narayanan & Shmatikov, 2010). Such information is classified as "personally identifiable information" or PII. Some practitioners argue that even when some information can be used to trace an individual's identity when combined with other public information, then also the information in consideration shall be classified as personally identifiable information. Large scale popularity of online social networks has also resulted in significant increase in amount of personal information available on internet (Krishnamurthy & Wills, 2009). Anonymity and international reach of internet create an ideal environment for cyber criminals who employ advanced persistent threat (APT) attacks over the online social network to extract information about organization, about users, and leveraging it for cyber stalking and identity theft

(Louw & von Solms, 2013).

Large scale proliferation and usage of social networking sites (SNS) and focus of businesses in providing user centric services have also contributed to vast amount of PII becoming available over the internet. In authenticating a customer's identity, organizations make extensive use of personally identifiable information. While many of the social networking sites are free, there are multiple instances where PII breaching has been done by these organizations. Organizations specifically do user profiling using this PII and utilize the outcomes of this profiling to make their business models more effective. Large organizations and tech giants outsource the customer PII mining activities to the third-party service providers. These third-party service provider companies are servicing multiple corporate clients and hence user data, containing their personal identifiable information is moving across multiple organizations and entities without they knowing about it (Al-Zaben et al., 2018).

There are several advantages both for the organizations as well as users, as this data helps create data-driven approach in delivery of customer service and in meeting customer expectations, resulting in increased customer satisfaction levels. However, there are many instances of malicious and unauthorized use of this data. As per April 2018 report of The Guardian, more than 50 million Facebook profiles were harvested for Cambridge Analytica, in a major data breach (Cadwalladr & Graham-Harrison, 2018).

Data breach can happen both unintentionally as well as intentionally. IN 2013, more than 40 million credit / debit card numbers were stolen from Target's point of sale terminal system. Information leak from 56 million credit cards from Home Depot in 2014, stealing of PII of 79 million customers of Anthem in 2018, and exposure of social security numbers, drivers' license numbers and passport numbers affecting 146 million people due to data breach at Equifax show how alarming the problem of data breaches and breach of PII is (Poyraz et al., 2020).

In order to personalize the experience, which eventually helps in increased sales and better returns, data gathering, storage and analytics is pervasive in all devices, systems, applications, and platforms. This coupled with Internet of Things (IoT) getting integrated into almost all the systems that are used in daily life, and gaps in privacy regulations increases the risk users' privacy breaches (Isaak & Hanna,2018).

How PII is detected and Protected:

An organization's information privacy safeguards have significant influence on how an individual's PII is protected by the organization. There are multiple threat vectors that operate and organization needs to safeguard information privacy from all of those threat vectors in order to keep the PII safe (Posey et al., 2017). Acts such as GDPR – General Data Protection Regulation have specific focus on protecting personally identifiable information (Tikkinen-Piri, 2018)

One of the biggest challenges in protecting the personally identifiable information is identification of whether a piece of information is PII or not. When it comes to organizations that have significant user interaction in the form of email and chats, the personally identifiable information may be contained in the text form in those emails and chats. Similarly, contract documents, agreements, medical records and so on may also contain personally identifiable information in the text form. Hence it is imperative that organizations create robust mechanism to identify if the information contained in a document or email or agreement is PII or not. Only once the company knows that the information under consideration is PII, it can take steps to ensure that the PII is safe and not breached.

Some of the initial research work in this area was related to development of a tool that automatically harvested the identifiers from the user's computer and active directory and then searching various data encodings using fast search algorithms and regular expression matching (Aura et al., 2006). With the advances in technology, specifically artificial intelligence and machine learning, there has been more focus in recent researches on using artificial intelligence and machine learning algorithms to detect personally identifiable information or any private and sensitive information. Artificial intelligence involves intelligent agents (devices) that perceive environment and take action in order to maximize the goal attainment (Ongsulee, 2017). Machine learning involves developing computer systems that can learn automatically and improve with the experience. Machine learning is a method of choice in developing and implementing artificial-intelligence based systems. Rapid growth in our ability to gather huge amount of data (big data) has led to researchers, scientists and practitioners focus on turning to this data to provide insights, and help in developing systems that can learn, predict and

decide based on this data (Jordan & Mitchell, 2015).

Machine learning is classified as supervised learning and unsupervised learning. Supervised learning systems learn mapping from the labelled data and then use it to make predictions. In unsupervised machine learning, unlabeled data discovers information and patterns on its own and utilizes it to make predictions (Ozgur, 2004). When algorithms don't use labeled data and instead, they utilize artificial neural network (ANN) layers, the approach is known as deep-learning. Deep learning is a field that simulates human brain, through the ANN, for analytical learning. Deep learning algorithms require larger amount of data, than a machine learning algorithm, in order to perform well. Compared to machine learning algorithms, deep learning reduces the effort of designing a feature extractor since it obtains high level features directly from the data. In comparison to a machine learning algorithm, training a deep learning algorithm usually takes longer though testing time is shorter for a deep learning algorithm. Another important difference in machine learning and deep learning is that whereas a machine learning algorithm provides explicit details of the results arrival process, it is not so clearly explainable in the case of deep learning algorithm (Xin et al, 2018).

Detecting that a piece of information comes under the purview of privacy is the most significant step in ensuring that this information is not divulged over the internet or otherwise. Research in this area is in very initial stages. There have been few machine-learning based models proposed for identification of PII in emails, specifically email addresses, monetary information, telephone number and addresses. There has been some research on developing automatic learning systems based on Naïve Bayes. There has been some work done on semi-supervised machine learning based detection of personal health information in health records, and development of machine learning based PrivacyBot. Past research in this area also identifies the need and potential to develop deep neural network based and other similar models to detect private sensitive information (Tesfay et al., 2019).

Effectiveness of the machine learning and deep learning algorithms, applied to any context, is assessed by following metrics. The key metrics that are used are Precision, Recall, and F1-score (Apruzzese et al., 2018).

- Accuracy is defined as ration of correct predictions to the total predictions made. For binary predictions, it can be defined as ratio of sum of true positives and true negatives to the sum of true positives, true negatives, false positives and false negatives (Korotcov et al., 2017).
- Precision is defined as ratio of true positives to total positives (including both true and false positives). It indicates the probability that a predicted true event or label is indeed a true label (Korotcov et al., 2017).
- Recall is the ratio of true positives to sum of true positives and false negatives. It helps one know as to what proportion of actual positives were correctly identified.
- F1-score is harmonic mean of precision and recall and its value is 1 at a perfect precision and prefect recall (Almseidin et al., 2017).

Current Status & Research Question:

As evident from above analysis, privacy is one of the areas which is of extreme importance and faces multiple threat vectors, especially due to technological advances and proliferation of internet, internet of things, and online social networks. Personally-Identifiable-Information (PII) needs to be protected by organizations in order to protect the privacy of their users and customers. One of the important steps in order to protect PII is to identify the PII in an effective way. In recent years, machine learning based models have been applied to identify PII automatically.

Researchers in this area identify the need to use deep learning algorithms to build systems that automatically identify the PII. This research aims to apply deep learning algorithms, such as RNN (recurrent neural network) on emails and / or documents to identify the PII contained in those emails and documents. The effectiveness of those models will be assessed using the measures of accuracy, precision, recall and F1-score.

3. RESEARCH METHODOLOGY & PROPOSED MODELS

Research Data & Research Methodology

This research uses synthetic email dataset, created using mockaroo (Whelan, 2014). The data created is multi class dataset with total of eight classes. A total of 4796 emails are created, out of which 4010 emails contain no personally identifiable information. Remaining 786 emails contain personally identifiable

information. There are 262 emails that contain address information, 223 emails contain credit card numbers, and 241 emails contain name information. There are 60 emails that contain combination of more than one personally identifiable information. Email dataset details are shown in figure 1.

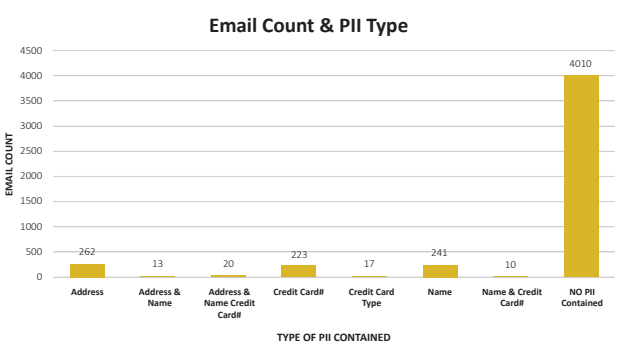

Figure 1: Research Dataset Details – Email Count for Each PII Type

Research uses three models which are based on support vector machine classifier (that uses sequential minimal optimization or SMO) and long short term memory (LSTM) and applies them for multi-class classification (for SMO) as well as binary classification (for SMO and LSTM). Email dataset is split into 80% and 20% buckets. Entire email dataset, which is text dataset, preprocessed and is converted to vector form and then used by SMO and LSTM algorithms. SVMs were designed for binary classification approach though it can be extended to multi-class classification as well and they are relatively insensitive to the relative numbers in each of the class (Druker et al., 1999; Platt, 1998; Mathur & Foody, 2008). LSTM are special kind of RNN (recurrent neural network) that help address the long-term dependency issue faced in RNN (Pienaar & Malekian, 2019). In the models proposed in this research, LSTM is applied once using two hidden LSTM layers and once using three hidden LSTM layers in DL4JMlpclassifier in WEKA. The 80% email dataset bucket is used to train the algorithm and 20% email dataset bucket is used to validate the algorithm. Accuracy, Precision, Recall and F1-scores are recorded for the validations to analyze the results. WEKA is used to build, train, validate and test the proposed models (Eibe et al., 2016; Lang et al, 2019).

Proposed Model(s) Details

To answer the given research question, three models have been proposed in this research paper. First model (SMO-SVM) is trained and validated for both multi-class classification and binary classification. Other two models (LSTM-2HDL, LSTM-3HDL) are trained and validated for binary classification.

Model 1 (SMO-SVM):

(a) Stage 1: Data Pre-processing- Converts email text into a set of numeric attributes that represent word occurrence information of the text contained in the emails.

(b) Stage 2: Applying Sequential Minimal Optimization, or SMO algorithm for training support vector machine

Model 2 (LSTM-2HDL):

(a) Stage 1: Data Pre-processing- Converts email text into a set of numeric attributes that represent word occurrence information of the text contained in the emails.

(b) Stage 2: Applying LSTM, a special type of recurrent neural network, with 2 hidden layers (number of outputs in hidden layer 8 and then 4), with training data normalized.

Model 3 (LSTM-3HDL):

(a) Stage 1: Data Pre-processing- Converts email text into a set of numeric attributes that represent word occurrence information of the text contained in the emails.

(b) Stage 2: Applying LSTM, a special type of recurrent neural network, with 3 hidden layers (number of outputs in hidden layer 8 and then 6 and then 4), with training data normalized.

All these models are built, trained, validated and tested using WEKA (Lang et al., 2019).

4. EXPERIMENTAL RESULTS & ANALYSIS

Experiment Design

The proposed models were built and trained using the synthetic email data. Out of total 4796 instances in the dataset, 80% (3837 instances) were used to train the model, whereas remaining 20% (959 instances) were used to validate the models. For first model (SMO-SVM), multi-class labeled data and binary class labeled was used whereas for the other two models (LSTM-2HDL, LSTM-3HDL), binary class labeled data

was used. Training and validation of the models was done using WEKA. Results of the validation and testing are summarized below.

Validation Results

Validation results from WEKA on the 3 models proposed in this research paper are summarized in table 1.

Model	Classification Type	Accuracy (%)	TP	FP	Precision	Recall	F1-Score
SMO-SVM	Multi Class	91.24	0.912	0.349		0.912	
SMO-SVM	Binary	93.64	0.936	0.304	0.941	0.936	0.930
LSTM-2HDL (8,4)	Binary	93.19	0.931	0.329	0.936	0.931	0.924
LSTM-3HDL (8,6,4)	Binary	92.60	0.339	0.339	0.929	0.926	0.918

Table 1: Accuracy, YP, FP, Precision, Recall & F1-Score summary

Results Analysis

Accuracy: As shown in figure 2, model validation results indicate that sequential minimal optimization algorithm based training of SVM (SMO-SVM model) gives that highest level of accuracy (99.6%+) for the validation dataset, amongst the models evaluated. The next best results in terms of accuracy are given by long short term memory (LSTM) based model (LSTM-2HDL model).

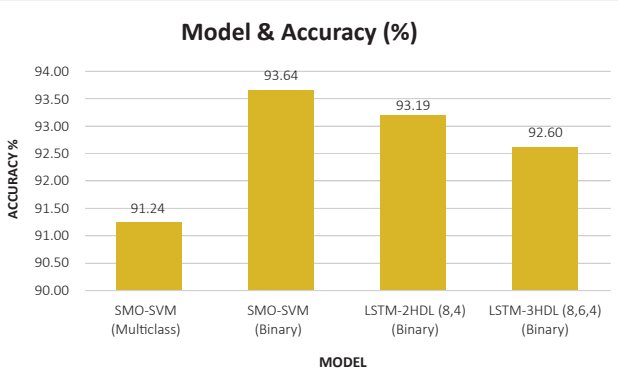

Figure 2: Model Type & Accuracy % Comparison

Precision: As shown in figure 3, model validation results indicate that sequential minimal optimization algorithm based training of SVM (SMO-SVM model) gives that highest level of precision value of 0.941 closely followed by long short term memory (LSTM) based model (LSTM-2HDL model) which gives precision value of 0.936.

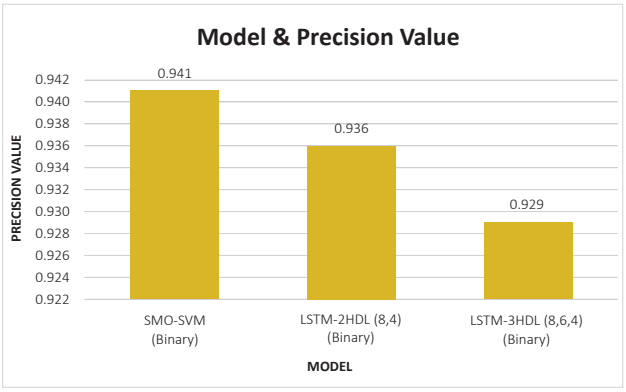

Figure 3: Model Type & Precision Value Comparison

Recall: As shown in figure 4, model validation results indicate that sequential minimal optimization algorithm based training of SVM (SMO-SVM model) gives that highest level of recall value of 0.936 closely followed by long short term memory (LSTM) based model (LSTM-2HDL model) which gives recall value of 0.931.

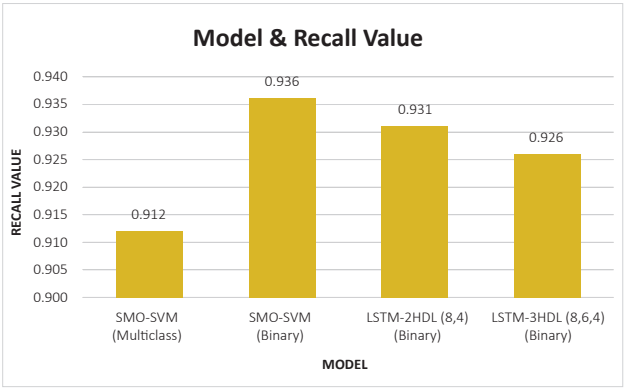

Figure 4: Model Type & Recall Value Comparison

F1-Score: As shown in figure 5, model validation results indicate that sequential minimal optimization algorithm based training of SVM (SMO-SVM model) gives that highest level of F1-score of 0.930 closely followed by long short term memory (LSTM) based model (LSTM-2HDL model) which gives recall value of 0.924.

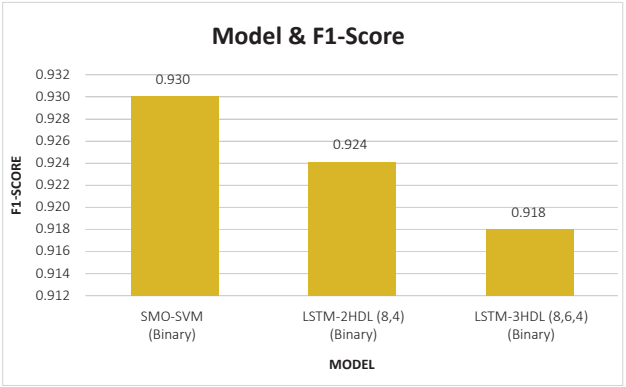

Figure 5: Model Type & F1-score Comparison

5. CONCLUSION & FUTURE WORK

It is evident that organizations can achieve 90%+ predictability in identifying emails (unstructured text) that contain personally identifiable information. Both machine learning and deep learning approaches demonstrate promising results in identifying personally identifiable information (PII) contained within unstructured text (in the form of emails). Organizations can leverage the proposed models to analyze text information to flag any information that is outbound (or inbound) and contains PII. The instances where information that was PII but not flagged can still be covered using a policy framework and putting accountability on the employees handling such information. However, a first level classification using a machine learning or deep learning model will help organizations improve their compliance to various laws and regulations, such as GDPR, which require organizations to classify and protect personally identifiable information. The accuracy demonstrated by the models proposed in this research was between 93 to 94%. Since protecting PII is gaining importance across the industry spectrum, further work can be done in creating models that provide even higher levels of accuracy in detecting personally identifiable information.

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Journal of Accounting, Finance, Economics, and Social Sciences
Vol 5, No 2, July – December 2020, pp. 17-24
Received: Jul 2020 | Revised: Oct 2020 | Accepted: Dec 2020
DOI: https://doi.org/10.62458/jafess.160224.5(2)17-24

SMEs in Cambodia

Sereyvath Ky*

ABSTRACT

Small and Medium Enterprises (SMEs) drive industrial progress, improve an economy's ability to deal with shocks and are recognized as breeding grounds of innovation which is a crucial part of the Cambodian economy, contributing to both economic and social development. SMEs play an important role in: (i) creating jobs (ii) generating income for low-income people and vulnerable populations, and (iii) fostering economic growth, social stability, and contributing to the growth of a dynamic private sector. This paper focus on the production issues only where it aims to find factors affecting the growth of SMEs, that are divided into three folds such as technology, labor force, and capital. The research will employ the grounded theory as methodology. However, SMEs have many challenges. Access to finance is still the main issue while SMEs bank has been established. Technical knowledge and skills are the main issues for labor including migration problems. Technology updated is still limited for growing SMEs.

Keywords: Small Medium Enterprise; SMEs; production issues; labor force; capital

1. INTRODUCTION

Small and Medium sized Enterprise (SME) is a very significant sector participated in a development of the Cambodian economy since the sector contribute 58% to the GDP of Cambodia in 2018 (Layhy, 2019). SMEs drive industrial progress, improve an economy's ability to deal with shocks and are recognized as breeding grounds of innovation. The original idea formed at the end of the 19th century that large firms are the greatest support for the economy has been challenged since the 1950s. Nowadays, the significant role SMEs play in the economy cannot be underestimated. Furthermore, SMEs growing provides profit generation and employment opportunities to the local which is account for two-third of Cambodia employment. As elsewhere in the world, SMEs make up the vast majority of businesses in Cambodia. Almost 40% of the nation's enterprises have between 10 and 100 employees, and almost 99 percent have between 1 and 100 workers (Layhy, 2019). By the year 2019, there are 269 units of new factories were built with 131,551 workers were created, and 67 of them were closed with 63,506 workers were jobless.

However, among 520 000 firms there are only 155,640 firms registered as micro, small, and medium enterprises in which 15,707 firms are SME and 139,933 firms are Micro (Phnom Penh Post, 2018). Beside the numerous of SMEs in Cambodia, Federation of Association for SMEs of Cambodia (FASMEC) illustrated that there are many problem (Por, 2020) facing for SME growth, including legal issue and production issues.

Like other developing countries, small and medium enterprises (SMEs) are a crucial part of the Cambodian economy, contributing to both economic and social development (World Bank, 2010). They play an important role in: (i) creating jobs (ii) generating income for low-income people and vulnerable populations, and (iii) fostering economic growth, social stability, and contributing to the growth of a dynamic private sector.

As the development of SMEs is significant to the robust and resilient economic growth of Cambodia (Japhta, et al. 2019), the Royal Government of Cambodia (RGC) has shown its commitment to support private sector-led growth and has introduced a series of policies concentrated on SME development. One among them was the establishment of the SME Sub-Committee in 2004 as the key body to organize SME development strategies (Baily, 2008). The key output of the SME Sub-Committee was the SME Development Framework approved by the Council of Ministers on 29 July 2005, and officially launched by the government on 21 February 2006. The SME Development Framework aims to "create a conducive business environment, which will lead to a competitive SME sector contributing to the creation of quality employment and improve the

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range of goods and services available to the people of Cambodia." (Japhta, et al., op cit.),

In Cambodia, there are 4 categories of enterprises, namely micro, small and medium enterprises (MSMEs) and large enterprises. The micro enterprises are unsystematic and dominate the SME sector. The SME Development Framework, developed by the SME Sub-Committee of the Private Sector Steering Committee, classifies SMEs according to the number of their employees (based on equivalent full-time employees) and the size of their assets.

Despite a growing number of registered SMEs, there are many challenges facing entrepreneurs and government in the development agenda for SMEs. Challenges listed in Cambodia's Industrial Development Policy 2015–2025 (Roth, 2014) and other studies include access to finance, technical knowledge and skill, inadequate support and facilitation, and competition and market expansion.

Access to finance is still difficult. In Cambodia, around 66% of enterprises stated that access to finance is still challenging and the main challenge of MSMEs is the access to working capital (BD Trust Research, 2019). While access to financial services has grown quickly in recent years, almost a third of people do not use formal financial services (NBC, 2019).

Technical knowledge and skills are scarce. The limited human capital such as trained and skilled workers, technicians and engineers discourages the country from absorbing and utilizing modern technology for industrial development. Dealing with a shortage of workers, low productivity, skills mismatch and rising wages poses a great challenge to Cambodia's further development (ADB, 2015).

Inadequate support and facilitation from relevant institutions hinders development and fails to address emerging concerns faced by SMEs. A monitoring mechanism needs to be introduced in order to exert additional pressure on the responsible institutions and government agencies to take measures and improve the business environment for SMEs (RGC, 2015, op cit.).

Competition through regional and international market expansion is rising through transition in industrial revolution and globalization. Doing business in Cambodia is relatively costly, from starting to operating and closing a business. Inadequate electricity supply puts Cambodia at a competitive disadvantage compared to neighboring countries (Roth, op cit.).

Informality of MSMEs, especially micro enterprises. As addressed earlier, micro enterprises are mostly family-owned businesses and operate informally, making it difficult for the government to collect taxes and design and implement support policies to help MSMEs move up the value chain (ibid).

This paper focus on the production issues only where it aims to find factors affecting the growth of SMEs, that are divided into three folds such as technology, labor force, and capital.

2. LITERATURE REVIEW

The Cambodia economic growth is continuing at the speed of 7% per annum until 2019, according to Ky and Lim (2020). However, the growth goes through two different ways. The first growth is for Foreign investment firms, and the second way is for domestic firms which mostly are small and medium enterprises (SMEs). The main factor for SMEs in the market competition against the imported products is cost of production including cost that derived from technology, labor, and capital. Arce, Lopez, and Sanjuan (2011) illustrated that working capital is one of important factors for growing SMEs, especially during crisis. As well as UNCTAD (2001), Shinozaki (2014) reveals that the working capital supported by government play important role in raising working capital for the SMEs. However, capital financing is a big constraint for SMEs, especially in developing countries. According to Bouri et al. (2011), and Almansour B. et. al. (2019) SMEs in developing countries are often hampered by an inability to obtain financial capital for growth and expansion. Financing for SMEs is limited, particularly when compared to commercial debt for large firms. Furthermore, Baily (2008) mention that there are four main factors constrained the financial accessing for SMEs in Cambodia: a lack of collateral, an in-adequate legal framework, a limited number of financial products on offer, and an ability of SMEs to prepare basic financial statement.

Moreover, labor force is also another key factor affecting the growth of SMEs. According to Baily (2008) 97% of manufacturing workers were unskilled and less than a quarter of Cambodian firms provided formal training to workers. Cambodians generally have limited formal educated and training and have few opportunities to enhance their human capital. As mentioned by ILO (2015) quality of employment is the restriction of SMEs, even the SMEs provides the adverse effect to job creation. Robertson (2003)

mentioned that SMEs often lack the knowledge and resources to engage in training programs, however, their success in upgrading themselves technologically may depend crucially on subsidized educational and training infrastructure provided by their governments.

Another issue of labor factor is an enterprise manager. As revealed by Wang (2016), the biggest obstacles SMEs are confronting and the determinants that influence the obstacles as perceived by enterprise managers.

Last but not least, the productive capital used by Cambodian SMEs is often old and inefficient relative to that used in neighboring countries. Companies are hampered in their abilities to upgrade due to an under-developed financial market. Many lenders simply increase the cost of credit to compensate for perceived risks. Investment is further hindered by a weak rule of law and weak institutions. It can cost considerably more than a loans value for a lender to seek legal recourse following a default, according to Baily (2008). That is called, the lack of technology. Technological progress is one of the theoretically accepted measures applied to eliminate the frontier barrier of an economy because it helps to increase the productivity and efficiency of factors of production of the economy—labor, capital, and other resources, and increase the production input usage in the production. The technological progress is the process of invention and innovation in the economy. The invention means the scientific discoveries required to upgrade the production system of the economy, while innovation implies the utilization of new scientific breakthroughs for the commercial purpose of the output. Freeman and Soete (1997) illustrated that in economic growth, technical innovation is a critical parameter. According to Schumpeter (1934), innovation needs entrepreneurial skills to manage existing or new resources to match with new scientific discoveries in the production process and organize the output. One way of presenting the effects of technological progress on the growth of economies is the shift of production possibility frontier (PPF). Kamara (2019), Subrahmanya et. al. (2020), and Subrahmanya et al. (2009) express that technological progress leads to shifting the entire frontier right with a given level of production inputs and without bothering about finding a new resource base. As revealed by Nadide and Dogan, (2014), FDI promotes the transfer of new technology and know-how between countries and exchange technological ideas among the firms. Doh and Kim (2014) stated that SMEs benefit from large firms in several ways, including technology transfer. Chew and Yeung (2001) noted that the large firms exceed the SMEs in innovative capacity and the complementarity between SMEs, and they can enhance the process of technology transfer in supplier-buyer linkages. Thus, the development of linkages between firms is increasingly identified as a factor that promotes technology transfer. Wong (1991) classified technology transfers as follows: 1. Hardware (e.g., Plants, capital equipment and machinery, materials, and suppliers). 2. Codified knowledge (e.g., Computer programs, design, operations, systems, and procedures). 3. Unmodified knowledge (e.g., Human experience, organizational culture). However, Ankrah et al. (2013) and Prasana et al. (2019) revealed that firms should be encouraged to establish close ties with academic institutions to get some benefits, including technology transfer.

3. METHODOLOGY

The issues as identified in the literature are the main constraint for the growth of SMEs in Cambodia needing to be narrowed down. The issues are raised by many associations of SMEs, firm's owners, and entrepreneurs in practical reasons.

The research employed the qualitative data research by conducting interview with firm's owners in SMEs sectors, since the quantitative data is not available as time-series. The grounded theory (Glaser and Strauss, 1976) is employed for this research both in both data collection and data analysis which is useful for behavioral data and responsive data. The key-informant interview (KII) is conducted to 14 enterprises in the four target provinces including Phnom Penh, Kampong Thom, Siem Reap, Banteay Meanchey where cashew, dried fish, is produced to find the key barriers.

The target group (firms) is registered firms as SMEs in ministry of commerce or provincial department of commerce. The interview has been done during October and November 2020.

Capital accessing is one of the main obstacles that was also identified as in many researches for SMEs. So, we should identify and target a major barrier and provide commentaries, our main attention will be focused on Capital accessing as the main obstacle. Drawing from this Capital accessing, the following hypotheses can be made with regard to finance as the major barrier:

H1. SMEs are more likely to access to finance as a significant obstacle to their growth.

Labor force is another main obstacle in Cambodia, as well as in the survey conducted by the World Bank. The following hypotheses can be made with regarding to labor barrier:

H2. SMEs are more likely to lack of labor's skill, labor responsibility, and to face labor movement as a significant obstacle to their growth.

Technological update is also an important factor influence the growth of SMEs in Cambodia that may be defined the ability of labor in accessing and using new modern technological machine. The following hypotheses can be made with regarding to labor barrier:

H3. Technological update more likely to access and use the up-to-date technology as a significant obstacle to their growth.

4. FINDING

Currently, SMEs in Cambodia plays very important role in Cambodian economy which contributed 58% to the GDP. According to the criteria set by ministry of industry science technology and innovation, SMEs can be define as firms which makes up by 11 to 100 employees. By the way, the definition is a bit different if we look at the definition set by tax department. SMEs can be defined as firms which the start-up capital is below 500,000 USD.

However, the number of firms which is recorded as SMEs doesn't available from 2018. According to the Table 1 below, the 80.41% of SMEs are in foods, beverage, and tobacco sectors. This sector is very important that is competing with the imported products, especially from Vietnam and Thailand.

According to the respondents selected for interview, 78.57% of the firms interviewed are in food sectors including dry fish processing, rice mill processing, cashew processing, soy and fish sauce processing, moringa processing.

Table 1: Number of firms in SMEs

Number of SME firms	2013	2014	2015	2016	2017	2018*	2019*
Foods, Beverages, and Tobacco	30,681	30,880	31,220	31,465	31,565	125,793	41,617
Garment, and footwear	1,822	1,823	1,828	1,831	1,833	7,347	2,652
Paper and printing	68	68	70	71	71	300	106
Rubber product	259	292	319	336	344	1,459	476
Non-metal mine	1,089	1,104	1,126	1,136	1,140	4,609	1,511
Metal production	4	11	11	11	11	155	55
Metal processing	2,405	2,406	2,407	2,413	2,413	9,674	3,232
Other	1,867	1,875	1,875	1,876	1,876	7,556	2,505
Total	**38,195**	**38,459**	**38,856**	**9,139**	**39,253**	**156,853**	**52,154**

Source: data from ministry of economy and finance

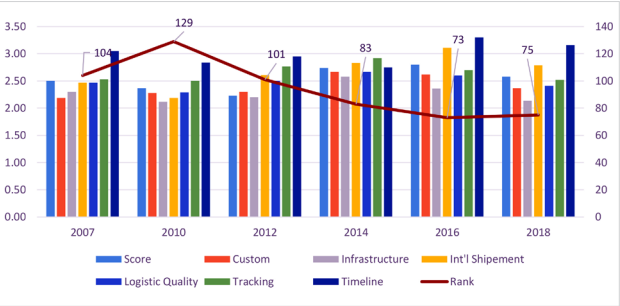
* Data from annual report 2018 and 2019 of ministry of industry science technology and innovation

The data from KII reveals that the SMEs in Cambodia is very competitive sector, especially for food processing manufacture. There are two types of competitors, local producers and importers from Vietnam and Thailand the most. With the expansion of globalization, especially in the ASEAN context, manufacturing SMEs in Cambodia are facing increasing international competition and need to improve quality and efficiency of output to international standards to survive. The Cambodian business environment needs improving, and SMEs need developing, to be able to compete with imports. Creating a level playing field and encouraging SME development will not only enable Cambodian SMEs to compete successfully in their domestic market; it will also pave the way for their involvement in exporting.

The challenges of SMEs are higher cost of production. Among 14 observations, all firms draw that there are three costs, including transportation, electricity, and labor cost. Transportation and logistics are factors challenging in competition both locally and internationally is logistic where is the rank is still low, 75 according to the Doing Business index. The most challenging point is Timeline. The number of days spent for importing is 24 which 10 days longer than Vietnam and Thailand. Beside the number of days spent, the data from the KII illustrated that the cost of custom clearing is not standardized yet while some firm can pay less that 1000USD per container and some other pays more than that. The cost of logistic including customs import permit, customs clearance, Cam-control survey fee, custom processing fee, handling fee, carrier charge, document fee, container imbalance charge, equipment management fee 875USD and also including port charge and trucking 400USD, totally is 1,275USD.

In accordance with the data from the World Bank (2014), the transportation cost in Cambodia is 30% and 33% more expensive than that in Vietnam and Thailand, respectively.

Figure 1: Logistic in Cambodia



Source: World Bank (2020): Country Score Card: Cambodia 2018

Beside the transportation cost, electricity cost is also still high compare to the cost in Vietnam and Thailand. In 2011, the cost of electricity in Phnom Penh and Kampong Thom, Banteay Mean Chey, and Siem Reap are 800 riels/kwh, 750 riels/kwh, and 700 riels, respectively. However, in 2020 the cost of electricity in all four-target area reduced to the same price for medium voltage customers, 720riels for manufacture and 660 riels for agricultural product processing. Even though the cost is a bit decreased, it is still higher than that in our neighboring countries, which is 500riels and 320 riels for Thailand and Vietnam, respectively. The data from KII reveals that diesel is not good choice for producing electricity. Moreover, solar-source electricity is not yet confidence since the installation and material cost is still very high.

However, the factors above are the key factor for international competition, and assumed to be the same for local enterprise in competitive market. For growing SMEs locally, there are three factors including assessing to capital, lacking of labor, and updating technology, needed improving. Repeatedly the literature review, Wang (2016) illustrated that there are 23.1 percentage points of SMEs more likely to perceive access to finance as the biggest obstacles to their growth than large firms. In accordance with KII, the data demonstrates that all SMEs in Cambodia are facing difficulty in assessing to finance even the Bank of SMEs are introduced. This confirms our Hypothesis 1. The observation proves that all target groups have debt asset ratio in between 25% to 60% already. They cannot access more finance from SME Bank since there is not enough collateral or/and turn over. Furthermore, the fund supported by Rural Development Bank (RDB) mostly provided as working capital rather than investment capital.

The observation illustrates that collateral requirements is a restriction in accessing to finance by SMEs. It is evident that 12 among 14 SMEs observed are denied by the lenders in provision of financing. This is because of not having adequate resources to provide as collateral. The data also reveals that houses, land, and businesses are used as security and that money lenders, microfinances, and banks demand SMEs to post the collateral in order to reduce moral hazard. This finding is in line with the findings of Mullei and Bokea (2000), Wang (2016), that banks ask for collaterals in order to finance SMEs and to accept loan proposal and that the collateral must therefore be 100 % or more, equal to the amount of credit extension or finance product.

Another key beside the collateral is SMEs in Cambodia is high risk business. This finding is in line with Kihimbo et al. (2012) that most SMEs are denied and discriminated by the lenders in providing financing.

The KII data reveals that awareness of funding affects access to finance. It was found that

there is information asymmetry. The financial institutions know very little about the SMEs since the accounting system doesn't well used. This is such an asymmetric information that are actually concerned with the two players in the financial market. In this case, the borrowers know more about their business cases and the bankers may not know more about it.

To provide financial support for SMEs, Royal Government of Cambodia created a state-owned policy bank, which aspires to be consistent and has aligned itself with the strategic goals. As set out under the Cambodia Industrial Development Policy 2015-2025, the bank will provide better and affordable access to financing for SMEs in key priority sectors, including food manufacturing and processing, the manufacturing of local consumer goods, waste recycling, the production of goods for the tourism sector and making finished products, spare parts or assembling parts to supply other manufacturing, research and development associated with information and technology (IT), or the supply of IT-based services and enterprises located in SME cluster zones and enterprises developing a cluster zone.

SME Bank of Cambodia endeavours to provide four main value-added benefits to the SME community, such as better and more affordable access to financing, technical assistance to SMEs to enhance their productivity and efficiency, downstream business advisory support and facilitating access to regional markets. The SME Bank of Cambodia provides a wide range of SME loan products and services including an SME Co-Financing Scheme (SCFS) and Cambodia

SME Scheme (CSS). The SME Co-Financing Scheme of $100 million was distributed on April 1, 2020.

The study revealed that the financial institutions require more information to evaluate potential risks associated to SMEs. The financial market information is very broad for SMEs. So that SMEs can identify potentially financial institution, they require enough information. This will enhance the understanding of the potential risks associated with the SMEs that apply for accessing capital from financial institution. So that this data is also in line with Othieno, (2010).

SMEs are more sensitive to vacancies than larger business since there may be only one person filling a particular role and no one who can easily step in. For instant, in a ten-person enterprise, one vacancy can leave a business 10% short in terms of staffing. As the data from KII reveals that in all 14 respondents the owner is the only skilled labor which lead the firm success and growth. Even if it isn't a specialized position, the rest of the staff and often the owner will have to take on the added responsibilities, which hurts productivity.

Furthermore, labor issue is another challenge for SMEs. Cambodia's labor force grows by 22 per cent between 2005 and 2019 (ILO). An estimated 250,000 to 300,000 new young workers are entering the labour force each year, for whom decent employment opportunities need to be found. However, the domestic labor market still generates limited employment opportunities and relatively low wages, compared to opportunities that exist abroad. As a result, more Cambodians are considering leaving the country to find work abroad. There were an estimated 350,400 Cambodian migrants in 2019.

The labor shortage is a big issue for SMEs in Cambodia due labor migration and unskilled. Chheng et. al. (2019) demonstrates that 73.45% of labors that the age is in between 16 to 35 years old migrated to Thailand, Malaysia, Korea, and Japan. This is a huge challenge to the labor supply in Cambodia. The data reveals for KII that all enterprises interviewed show their difficulty to get labor force in Cambodia. Beside the ease of getting labor force, the getting good labor forces which is including working habit and working effort is very difficult, even the wage rate is higher than the market wage. Some case likes soy and fish sauce enterprise in Areyksat, Phnom Penh, is a family business. The workers in the enterprise are trained to accomplish their only one hour. Ans some other are appealing to workers based on workplace flexibility and a family-friendly culture, especially dried fish enterprise in Siem Reap.

The main issue for labor migration to abroad is working condition, and wage rate. The majority of Cambodians are employed in the informal economy, and according to the 2019 census only 17% of employed Cambodians were salaried employees. Salaried employment was significantly higher in the cities, at 52%, compared with 9% in rural areas. According to our KII, labor force who is working with SMEs, mostly paid by performance rather than salary. This is one of incentive for the labor to work productively. For Stuang dried fish firms, the waged workers receive 40,000 riels per day on average while the salary workers receive 25,000 riels per day.

For all workers in the target firms are trained by employer only, which causes them work with limited performance. The data also reveals that most employee is SMEs leaves school at grade 6 on average that causes them work with their own physical power only.

Another key factor for growing SMEs is technology updates. In general, SMEs are known for informal technological innovations and updates. That is, they carry out their innovations along with their day-to-day manufacturing operations within the same premises. However, the small enterprise in Cambodia cannot update technology to meet exported requirement, especially for rice mill in Banteay Mean Chey, and Kampong Thom. The data from KII is contrasting with Subrahmanya, Mathirajan, and Krishnaswamy (2009). Another case such cashew processing enterprise in Kampong Thom, and dried fish processing in Siem Reap, they cannot update the packaging technology since it is difficult to access to finance as mention above, and lack of technological awareness.

However, the case of moringa processing enterprises, soy and fish sauce enterprises in Phnom Penh, reveals that technological update helps them to growth their business especially technology for production as well as for packaging. This is in line with the Subrahmanya, Mathirajan, and Krishnaswamy (2009), and Roper (1997).

Osano et al. (2016) illustrate that SMEs need to use ICT to sustain businesses and to become more competitive and growth. That is consistency of the data from our observation, moringa enterprises in Phnom Penh, reveals that computerized accounting system and management help SMEs growing, especially increase competitiveness in the both local market and exported market.

Finally, it is interesting to find out the outcomes of innovation achievements of these SMEs. If innovative SMEs are able to convert their innovations into sales, they might be able to increase their sales turnover and increase capacity utilization or energy utilization or manpower utilization or improve inventory management or enter international market.

5. CONCLUSION

In conclusion, it has been observed that SMEs in Cambodia face the three main problem for growing including financial and capital assessment, labor, and technology. The key barrier for financial and capital assessment is limitation of collateral assets, and limited business profit. In addition, SMEs are discriminated by banks due to high risks in lending to them. To growth the SMEs in term of financial development, technical development and quality assurance should be done first and follow by market behavior change in order to reduce the risk of SMEs. Further work to do for SMEs is to build a resilience specific product association for growth together which is the key guarantee for financial and capital assessment.

The key barrier for labor force is low productive labor, working habits, and working efforts. Since the unskilled labor received lowest wage, the wage efficiency theory cannot be hold. In order to solve this problem, SMEs association should offer both pre-job training and on-the-job training especially along with the SME specific product association. Beside the recommended activity conducted by SMEs, the royal government of Cambodia, especially school of vocational training should go back to provide technical training rather than provide academic program. Vocational training should be encouraged, improved, and expanded. If these recommendations can be done, the efficient-wage effort will work in the SMEs sector.

Last but not least, the key barrier for technology are technological innovation and technological update. With the limitation of the market access, high rivalry in competitive market, and limitation of business supportive knowledge such as accounting system and business management, they cannot update the technology. So, to grow SMEs in term of technology, firstly SMEs should increase their profit earning by reducing rivalry and competition from imported products. Secondly, accounting system and accounting standard should be encouraged by using computerized system in order to improve business management for SMEs. These can help SMEs in technological innovation and updates. For the further research, the topic of "Role of SMEs bank in the development SMEs" may be considered.

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Journal of Accounting, Finance, Economics, and Social Sciences
Vol 5, No 2, July – December 2020, pp. 25-33
Received: Sep 2020 | Revised: Nov 2020 | Accepted: Dec 2020
DOI: https://doi.org/10.62458/jafess.160224.5(2)25-33

ASEAN's Dilemma: China and Its South China Sea's Stance

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ABSTRACT

This research paper attempts to analyze the ongoing territorial disputes between China and various ASEAN countries occurring in the South China Sea, and it highlights detrimental effects of these disputes on the political and military stability of the ASEAN region. The paper contends that China's military excursion into the southern part of the South China Sea, which occurred earlier this year, appears to be in symbiosis with its increased economic influence over the ASEAN region. Although numerous political and military threats have directly contributed to the creation of ASEAN, the unparalleled economic rise of China spanning the past four decades in general, and China's remodeling into the single largest trading partner of ASEAN over the past decade in particular, have presented ASEAN with both a unique security challenge as well as an inescapable economic dilemma: How to defend the regional bloc's territorial integrity without upsetting its strategic economic partner? The paper also indicates that China's assertive behavior with regard to the South China Sea territorial disputes will only intensify in the post-pandemic environment, emboldened by the enormous economic ties it has constructed with its Southeast Asian partners. Lastly, the paper argues that ASEAN's sole prospect of defending its territorial integrity in the South China Sea depends on the ability of its member states to find a unified stance over this issue. This, however, will not be feasible without seeking a deeper integration among ASEAN countries. The paper relies primarily on historical, comparative political, economic, and military analysis.

Keywords: ASEAN, China, South China Sea, Political stability, Economic influence, Territorial disputes.

1. INTRODUCTION

In April 2020, just when the ASEAN bloc was confronted by an unprecedented health challenge in the shape of a global pandemic, another crisis started looming hundreds of miles away from its shores in the southern part of the South China Sea.

A standoff, occurring between Chinese and Malaysian vessels in the South China Sea, was the latest development in a series of targeted harassments by Chinese vessels of drilling operations in five oil blocks off the Malaysian coast (Waran, 2020). This event coincided with a similar standoff between Chinese and Indonesian vessels taking place in the Natuna Regency, which was triggered by Chinese fishing activities inside Indonesia's exclusive economic zone (Westcott & Lendon, 2020).

Understandably, given the long history of territorial disputes in the contested waters of the South China Sea, such incidents are hardly surprising as they tend to occur rather periodically, especially in close proximity to the Paracel Islands and Spratly Islands. As a result, ASEAN countries such as Vietnam and the Philippines have become regular victims of China's maritime harassment.

However, the fact that these latest incidents took place off the coast of Borneo, in the southern point of the South China Sea – thus directly challenging the territorial integrity of Malaysia and Indonesia, and indirectly putting neighboring Brunei and Singapore on alert – represents a new and much more dangerous phase in the ongoing territorial disputes between China and various ASEAN countries. What is even more worrying is the fact that these maritime standoffs occurred at the height of the pandemic, when ASEAN countries' healthcare systems were overwhelmed by the sudden spread of the coronavirus.

It appears that these incidents were not random acts. Quite the contrary, they point to the fact that China's advertised intention and determination to claim the South China Sea is relentless. More broadly, its latest campaign comes at a time of increased hostilities happening on the Indian-Chinese borders, and coincides with yet another standoff with Japan over the status of the Senkaku Islands in the neighboring East China Sea.

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More specifically, China's ability to penetrate into the southern tip of the South China Sea does not only indicate the level of its overall military preparedness. It is also a reflection of its confidence, stemming from the economic realities sensed across the ASEAN region and beyond. The unparalleled economic rise of China spanning the past four decades in general, and China's remodeling into the single largest trading partner of ASEAN over the past decade in particular, underpins China's assertive behavior with respect to the South China Sea. Thus, a compelling argument can be made here that China's military excursion into the southern part of the South China Sea is in symbiosis with its increased economic influence over the ASEAN region.

It is therefore reasonable to expect that China's venturing into the contested waters of the South China Sea will only intensify in the post-pandemic environment, emboldened by the enormous economic ties it has constructed with its Southeast Asian partners. This situation presents the ASEAN region with both a unique security challenge as well as an inescapable economic dilemma: *How to defend the regional bloc's territorial integrity without upsetting its strategic economic partner?*

It seems that China's economic leverage over ASEAN is here to stay for the foreseeable future. The Forest City in Johor, Malaysia, and Sihanoukville in Cambodia – probably the most obvious symbols of such influence over ASEAN – are just the tip of the iceberg. Finding the right answer to the posed question will not be an easy task. Nonetheless, answering this question matters: For it is not only deeply associated with the very reason why this regional bloc was created a little over five decades ago, but because it also indicates how relevant ASEAN wishes to be in the twenty-first century's turbulent international politics. The purpose of this research paper is to understand how ASEAN's dilemma came about.

2. ASEAN

Given the history of ASEAN, various political, security and military challenges appear to be faithful companions of this organization. Born amid the turbulent times of the decolonization process, and shaped by the realities of the Cold War, The Association of Southeast Asian Nations (ASEAN) was established in 1967.

The founding member states – Indonesia, Malaysia, the Philippines, Singapore and Thailand – were at that time facing the same political and security problem that threatened the stability of their political systems – the spread of communism across Southeast Asia. It was this external security threat – posed by the nation-state actors – that became one of the key determinants of ASEAN's establishment. Although mutual international relations among ASEAN countries were often plagued by the existence of territorial disputes and constant suspicion, the expanding threat of communism forced them to find a common ground. Thus, a political and economic agreement was achieved in 1967 and ASEAN came into being. Containing communism became the overreaching goal of the organization and in this ASEAN succeeded (Sviatko, 2019).

Looking back at the turbulent times of the 1960s, an argument can be made that ASEAN's founding members simply rose to the occasion having recognized an historic opportunity brought about by the end of colonial rule.

Accordingly, with the end of the era of colonial control, Southeast Asians have, for the most part, been able to make their own decisions and determine to what extent they should rely on their own values and the lessons they have drawn from history (Osborne, 2016).

But ASEAN's successful establishment was also enabled by some other factors. Using its sea routes, trade has always been vital to the development of the region. And while military strategists tend to consider oceans and seas to be large geographical barriers – difficult to overcome – merchants look at them through very different lenses. The Strait of Malacca, the Sunda Strait and the South China Sea have been used as trade and shipping routes for centuries. From this perspective, seas do not divide. Quite the contrary: They bring geographically-dispersed communities a little closer. Consequently, ASEAN's establishment can also be interpreted as the continuation of an entrepreneurial culture which has always been a distinct hallmark of the region (Sviatko, 2019).

Being relentlessly anti-communist and loyal to its long-established and widely-practiced religious traditions, ASEAN benefited from an increased economic integration that gradually took off across Asia during the 1970s and 1980s, and, with the deepening cooperation among its member states, ASEAN has gradually begun delivering that kind prosperity and stability to its citizens that its African counterparts, who embarked on a postcolonial journey just about the same time, could only dream of. As a result, the

chance of a communist takeover of ASEAN countries was effectively eliminated.

With Mao Zedong's passing in 1976, China was suddenly presented with an opportunity to put its own house in order. Domestically, under the leadership of Deng Xiaoping, China embarked on a colossal economic transformation, which shook the ideological foundations of the People's Republic to the core, as the changes deviated from the doctrinaire principles postulated by the republic's founding father – Mao himself.

For Deng, the whole point of socialism was to increase people's living standards. His practice of communism was not of the utopian genre; for him, it was simply the practical means by which one could raise production levels and eliminate poverty. This was a long way from the utopian purity demanded by Mao (Pike, 2010).

Internationally, the transformation sent shockwaves across the region and beyond. China's domestic political and economic reforms initiated by Deng resulted in a thaw in international relations between ASEAN and China as a logical progression from the new political reality that has swept across the region. It seemed that those days when ASEAN's overall stability was threatened by the actions of a hostile nation-state were gone. And although the Cold War was still far from over, the security risks China once posed appeared to have been substantially reduced – at least from the perspective of ASEAN's founding members. The remaining asymmetric threats to ASEAN's security, such as piracy, drug trafficking and terrorism, were perceived as marginal, non-existential threats posed by non-state actors.

As China opened its gates to what became the largest consumer market to date, ASEAN became increasingly outward-looking – recognizing the immense opportunities offered by economic cooperation with a former enemy. Thus, on the one hand, significant structural shifts happened within ASEAN, which eventually led to ASEAN's northbound expansion with the incorporation of its new members: Vietnam, Laos, Myanmar and Cambodia. On the other hand, as ASEAN's economic ambitions gradually gained preeminence over its political concerns, a road was, inadvertently, paved for the emergence of those forces which first propelled China's economic rise and, eventually, imposed and expanded its economic influence over the ASEAN region.

3. A 'NEW' CHINA

Deng's economic reforms produced the desired outcomes. With a real GDP growth rate of almost 10 per cent per year throughout the 1980s, China emerged as the giant among the world's developing economies. By 1994, the value of output produced by the private sector accounted for 50 per cent of GDP compared to less than 20 per cent a decade earlier (Pike, 2010).

China's ability to rediscover the effectiveness of market forces, which had been erased from its economic memory after 1949, coupled with its means of attracting foreign direct investments (FDI), played key roles in China's economic transformation. On top of which, in a bid to secure the critical arrival of FDI, China became and remains an outward-looking nation – a dramatic departure from the narrative pursued by Mao.

As a result, it is estimated that in the period between 1990 and 2000, investments from Southeast Asia, dominated by the Chinese diaspora, were responsible for as much as USD 90 billion in FDI (Heydarian, 2015). In fact, it is estimated that the Chinese diaspora collectively contributed as much as 80 per cent of all FDIs in the country (Kurlantzick, 2007).

On the one hand, the continuing stream of foreign direct investments was one of the factors that enabled China's integration into the global economy. On the other hand, from a regional perspective, foreign direct investments deepened economic cooperation between ASEAN and China at the turn of the twenty-first century. However, as China's investments in ASEAN has begun outpacing those that came to China from this regional bloc, and with China becoming ASEAN's top trading partner a decade later, such economic cooperation entered a new stage. Thus, in little over three decades since its economic transformation began, China has been able to successfully reposition itself from being a recipient of foreign investments coming from various ASEAN countries into becoming a major investor in ASEAN. Understandably, such economic repositioning had significant political implications for ASEAN and beyond.

Internationally, China's rise to become an economic and political powerhouse in East Asia has transformed its relations with Southeast Asia. This has not only affected those countries which share a border with China – Laos, Myanmar and Vietnam – but the Southeast Asian region as a whole, as China has

increasingly made it clear that its interests cannot be ignored, not least because of its direct economic interaction with the region (Osborne, 2016).

While an argument can be made that there are some parallels between China's ascendancy and the post-war economic recovery of Germany and Japan, China's economic emergence still differs markedly from the two. Being fully aware of the new economic reality and its political implications for ASEAN-China relations at the start of the twenty-first century, Beijing has slowly begun sounding that kind of political rhetoric which bears a striking resemblance to the pre-1976 era. Moreover, the South China Sea has gradually become a frequent subject of such rhetorical declamations.

There are a variety of reasons why the South China Sea has become a focal point of the Chinese government. Firstly, controlling the many tiny islands is in part a matter of controlling the wealth assumed to lie beneath the sea in various forms: From unexploited minerals and oil and gas to the immense fisheries that exist in these waters. Secondly, for China, it is a matter of increasing the country's sense of security, by dominating the maritime approaches to its long coast, and securing sea lanes to the open Pacific. Thirdly, it is also a matter of overcoming historical grievances. And finally, it is about becoming a power that is at least on par with the US: A goal that Chinese leaders are themselves somewhat coy about, but which is now increasingly entering the public discourse (French, 2015).

4. THE SOUTH CHINA SEA

Strategically located in Southeast Asia, the South China Sea is an integral part of the Pacific Ocean. With the exception of Laos and Myanmar, which are landlocked countries, and Cambodia and Thailand, which are located in the vicinity of the Gulf of Thailand, the South China Sea washes the shores of the six remaining ASEAN members: Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Vietnam.

Roughly a third larger than the Mediterranean Sea – covering an area of about 3.5 km², the South China Sea has been home to various maritime trade routes for a very long period of time. And just as the Mediterranean Sea has been able to bind together various countries of diverse political cultures over the past centuries, the same can be stated about the South China Sea – primarily for its ability to link countries stretching from the Strait of Malacca to those located along the Strait of Taiwan. Moreover, if we continue to assess its north-south divide, then we can see that the South China Sea is connecting Indonesia – a country of seventeen thousand islands, located in its southern tip – with Taiwan and China, both positioned in its northern waters. It also connects the Philippines, which is located in its eastern part, with Singapore – a country located in its western cartographic tip. Owing to these briefly outlined geographical realities, the South China Sea binds China with the ASEAN region.

Also known for its abundant natural resources and a rich marine biodiversity, the warm sea has provided livelihood for its coastline communities since ancient times. Accordingly, various explorers or merchants of those times, as well as modern-day decision-makers have always attributed an immense strategic importance to its waters. Therein lies a potential for both international cooperation and military conflict. This, perhaps, also constitutes the reason why countries of this region are currently locked in ongoing territorial disputes concerning the South China Sea.

The current discord in the South China Sea has been a long time in the making – it has not erupted abruptly. In order to explain the historic origins of the current disputes, we will give a brief historical analysis.

The fact that Deng's cordiality was not offered to every nation of the region could already be seen in 1979, when China invaded neighboring Vietnam. The overreaching goal of this brief invasion was the Chinese effort to force Vietnam's withdrawal from Cambodia – a move, which according to China's calculation, would precipitate Pol Pot's return to power. However, China's land invasion in the northern part of Vietnam failed. As the Vietnamese forces were set to remain in Cambodia for another decade, with Pol Pot never being able to set foot in Phnom Penh again, this brief conflict signalled the start of intensified territorial disputes between the two countries in the South China Sea.

Throughout the 1970s and 1980s, China managed to expand its control across the South China Sea, primarily at the expense of Vietnam. When its goal to consolidate its control over the Paracel Islands was achieved in 1980, China made the decision to establish a permanent physical presence in the Spratly Islands in 1987 (Heydarian, 2015). This is where the origins of the current crisis can be traced to, as it is in the area of the Spratly Islands, where China started the construction of artificial islands in 2013 as part of its reclamation activities which escalated tensions

with ASEAN and negatively affected the marine biodiversity of the area.

It is also fair to note that it was not only China that asserted its claims in the disputed waters of the sea; various ASEAN countries made their own competing claims in the sea, too. Although ASEAN countries have frequently shown their ability to come together in times of common threats of a military nature, the bloc's stability has – from time to time – been rocked by its members' mutually opposing territorial claims over the South China Sea. This led, in 1992, to an agreement between the members of ASEAN to exercise restraint in their actions in the South China Sea (Hayton, 2014).

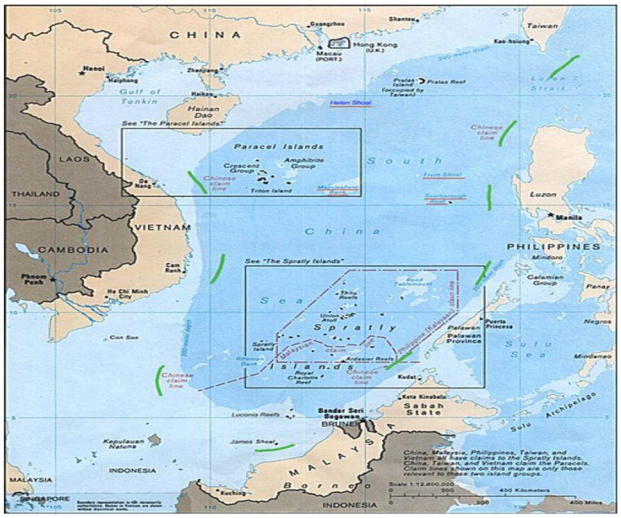
While this move significantly mitigated the potential for a possible military conflict between the ASEAN countries, reaching the same kind of agreement between ASEAN and China has so far proved elusive.

At the heart of the current discord between ASEAN and China is the latter's claim to roughly 80 per cent of the sea. To make its case, China's state officials have continuously referred to 'historic rights', contending that Chinese explorers and fishermen have roamed the waters of the South China Sea for centuries and that those activities provide a basis to claim all the land – and all the sea – within the 'U-shaped line' (Hayton, 2014).

A map seen on the following page indicates the so-called 'U-shaped line', also known as the 'Nine-dash line' – which covers an extensive area of the sea, stretching from Hainan to Borneo (Malaysia). It also incorporates the already mentioned Paracel and Spratly Islands, which have long been the subjects of maritime confrontation between China and Vietnam. China has also set the stage for a wider confrontation over the contested waters, involving other countries, such as the Philippines, Malaysia and Brunei.

China has not precisely articulated – in terms that would make it clear to diplomats or legal experts – what its 'Nine-dash line' means – leaving many to interpret the line as a maximalist claim to sovereignty and control over all the features, land, water, and seabed within the area bounded by the Nine-dash line (Tsibras, 2016).

It is precisely this lack of clear definition which continues to generate international tensions until today. As we will point out later, broader economic realities are set to play in China's favor and are poised to further strengthen China's claims in the area.



Source: The Diplomat

In order to further back its territorial claims with regard to the South China Sea, China refers to various geographical documents, such as maps used in the 1940s, which define the disputed area of the sea as China's. It is important to note here that when the Chinese current political system was born in 1949, most of ASEAN countries were at that time still administered as colonies. This fact, however, does not hamper China's determination to claim what it perceives as its legitimate territory.

What is also quite intriguing when we look back at the historic origins of this discord between ASEAN and China is that just about the time ASEAN launched its northbound expansion in the 1990s – offering its full membership to Vietnam, Laos, Myanmar and Cambodia – China moved in the opposite direction by shifting the focus of its maritime attentiveness south of Hainan province, which had long been considered as China's main gateway to the South China Sea.

Up until January 1995, Chinese expansion in the South China Sea had only really affected Vietnam. The features China had seized were all either in the Paracels or along the western side of the Spratlys, far from the other claimants. But by taking Mischief Reef on the eastern side, China had, for the first time, encroached into waters claimed by other members of ASEAN. After the Chinese move, not just the Philippines but Malaysia, Brunei and Indonesia all felt directly threatened. In April 1995, at the first ever ASEAN-China Forum, which might have been the obvious place to discuss the matter, Beijing simply refused to have it on the agenda (Hayton, 2014).

Shortly afterwards, economic realities began contributing to the complexity of the issue, further aggravating the problem for ASEAN. Significantly

weakened by the Asian financial crisis of 1997-98, ASEAN countries shifted their focus to planning their economic recoveries. As a result, China managed to keep its economic momentum going and further strengthen its hand in the South China Sea – achieving its broader objectives.

Then, as China became ASEAN's largest trading partner in 2009 (Frohlich & Loewen, 2017), ASEAN's dilemma was fully exposed. With China becoming a prime market for ASEAN's products, decision-makers in the ASEAN countries' capitals would have to ask some sensitive questions. Will China continue buying ASEAN products if the export-dependent ASEAN decides to adopt a tougher stance in the South China Sea? Will Chinese visitors go to see the tourism-dependent ASEAN countries if ASEAN comes with a unified stance over the South China Sea dispute? It is important to bear in mind that it would not be the first time for China to use outbound tourism, with its formidable force of 129 million Chinese tourists making overseas trips in 2017 alone, as a coercive tool with few effective countermeasures (Coca, 2018).

There are no easy answers to these questions. Especially as China's additional economic programs, such as Regional Comprehensive Economic Partnership (RCEP), and the Belt and Road Initiative (BRI) – literally encompassing all the ASEAN countries – are poised to further shift the balance of power in its favor. For example, China's investment and construction contracts associated with the BRI projects in ASEAN accounted for USD 38.2 billion in 2017 alone, significantly outpacing China's investments in the United States (The Business Times, 2019). Understandably, China's growing confidence that this brings is being reflected elsewhere – including the disputed waters of the South China Sea.

While showing a complete disregard for international law, China's ongoing reclamation activities, particularly in the construction of artificial islands, and the subsequent militarization of these islands in the area of the Spratly Islands has contributed to fast-changing geopolitical realities. When it comes to projecting its power into the southern part of the sea, China does not have to rely exclusively on its military bases located in Hainan. The successful completion of the artificial islands has provided China with new options: Its military activities can be planned, launched and sustained from the man-made islands deliberately constructed at the heart of the South China Sea. The last time this region witnessed such rapid change was when the maritime operations of the Imperial Japanese Navy set off World War II in the Asia-Pacific

5. CONCLUSION

In order to summarize the outlined development, a compelling argument can be made: China's military excursions into the South China Sea appear to be in symbiosis with its increased economic influence over the ASEAN region. Its latest drives into the southern part of the South China Sea, causing discomfort in Indonesia, Brunei, Malaysia and Singapore, demonstrate that these are part of a wider military strategy designed to forcefully claim the contested waters of the region.

China's assertive behavior with respect to the South China Sea is underpinned by a mixture of historical grievances, sense of territorial entitlement, and national pride stemming from its rising political and economic power. Its self-assured behavior in the region coincides with the ongoing US-China trade war, which as of July 2020 is far from over. It also coincides with the fatal skirmishes that occurred in June 2020 on the border between India and China. Finally, China's tightening control over Hong Kong, its recurring threats against Taiwan, as well as its recent economic tensions with Australia complete a dismal geopolitical picture that is emerging in the region. Having recognized the ASEAN's current dilemma, other regional players, Australia in particular, are increasingly opposed to the idea of forging closer economic ties with China at the expense of its political security or at the expense of sacrificing its political values.

Looking ahead, ASEAN will find it difficult to navigate its international relations with China, considering the enormous economic connectivity that has developed between the two over the previous decades. While it is very difficult to estimate the impact of the ongoing pandemic on China's economy at this moment, it appears that its determination to claim the South China Sea remains intact.

As the regional bloc's efforts to reach consensus with China over the issue have so far proved fruitless, ASEAN's hope of defending its territorial integrity in the South China Sea depends on the ability of its member states to find a unified stance over this issue. This, however, will not be feasible without seeking a deeper integration among its member states. Given the enormous economic disparities among its member states, and the fact that for some poorer ASEAN countries, China has become 'a creditor of

first resort' – ASEAN faces significant headwinds in this area, too.

Lastly, we would like to point to the fact that while China largely played by those rules set by the international community when it came to building its economic ties with the outside world after 1976 – effectively moving China's status from a low-income country to becoming a high-income one – it has shown a complete disregard for international law when it comes to its maritime disputes in the South China Sea.

Thus, questions can be raised as to what China's intentions were really like back in the late 1970s, given the fact that Deng Xiaoping never undertook a complete overhaul of the Chinese political system. Although sweeping economic changes occurred within China's economic system – allowing China to rise to where it is now – opening its political system to slightly more democratic principles has never taken place, neither under the watchful eye of Deng Xiaoping nor under the leadership of China's succeeding leaders.

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Journal of Accounting, Finance, Economics, and Social Sciences
Vol 5, No 2, July – December 2020, pp. 34-48
Received: Sep 2020 | Revised: Nov 2020 | Accepted: Dec 2020
DOI: https://doi.org/10.62458/jafess.160224.5(2)34-48

Factors Determining the Performance of Rural Microenterprises in Cambodia – A Micro Level Study

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ABSTRACT

It is widely known that the performance of microenterprises is influenced by several socio-cultural and demographic factors and attitudes of the entrepreneurs, including management capability, marketing factors, the firm and the business environment. Considering this, the study attempts to examine the extent to which the management functions, marketing factors and personal characteristics of the entrepreneurs influence the performance of the rural microenterprises in Cambodia. The empirical results of the study show that the performance of the microenterprises in terms of sales and profits was dependent on the planning, organizing, directing and controlling functions of the management. It is also revealed that the sales and profits of the enterprises were highly dependent on the marketing factors such as the quality of the product as well as promotion. The result further shows a high positive association between the personal characteristics of the entrepreneurs such as the age of the entrepreneur when the business started, and the sales as well as the profits of the microenterprises. The implication of the study is that the owners and managers of microenterprises should give importance to the factors determining the performance of their enterprises and develop suitable strategies to compete in the market.

Keywords: Entrepreneur, microenterprise, management functions, marketing factors, personal characteristics, performance.

1. INTRODUCTION

Rural entrepreneurship has been accepted as the central force of economic growth and development of economies. It occurs in economically and socially depressed areas with inadequate infrastructure, economic stagnation, low levels of education, less skilled workers, low income, and a culture not supportive of entrepreneurship (Kulawezuk,1998). Fostering entrepreneurship is a crucial factor in energizing the economy (Petrin and Gannon, 1997) in impoverished rural regions because it creates wealth and employment, and has a profound impact on the quality of the livelihood of rural populations (FAO, 1997). Entrepreneurship is more beneficial for women in rural areas as it enables them to add to their family income while taking care of their farm, home and livestock centered tasks (Sidhu and Kaur, 2006).

Microenterprise programs have the ability to reach the low-income and disadvantaged populations effectively by raising income and asset levels among the poor (Litzenberg, 1999). Though the business of microenterprises tends to be very small, often employing only a single operator, and faces a number of challenges in different countries around the world, its contribution towards socio-economic development is widely recognized. Microenterprises play an important role in terms of creating jobs, alleviating poverty, and supplying essential goods and services required by people to maintain an adequate standard of living. Recently, it has been observed that the traditional approaches to employment have failed to a large extent to keep pace with the growing demand for employment and as a result, people are looking for alternative viable opportunities, and in particular off-farm livelihood opportunities. Thus, in many developing countries across the globe, the growth of microenterprises provides the most vibrant economic activities.

Although the primary rationale to boost microenterprises in the rural areas of the developing world is to reduce poverty, the propensity to become an entrepreneur is influenced by several socio-cultural and demographic variables and attitudes. The performance of rural enterprise is often highly correlated with several entrepreneurial characteristics, managerial processes and effective

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support systems – the three dimensions deem to collectively determine business success (Kanungo, 1998). Successful entrepreneurs and their firms seem to come in different shapes and sizes, but they appear to share some common characteristics related to their personal qualities and the integrated management of the firm in the context of a dynamic and competitive business environment (Edralin, 1998).

Various studies in different countries present a number of factors such as entrepreneurial and enterprise characteristics, management functions, marketing factors, technological capability, access to business information and finance along with government policies, etc. as the determinants of the performance of microenterprises. However, despite the presence of several studies on the performance of microenterprises, literature has paid little attention to the factors that influence the performance of rural microenterprises in the least developed countries. In addition, little is known about the factors that determine the performance of rural microenterprises in the fastest-growing economies in the world. Moreover, from policy perspective and strategies, both at macro and micro levels, research toward understanding the extent to which different factors influence the performance of microenterprises assumes significance. Thus, to address these gaps, this study examines the association between the factors of management functions (planning, organizing, directing and controlling), marketing factors (location, quality of the product, price and promotion) and the personal characteristics of the entrepreneurs (e.g. age when the business started, gender, educational attainment and birth order) along with the performance of the rural microenterprises in Cambodia.

The paper is structured as follows: in section two, the literature review is presented; in section three and four, the hypotheses and methodology adopted in the study are given respectively; section five discusses the results and finally, the last section provides the concluding remarks.

2. LITERATURE REVIEW

Literature dealing with the reasons for the growth of small firms can be viewed from two schools of thought (Papadaki and Chami, 2002): first, organizational life cycle perspective, which views growth as a natural phenomenon in the evolution of the firm and second, growth as a consequence of strategic choice. From both viewpoints, the characteristics of entrepreneurs, enterprise resources and environmental opportunities are crucial in expanding the business of the firm. Based on several theories, Papadaki and Chami (2002) categorized the factors of business growth into three categories: a) owner-manager characteristics, b) business practice characteristics, and c) firm characteristics. The owner-manager characteristics consider entrepreneurial attitudes which include general background (gender, age, immigration status, education), growth motivation (active risk taking, desire for independence, pushed by unemployment, "life-style" business: currently employed in another business), and management know-how (family who owned a business, industry specific know-how: prior paid employment experience in business, general business management: previous ownership, use of advisors, partnerships). The business practice characteristics indicate the way in which the owner operates the business such as the delegation of day-to-day operations, innovation, technology adoption: adoption of e-commerce enabling technology, market orientation and sources of finance; and the firm characteristics include variables such as the firm's age, size, legal form, industry/sector and geographical location.

Empirical studies show that the factors influencing the performance of microenterprises are different. Honig (1998) identified several social and individual attributes that strengthen microenterprises in addition to the social capital as operationalized by frequent church attendance and the marital status of the owner as well as social networks that play important roles in the success of informal microenterprises. A conceptual model of relationships between gender, social capital configuration, collaborative exchange of the micro entrepreneur and microenterprise performance was presented by Tata and Prasad (2008), in which the model proposes the configuration of micro entrepreneurs' social capital through three attributes: network diversity, network size and relationship strength. These three attributes influence the actions taken by micro-entrepreneurs to utilize their social capital and gain information and resources, which in turn influence their microenterprises' performance.

Using the National Household Survey 2002-03 data collected by the Uganda Bureau of Statistics, Okurut (2008) shows that while microenterprises' returns are positively and significantly influenced by several

factors like the level of education, experience and business assets, they are negatively influenced when female-owned and rural-based. As such, it is suggested that both the Universal Primary Education and Universal Secondary Education are steps to improve the level of education, especially that of women, for the better performance of microenterprises. Contrary to this result, Masakure et al. (2008) in Ghana show that while a firm's characteristics, including its urban and regional location, significantly affects the incidence and intensity of improved performance, the entrepreneurial characteristics are considered to be unimportant. However, in a different study (Karel et al. 2013), the key factors influencing the profitability of the Polish rural food processing microenterprises were related to their owner/manager (his/her age and risk-taking) and enterprise characteristics (location, size, ICT advancements and certificates for products). In Ethiopia, Loening et al. (2008) find that the fluctuations in predicted crop performance, localized nature of sales and limited market integration affect the performance of nonfarm enterprises. Likewise, in another study, Masakure et al. (2009) reveal that the interaction between microenterprises, sectors, and market factors influence enterprise performance. In the investigation of the management factors affecting the performance of enterprises in Kenya, Njanja et al. (2010) show that the critical management factors of the different categories of enterprises differ between micro, small and medium enterprises. According to Sinha and Sen (2011), only three factors: the age of the enterprise, human capital inputs, and the management capability influence the performance of microenterprises as revealed from the study in the state of Jharkhand, India. By comparing the performance of the microenterprises of two different geographic locations in Nepal, Pukar (2012) reveals that the disparity in business performance is the result of the differences in the socio-economic and market conditions between the locations. Welsh et al. (2013) show that key management practices, marketing capability and technological capability have a positive impact on performance that is indicated by sales, net profit, and growth of microenterprises in Changchun, an industrial city in Northeast China. Similar to this, Nabintu (2013) reveals that in the case of small and microenterprise traders at city park hawkers' market in Nairobi County, Kenya, access to business information services along with finance affects the performance of businesses to a great extent. In addition, technology also affects the businesses by facilitating communication with both the supplier and customers by easing transportation and marketing of the products. Similarly, in a study on the registered business operators of cereals, fruits, beverages, vegetables and poultry in the Limuru Town Market of the Kiambu county Kenya, Kamunge et al. (2014) by considering 274 microenterprises and using multivariate regression analysis reveal that access to finance and management experience are the key factors affecting the performance of micro and small enterprises. The other factors that affect the performance of enterprises positively are access to business information, government policy and regulation, and access to infrastructure.

Like some of the previous studies, in Argentina, Berrone et al. (2014) consider individual characteristics (human capital, motivation and gender), socio-organizational characteristics (familyties, degree of innovation and own capital), structural characteristics (informality and location) and the role of public policies (condition of being unemployed and institutional support) as the factors determining the performance of microenterprises. In order to test the nine hypotheses to know the impact of the different determinants on the microenterprise's performance, the multiple linear regression model was used. In addition, to test one more hypothesis (the impact of employment status on the likelihood of receiving public funding), a logit model was applied. The study reveals that human capital (proxied by their educational level and degree of dedication), innovation and intensity of use of own capital are important determinants of the performance of microenterprises. Based on the data collected from 501 randomly selected micro-entrepreneurs in Nepal, Thapa (2015) shows that factors relating to both the entrepreneur and enterprise, including the environment influence the performance of microenterprises. In specific, the entrepreneur-related factors such as gender, managerial skills, need for achievement, need for autonomy, creative tendency, internal locus of control and managerial foresight; enterprise-related factors, particularly enterprise age, enterprise size and initial financial constraint; as well as environment- related factors such as social network were found as the key factors influencing the performance of microenterprises in the study area. Similarly, based on the data collected from 253 microenterprises in Selangor area, Malaysia, Alom et al. (2016) find that a certain number of entrepreneurial and enterprise characteristics, along with other economic factors, affect the overall performance of microenterprises. While the age of

the entrepreneurs, education, business training, demand for the product/service, availability of physical space for business expansion in the city area, availability of finance and sufficiency of the secured amount of finance pose positive impacts on growth, factors such as competition and the age of the enterprises negatively affect overall performance of the microenterprises. In Cambodia, Dash and Houy (2016) made an attempt to study the effect of firm characteristics and entrepreneurial profile on the performance of micro and small enterprises (MSEs). In order to determine the relationship between the characteristics of MSEs (age of enterprise, number of current employees, form of enterprise, location of enterprise, sector of enterprise, level of technological advancement and enterprise business plan) and the entrepreneurial profile (age, gender, marital status, educational level, prior experience and family background of the enterprise owner) along with the performance of MSEs, 60 registered MSEs in Svay Rieng province were taken for the study. By using regression analysis, the empirical results showed that four firm characteristics such as the location, sector, level of technological advancement and enterprise business plan and four factors of the entrepreneurial profile such which are the educational level, past experience, family background and age of enterprise owner had significantly affected the performance of MSEs. In a recent study in the Malwa region of Madhya Pradesh State in India, by using factor analysis, Chouksey (2018) reveals that the local business environment, high cost of inputs, management skills, lack of resources and marketing issues are key influencers of the performance of microenterprises. Similarly, Rankhumise and Letsoalo (2019) in their qualitative study considering South African and Chinese enterprises, reveal that access to capital, managerial skills, government support, planning, access to market and financial training interventions are crucial for the viability and success of small, medium and micro enterprises. In contrast to the several earlier studies, by surveying 100 women-owned micro-businesses in Kelantan, Malaysia, and through multiple regression analysis, Ramli and Razali (2019) conclude that while the internal factors such as entrepreneurial traits and managerial skills highly influenced the performance of the microenterprises, there was no impact from the external factors (access to finance, information technology, marketing and availability of infrastructure) on the performance of the microenterprises.

As revealed from the review of literature, a number of factors influence the performance of microenterprises in different countries around the world. In this study, we intend to understand the association of management functions, marketing factors and personal characteristics of the entrepreneurs with the performance of the rural microenterprises in Cambodia.

3. HYPOTHESES

The study intends to test the following null hypotheses:

- There is no significant association between the management functions (planning, organizing, directing and controlling) and the performance of the microenterprises in the study area.
- There is no significant association between the marketing factors (location, quality of the product, price and promotion) and the performance of the selected microenterprises.
- There is no significant relationship between the personal characteristics of the entrepreneur (age when the business started, gender, educational attainment and birth order) and the performance of microenterprises in the study area.

4. METHODOLOGY

The Kingdom of Cambodia is located in Southeast Asia, bordering Thailand, Vietnam, Lao PDR and the Gulf of Thailand. Presently, the country has 25 provinces including its capital city of Phnom Penh. For the purpose of this study, among the 25 provinces, Takeo province was purposively selected due to its proximity to the capital. Further, among the 10 districts of Takeo province, one district, i.e., Bati district was selected randomly to carry out the study. As per the official statistics of the Royal Government of Cambodia, in total, the province has 181 registered enterprises comprising of micro, small, medium and large, of which 135 (74.6 per cent) are microenterprises. The Bati district has 24 microenterprises which are involved in both farming and nonfarming business activities such as rice milling, ice manufacturing, water purifying, motorbike and car repairing, garments selling, etc. Although it was proposed to take all the 24 microenterprises involved in various business activities in the district, the primary data were collected from the accessible 22 microenterprises (91.7 per cent) with the help of a structured questionnaire through the direct personal

interview method. Further, relevant secondary data were gathered from different years of the Statistical Yearbook of Cambodia published by the National Institute of Statistics, Ministry of Planning, Royal Government of Cambodia.

The scope of our study is limited to examining the association between management functions (planning, organizing, directing and controlling), marketing factors (location of the enterprise, quality of the product, price of the product and promotion) and the personal characteristics of the entrepreneurs (e.g. age of the entrepreneur when the business started, gender, educational attainment and birth order in the family) along with the performance of the microenterprises in the study area. We consider sales, expenses and profits of the microenterprises as the indicators of their performance. In order to determine the level of association between the management functions and marketing factors with the performance of microenterprises, the Gamma (γ) measure of association is used, which is as follows:

$$\gamma = \frac{(N_s - N_d)}{(N_s + N_d)}$$

Where,

N = Number of same order pairs

N = Number of inverse order pairs

Further, to determine the level of association between the personal characteristics of the entrepreneurs with the performance of the microenterprises, the Lambda (λ) measure of association is used, which is expressed as:

$$\lambda = \frac{(E_1 - E_2)}{E_1}$$

Where,

$E_1 = N_{\text{total}} - N_{\text{mode of dependent variable}}$

$E_2 = \Sigma\,(N_{\text{category}} - N_{\text{mode of category}})$ for all categories

5. EMPIRICAL RESULTS

5.1 Management functions and the performance of the microenterprises

Planning is the foremost function of management and its absence would result in all business activities of organizations becoming meaningless. The importance of planning has increased according to the increasing size of organisations and their complexities. In addition, planning has gained even more importance due to uncertainty and the changing business environment. Thus, entrepreneurial success depends upon careful planning. The entrepreneur being a careful planner and organizer sets what are to be accomplished and meticulously assesses how the present accomplishment can contribute to the achievement of long-term goals of the enterprise. Therefore, planning to a great extent influences the performance of microenterprises in terms of enhancing sales, reducing expenses and increasing profits. Data relating to the planning function and performance of the microenterprises are presented in Table 1.

Table 1: Planning Function and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Effective Planning	1 (25.0)	3 (75.0)	0 (0.0)	4 (100.0)	0 (0.0)	4 (100.0)	0 (0.0)	4 (100.0)	1 (25.0)	3 (75.0)	0 (0.0)	4 (100.0)
Well Planning	7 (100.0)	0 (0.0)	0 (0.0)	7 (100.0)	1 (14.3)	6 (85.7)	0 (0.0)	7 (100.0)	5 (71.4)	2 (28.6)	0 (0.0)	7 (100.0)
Ineffective Planning	0 (0.0)	6 (100.0)	0 (0.0)	6 (100.0)	2 (33.3)	4 (66.7)	0 (0.0)	6 (100.0)	0 (0.0)	0 (0.0)	6 (100.0)	6 (100.0)
No Planning	0 (0.0)	4 (80.0)	1 (20.0)	5 (100.0)	1 (20.0)	4 (80.0)	0 (0.0)	5 (100.0)	0 (0.0)	1 (20.0)	4 (80.0)	5 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	0.644				-0.407				0.698			
Significance Level	0.003				0.240				0.000			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

It is observed that among the 22 microenterprises, while 17 of them (77.3 per cent) had carried out planning activities, the remaining five microenterprises (22.7 per cent) had no plans before implementing their activities. Among the enterprises carrying out the planning activities, none of them had low level of sales, and while 47 per cent had high level of sales, the remaining 53 per cent had a medium level of sales. In contrast, among the enterprises without plans, none of them had experienced high sales. The Gamma (γ) measure shows a coefficient of 0.644, indicating a high positive association between planning and sales. The level of significance 0.003 leads to the rejection of the null hypothesis, "there is no significant association between the planning function and the sales of the microenterprises in the study area."

With regard to the expenses, among the microenterprises carrying out the planning activities,

only 17.6 per cent had incurred high level of expenses, whereas 82.4 per cent had medium level of expenses. Among the microenterprises who did not carry out the planning activities, 80 per cent had experienced medium expenses with only 20 per cent who had high expenses. The Gamma (γ) test shows a coefficient of -0.407, indicating a moderate negative association between planning and expenses. The level of significance 0.240 leads to the acceptance of the null hypothesis, "there is no significant association between the planning function and the expenses of the selected microenterprises."

Regarding the association between planning and the level of profit, it is revealed that 35.3 per cent had high profits and 29.4 per cent had a medium level of profit amongst the enterprises who had carried out planning activities. Among the enterprises without planning activities, 80 per cent had low profits. The Gamma (γ) measure shows a coefficient of 0.698, indicating a high positive association between planning and profits. Further, the level of significance 0.000 leads to the rejection of null hypothesis, "there is no significant association between the planning function and the profits of the microenterprises in the study area."

Thus, the empirical evidence shows that the performance of the microenterprises in terms of sales and profits was associated with the planning function of the management, whereas the relationship between the expenses of the microenterprises and planning was found to be moderately negative.

Organizing is a function of management in which the synchronization and combination of human, physical and financial resources take place. These three resources are considered to be important in obtaining results. Organizing therefore is vital for businesses to thrive in the long term. Along with establishing a sense of structure and order, an organized work environment promotes team spirit. Thus, organizational function helps in the achievement of results which in fact is important for the functioning of an enterprise. The way microenterprises organize their activities lead to their performance. As is generally presumed, a higher level of organizing skills results in the better performance of organizations and thereby, raises revenue and profit. Data relating to the organizing function and performance of the selected microenterprises are presented in Table 2.

Table 2: Organizing Function and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Professionally organized	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
Well organized	3 (100.0)	0 (0.0)	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	3 (100.0)	0 (0.0)	0 (0.0)	3 (100.0)
Average organizing	4 (30.8)	9 (69.2)	0 (0.0)	13 (100.0)	3 (23.1)	10 (76.9)	0 (0.0)	13 (100.0)	2 (15.4)	5 (38.5)	6 (46.1)	13 (100.0)
Unorganized	0 (0.0)	4 (80.0)	1 (20.0)	5 (100.0)	1 (20.0)	4 (80.0)	0 (0.0)	5 (100.0)	0 (0.0)	1 (20.0)	4 (80.0)	5 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	1.000				-0.368				0.880			
Significance Level	0.000				0.395				0.000			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

Among the study microenterprises, 22.7 per cent were unorganized, 59.1 per cent were average organized, 13.6 per cent were well organized and only one enterprise (4.5 per cent) was professionally organized. The professionally and well-organized enterprises had higher sales. Among the average organized enterprises, while 30.8 per cent had experienced high sales, the remaining 69.2 per cent had medium level of sales. Among the unorganized enterprises, while 80 per cent had medium level of sales, the rest 20 per cent had low sales. The Gamma (γ) measure shows a coefficient of 1.000 indicating a perfect positive association between the organizing function and sales. The level of significance 0.000 leads to the rejection of the null hypothesis, "there is no significant association between the organizing function and the sales of the microenterprises in the study area."

Considering the expenses of the selected microenterprises, the lone professionally organized microenterprise and all the well-organized microenterprises had incurred medium expenses. Among the average organized microenterprises, while 76.9 per cent had fallen in the medium expense category, the remaining 23.1 per cent had experienced higher expense of their business. In case of the unorganized enterprises, a majority of 80 per cent had incurred medium expense and only 20 per cent had incurred high expense. The Gamma (γ) test shows a coefficient of-0.368, indicating a low negative association between the organizing function and the level of expense. The level of significance 0.395 leads to the acceptance of the null hypothesis, "there is no significant association between the organizing function and the expense of the microenterprises in the study area."

With regard to the profits of the enterprises, none of the unorganized microenterprises had enjoyed higher

level of profits, rather a majority of them (80 per cent) had low level of profits. The single professionally organized microenterprise and all the well-organized microenterprises enjoyed high level of profits. Among the average organized microenterprises, while 15.4 per cent had high profits, the remaining 38.5 per cent and 46.1 per cent microenterprises had medium and low levels of profits respectively. The Gamma (γ) measure shows a coefficient of 0.880, indicating a high positive association between the organizing function and profits of the microenterprises. The level of significance 0.000 leads to the rejection of the null hypothesis, "there is no significant association between the organizing function and the profits of the microenterprises in the study area."

Thus, it is seen empirically that the performance of the microenterprises in terms of sales and profits was associated with the organizing function of management, whereas the relationship between the expenses of the microenterprises and organizing function was found to be low negative.

Directing is considered as the heart of the management process and is the central point around which goals are accomplished. It is through direction that the operation of an enterprise actually begins. Thus, it is evident that direction initiates action in an organization. Besides an action to start, directing coordinates the employees, motivates them to do their tasks rightly and helps in bringing changes in the organizational structure. Therefore, in addition to planning and organizing, directing plays an important role for the achievement of the goals by the enterprises. It is widely believed that an effectively directed enterprise ensures a good amount of success by carrying out desired activities. Data relating to the directing function and performance of the selected microenterprises are presented in Table 3.

Table 3: Directing Function and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Effective directing	3 (75.0)	1 (25.0)	0 (0.0)	4 (100.0)	0 (0.0)	4 (100.0)	0 (0.0)	4 (100.0)	3 (75.0)	1 (25.0)	0 (0.0)	4 (100.0)
Well directing	5 (62.5)	3 (37.5)	0 (0.0)	8 (100.0)	2 (25.0)	6 (75.0)	0 (0.0)	8 (100.0)	3 (37.5)	4 (50.0)	1 (12.5)	8 (100.0)
Ineffective directing	0 (0.0)	9 (90.0)	1 (10.0)	10 (100.0)	2 (20.0)	8 (80.0)	0 (0.0)	10 (100.0)	0 (0.0)	1 (10.0)	9 (90.0)	10 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	0.898				-0.273				0.936			
Significance Level	0.000				0.506				0.000			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

Among the 22 selected microenterprises, only 12 enterprises (54.5 per cent) had effectively and well directed their units, whereas the remaining 45.5 per cent enterprises were found to be ineffectively directing their enterprises. Among the effectively and well directed enterprises, none of them were found to have low level of sales and while 66.7 per cent had higher sales, the remaining 33.3 per cent had medium level of sales. In contrast, among the ineffectively directed microenterprises, 90 per cent had medium level of sales and 10 per cent had low level of sales. Thus, it is observed that the effective and well directed enterprises had enjoyed a higher level of sales as compared to the ineffectively directed enterprises. The Gamma (γ) measure shows a coefficient of 0.898, indicating a high positive association between direction and sales. The level of significance 0.000 leads to the rejection of the null hypothesis, "there is no significant association between the directing function and the sales of the microenterprises in the study area."

Considering the expense of the enterprises, among the effectively directed microenterprises, none of them had incurred higher expenses. However, only 25 per cent of the well-directed enterprises had incurred a higher level of expenses. As revealed, all of the effectively directed microenterprises and 75 per cent of the well-directed enterprises had incurred medium expenses. In the case of the ineffectively directed enterprises, although none of them were found in the low level of expense category, a majority, i.e., 80 per cent had incurred medium level expenses. The Gamma (γ) test shows a coefficient of -0.273, indicating a low negative association between the directing function and level of expense of the enterprises. The level of significance 0.506 leads to the acceptance of the null hypothesis, "there is no significant association between the directing function and the expense of the microenterprises in the study area."

With regard to the level of profit, it is observed that none of the ineffectively directed enterprises had enjoyed higher level of profits; rather 90 per cent of them had earned a lower level of profit. Among the effectively directed microenterprises, while none were found to have low profits, the majority, i.e., 75 per cent had enjoyed higher profits. In case of the well-directed enterprises, 50 per cent had experienced medium level of profits. The Gamma (γ) test shows a coefficient of 0.936, indicating a high positive association between direction and the level of profits of the enterprises. The level of significance 0.000

leads to the rejection of the null hypothesis, "there is no significant association between the directing function and the profits of the microenterprises in the study area."

Based on the above empirical evidence, it is concluded that the performance of the microenterprises in terms of sales and profits was associated with the directing function of the management, although a low negative association had been revealed between the expenses and directing function of the microenterprises under the study.

Controlling is the last function of the management process and its importance becomes apparent as it is needed in all of the functions of management. The success of an organization hinges on effective controlling as it checks mistakes and guides on how new challenges could be met. Thus, the controlling process determines whether plans are being adhered to; whether progress is being made toward the attainment of organizational goals and objectives, while it involves taking counteractive measures in case of deviations. Therefore, through the controlling function, enterprises measure their businesses performance as per the required manner. Data relating to the controlling function and performance of the selected microenterprises are presented in Table 4.

Table 4: Controlling Function and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Effective controlling	3 (100.0)	0 (0.0)	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	3 (100.0)	0 (0.0)	0 (0.0)	3 (100.0)
Well controlling	5 (50.0)	5 (50.0)	0 (0.0)	10 (100.0)	2 (20.0)	8 (80.0)	0 (0.0)	10 (100.0)	3 (30.0)	5 (50.0)	2 (20.0)	10 (100.0)
Ineffective controlling	0 (0.0)	8 (88.9)	1 (11.1)	9 (100.0)	2 (22.2)	7 (77.8)	0 (0.0)	9 (100.0)	0 (0.0)	1 (11.1)	8 (88.9)	9 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	1.000				-0.333				0.966			
Significance Level	0.000				0.452				0.000			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

It is revealed from the data that among the surveyed microenterprises, while only three enterprises (13.6 per cent) had effectively controlled their units, 41 per cent of the enterprises did not effectively control their activities. However, another 45.5 per cent of the enterprises were found to be practicing the controlling function in a well manner. Among the effectively controlled enterprises, all of them had experienced a higher level of sales. In contrast, among the ineffective controlled enterprises, while none of them were found to have higher sales, a majority (88.9 per cent) had medium sales. In case of the well-controlled microenterprises, equal percentages had fallen in the high and medium sales categories with none being found in the low sale category. The Gamma (γ) measure shows a coefficient of 1.000, indicating a perfect positive association between the controlling function and sales of the microenterprises. The level of significance 0.000 leads to the rejection of the null hypothesis, "there is no significant association between the controlling function and the sales of the microenterprises in the study area."

With regard to the expenses, among the effectively controlled microenterprises, while none had experience of higher expense, for the ineffective controlled enterprises, none had incurred lower expense. For the well-controlled enterprises, only 20 per cent had higher expense and the remaining enterprises had fallen in the medium expense category. The Gamma (γ) test shows a coefficient of -0.333, indicating a low negative association between the controlling function and the level of expense of the enterprises. The level of significance 0.452 leads to the acceptance of the null hypothesis, "there is no significant association between the controlling function and the expense of the microenterprises in the study area."

As far as the level of profit of the microenterprises is concerned, it is revealed that none of the ineffective controlled microenterprises had enjoyed higher level of profits; rather, 88.9 per cent had lower level of profits. In contrast, it was found that all the effective controlled microenterprises had enjoyed a higher level of profits. As observed, while 50 per cent of the well-controlled enterprises had medium profits, the remaining 30 and 20 per cents had experienced high and low level of profits respectively. The Gamma (γ) measure shows a coefficient of 0.966, indicating a high positive association between the controlling function and profits of the enterprises. The level of significance 0.000 leads to the rejection of the null hypothesis, "there is no significant association between the controlling function and the profits of the microenterprises in the study area."

Thus, the empirical evidence reveals that the performance of the microenterprises in terms of sales and profits was associated with the controlling function of the management. However, a low negative association was revealed between the expenses and controlling function of the microenterprises under the study.

5.2 Marketing Factors and Performance of Microenterprises

Location: Business location is key to successful operation and overall growth. The location must be convenient to the customers and easily accessible to them to provide a feeling of safety upon arrival and exit. Therefore, while choosing the location, an entrepreneur requires to consider the enterprise's needs, customers, employees and equipment needed to complete the services. Thus, in addition to other factors, enterprise location is essential in attracting customers to boost sales. Business in a competitive location provides a number of advantages to the enterprise to reap. Data relating to the location of microenterprises and their performances are presented in Table 5.

Table 5: Location and Performance of Rural Microenterprises

Marketing Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Competitive location	1 (33.3)	1 (33.3)	1 (33.3)	3 (100.0)	1 (33.3)	2 (66.7)	0 (0.0)	3 (100.0)	0 (0.0)	2 (66.7)	1 (33.3)	3 (100.0)
Good location	7 (41.2)	10 (58.8)	0 (0.0)	17 (100.0)	3 (17.6)	14 (82.4)	0 (0.0)	17 (100.0)	6 (35.3)	2 (11.8)	9 (52.9)	17 (100.0)
Bad location	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	0.000				0.571				-0.143			
Significance Level	1.000				0.333				0.398			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

Among the surveyed microenterprises, while only three enterprises (13.6 per cent) were in a competitive location, the others such as 77.3 per cent were in a good location and only 9.1 per cent were badly located. None of the badly located enterprises had experienced high sales. Considering the enterprises of both the competitive location and good location, only one enterprise (5.0 per cent) had low sales, whereas 40 per cent and 55 per cent were in high and medium sales respectively. The Gamma (γ) measure shows a coefficient of 0.000, indicating no association between the location and sales of the microenterprises. The level of significance 1.000 leads to the acceptance of the null hypothesis, "there is no significant association between the location and the sales of the microenterprises in the study area."

With regard to the expenses, among the competitive and good located microenterprises, a majority of them (80 per cent) had incurred medium expense, whereas the remaining 20 per cent had fallen under the high expense category. In addition, all the badly located enterprises had incurred medium expenses. The Gamma (γ) test shows a coefficient of 0.571, indicating a high positive association between the location and level of expense of the enterprises. The level of significance 0.333 leads to the acceptance of the null hypothesis, "there is no significant association between the location and the expense of the microenterprises in the study area."

As far as the level of profit of the microenterprises is concerned, it is revealed that none of the badly located microenterprises had enjoyed high profits, rather, all of them had enjoyed a lower level of profit. It was also found that among the competitive and good located microenterprises, 50 per cent had enjoyed medium profits. The Gamma (γ) measure shows a coefficient of-0.143, indicating a low negative association between the location and profits of the enterprises. The level of significance 0.398 leads to the acceptance of the null hypothesis, "there is no significant association between the location and the profits of the microenterprises in the study area."

Thus, the empirical evidence shows that the sales of the microenterprises were not associated with the location of the enterprises. However, the expenses of the microenterprises were highly associated with the location of the enterprises. In addition, profits had a low negative association with the location of the enterprises.

Product quality: Managing the quality of the product is crucial for microenterprises. Customers expect quality products that help maintain customer satisfaction and loyalty. If an enterprise fails to provide quality products, customers quickly look for alternatives. Hence, quality is critical in satisfying customers and retaining their loyalty. Among others, quality products make an important contribution to long-term revenue and profitability. Data relating to the quality of product and performance of the selected microenterprises are presented in Table 6.

Table 6: Quality of Product and Performance of Rural Microenterprises

Marketing Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Excellent quality	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Very good quality	2 (100.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)	1 (50.0)	1 (50.0)	0 (0.0)	2 (100.0)
Good quality	6 (54.5)	5 (45.5)	0 (0.0)	11 (100.0)	2 (18.2)	9 (81.8)	0 (0.0)	11 (100.0)	5 (45.4)	4 (36.4)	2 (18.2)	11 (100.0)
Average quality	0 (0.0)	8 (88.9)	1 (11.1)	9 (100.0)	2 (22.2)	7 (77.8)	0 (0.0)	9 (100.0)	0 (0.0)	1 (11.1)	8 (88.9)	9 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	1.000				-0.300				0.872			
Significance Level	0.000				0.528				0.000			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

As revealed, among the 22 selected microenterprises, none was found to be excellent in product quality. The two enterprises having very good quality products had experienced a higher level of sales. Among all, 50 per cent enterprises had good quality products and among them, while 54.5 per cent had enjoyed higher sales, the remaining 45.5 per cent had experienced medium sales. Further, 40.9 per cent enterprises had average quality products and a majority among them (88.9 per cent) was having medium sales. The Gamma (γ) measure shows a coefficient of 1.000 indicating a perfect positive association between the quality of products and sales. The level of significance 0.000 leads to the rejection of null hypothesis, "there is no significant association between the quality of product and the sales of the microenterprises in the study area."

Considering the expenses of study microenterprises, it is revealed that the two enterprises having very good quality products had incurred medium expenses. In the case of microenterprises having average quality products, while 22.2 per cent had incurred higher level of expenses, the remaining 77.8 per cent had fallen under the category of medium level of expenses. Further, among microenterprises having good quality products, a majority (around 82 per cent) had incurred medium level of expenses. The Gamma (γ) test shows a coefficient of -0.300 indicating a low negative association between the quality of product and level of expense. The level of significance 0.528 leads to the acceptance of null hypothesis, "there is no significant association between the quality of product and the expense of the microenterprises in the study area."

With regard to the level of profit of the microenterprises, it is observed that none of the average quality product producing microenterprises had enjoyed higher profits, rather, a majority of them i.e. 88.9 per cent had earned low level of profits. In contrast, among the good quality product producing microenterprises, while only 18.2 per cent of the enterprises had experienced low level of profits, the remaining 45.4 per cent and 36.4 per cent of the enterprises had enjoyed high and medium level of profits respectively.

Similarly, among the very good quality product producing microenterprises, none of them had experienced low level of profits, rather, 50 per cent of the enterprises each had enjoyed high and medium level of profits. The Gamma (γ) measure shows a coefficient of 0.872, indicating a high positive association between the quality of the product and profits of the microenterprises. The level of significance 0.000 leads to the rejection of the null hypothesis, "there is no significant association between the quality of product and the profits of the microenterprises in the study area."

Thus, the empirical evidence reveals that the performance of the microenterprises in terms of sales and profits were highly associated with the quality of the product, whereas, a low negative association was found between the expenses of the enterprises and product quality.

Product price: The attention given by the enterprises to pricing is just as important as the attention given to more recognizable marketing activities. Pricing decisions have important consequences for enterprises and particularly, to sales, profit, etc. The price of a product not only has to cover the costs necessary to produce the product, but also the enterprise's other costs such as the administrative overhead and office expenses to generate a profit. If the price of the product is set too high, sales may decline as customers find a similar product elsewhere for a lower price. In contrast, too low of a price means the enterprise forgoes potential profits. The most important factor in setting the product price is choosing a price low enough that customers perceive they are getting a good value relative to what the competitors are offering and the prices they are charging

but yet high enough to generate a profit. Data relating to the price of the product and performance of the microenterprises under study are presented in Table 7.

Table 7: Price of Product and Performance of Rural Microenterprises

Marketing Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
High price	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Medium price	7 (41.2)	10 (58.8)	0 (0.0)	17 (100.0)	4 (23.5)	13 (76.5)	0 (0.0)	17 (100.0)	5 (29.4)	6 (35.3)	6 (35.3)	17 (100.0)
Low price	1 (20.0)	3 (60.0)	1 (20.0)	5 (100.0)	0 (0.0)	5 (100.0)	0 (0.0)	5 (100.0)	1 (20.0)	0 (0.0)	4 (80.0)	5 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	0.583				1.000				0.571			
Significance Level	0.213				0.530				0.185			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

Among the study microenterprises, none of them had charged a high price for their products. While 77.3 per cent of the microenterprises had offered their

products at a medium price, the remaining 22.7 per cent charged a low price for their products. Among the medium price offered enterprises, 58.8 per cent had experienced medium sales, whereas 41.2 per cent had found high sales of their products. Similarly, among the low price offered enterprises, 60 per cent experienced medium sales and an equal percentage of the remaining enterprises found high and medium sales. The Gamma (γ) measure shows a coefficient of 0.583, indicating a high positive association between the price of the product and sales. The level of significance 0.213 leads to the acceptance of the null hypothesis, "there is no significant association between the price of the product and the sales of the microenterprises in the study area".

As far as the expenses are concerned, among the microenterprises offering their products at medium price, a majority (76.5 per cent) had incurred medium expenses and the remaining 23.5 per cent of the enterprises had experienced higher expenses. In addition, all the low price offered microenterprises had incurred medium expenses. The Gamma (γ) test shows a coefficient of 1.000, indicating a perfect positive association between the price of the product and expenses of the enterprises. The level of significance 0.530 leads to the acceptance of the null hypothesis, "there is no significant association between the price of the product and the expenses of the selected microenterprises."

Regarding the association between the price of the product and level of profit, it is revealed that among the microenterprises those had offered medium price for their products, 35.3 per cent each had medium and low levels of profits and 29.4 per cent of the enterprises had earned high level of profits. However, among the low price offered microenterprises, only one enterprise had enjoyed a higher level of profit. The Gamma (γ) measure shows a coefficient of 0.571, indicating a high positive association between the price of the product and profits. Further, the level of significance 0.185 leads to the acceptance of the null hypothesis, "there is no significant association between the price of the products and the profits of the microenterprises in the study area."

Thus, it is revealed that the performance of the microenterprises in terms of sales, expense and profits were highly associated with the price of the product empirically.

Promotion: Enterprises need to keenly aware of the importance of promotion as it helps in developing creative approaches to sales and customer service. Promotion is a key element in communicating the benefits of products to others. Effective marketing and promotion strategies drive long-term success; customer development and profitability for enterprises. Thus, promotions involve enterprise strategies to communicate the brand benefits to customers. Data relating to promotion and performance of the selected microenterprises are presented in Table 8.

Table 8: Promotion and Performance of Rural Microenterprises

Marketing Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Effective promotion	5 (83.3)	1 (16.7)	0 (0.0)	6 (100.0)	0 (0.0)	6 (100.0)	0 (0.0)	6 (100.0)	5 (83.3)	1 (16.7)	0 (0.0)	6 (100.0)
Ineffective promotion	1 (25.0)	3 (75.0)	0 (0.0)	4 (100.0)	2 (50.0)	2 (50.0)	0 (0.0)	4 (100.0)	0 (0.0)	2 (50.0)	2 (20.0)	4 (100.0)
Average promotion	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	1 (33.3)	2 (66.7)	3 (100.0)
No promotion	2 (22.2)	6 (66.7)	1 (11.1)	9 (100.0)	2 (22.2)	7 (77.8)	0 (0.0)	9 (100.0)	1 (11.1)	2 (22.2)	6 (66.7)	9 (100.0)
Total	**8 (36.4)**	**13 (59.1)**	**1 (4.5)**	**22 (100.0)**	**4 (18.2)**	**18 (81.8)**	**0 (0.0)**	**22 (100.0)**	**6 (27.3)**	**6 (27.3)**	**10 (45.4)**	**22 (100.0)**
Gamma (γ) Value	0.691				-0.259				0.712			
Significance Level	0.013				0.467				0.001			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

Among the study microenterprises, around 41 per cent were not involved in any kind of promotional activities. While 27.3 per cent and 13.6 per cent enterprises had carried out effective and average promotions respectively, 18.2 per cent of the microenterprises had felt that their promotions were ineffective. Among the enterprises that had effectively carried out promotions, none of them were found to have low level of sales and while 83.3 per cent had higher sales, the remaining 16.7 per cent had medium level of sales. Further, all the enterprises carrying out an average level of promotion had experienced medium sales. The Gamma (γ) measure shows a coefficient of 0.691, indicating a high positive association between promotion and sales. The level of significance 0.013 leads to the rejection of the null hypothesis, "there is no significant association between the promotion and the sales of the microenterprises in the study area."

Considering the expenses, among the microenterprises having effectively carried out promotional activities, none of them were found to have incurred high expenses, and all had incurred medium expenses. In contrast, among the microenterprises having no promotional activities,

22.2 per cent and 77.8 per cent had incurred high and medium expenses respectively. Further, all the enterprises having average promotion were found to have incurred medium expenses. The Gamma (γ) test shows a coefficient of -0.259, indicating a low negative association between the promotion and level of expense of the enterprises. The level of significance 0.467 leads to the acceptance of the null hypothesis, "there is no significant association between the promotion and the expense of the microenterprises in the study area."

With regard to the level of profit, it is observed that 83.3 per cent of the microenterprises that had effectively carried out promotional activities had enjoyed high level of profits and none had experienced low profits. The microenterprises that had ineffective and average carried out promotional activities had enjoyed lower level of profits. A majority of the microenterprises (66.7 per cent) having no promotion had experienced low profits. The Gamma (γ) test shows a coefficient of 0.712, indicating a high positive association between the promotion and level of profits of the enterprises. The level of significance 0.001 leads to the rejection of the null hypothesis, "there is no significant association between the promotion and the profits of the microenterprises in the study area."

The above empirical evidence reveals that the performance of the microenterprises in terms of sales and profits were highly associated with promotion. However, a low negative association between promotion and level of expenses of the microenterprises was observed.

5.3 Personal Characteristics and Performance of Microenterprises

As pointed out in the earlier section, several studies reveal the influence of personal characteristics as well as the demographic profile of the entrepreneurs on the performance of the enterprises. This study, however, considers the personal characteristics of the micro-entrepreneurs such as the age when the business started, gender, educational attainment and birth order as determinants to examine their influence on the performance of the microenterprises. This is shown in Table 9.

Table 9: Personal Characteristics of Entrepreneurs and Performance of Rural Microenterprises

Personal Characteristics	Statistical Measure			
	Lambda Value (λ)	Interpretation	Significance Level	Findings
Age when business started and sales	0.778	High positive association	0.007	Highly significant
Gender and sales	0	No association	-	-
Educational attainment and sales	0.222	Weak positive association	0.138	Not significant
Birth order and sales	0	No association	-	-
Age when business started and expense	1.000	High positive association	0.027	Significant
Gender and expense	0	No association	-	-
Educational attainment and expense	0	No association	-	-
Birth order and expense	0	No association	-	-
Age when business started and profit	0.750	High positive association	0.003	Highly significant
Gender and profit	0	No association	-	-
Educational attainment and profit	0.167	Low positive association	0.138	Not significant
Birth order and profit	0.167	Low positive association	0.474	Not significant

Source: Own computation.

It is revealed from the result that there is a high positive association between the age of the entrepreneurs when the business started and the sales of the microenterprises. This is indicated by the Lambda Value (λ) = 0.712. The level of significance 0.007 leads to the rejection of the null hypothesis, "there is no significant association between the age of the entrepreneurs when the business started and the sales of the microenterprises in the study area." However, no association was found between the gender and sales as well as the birth order and sales. However, a weak positive association is seen between the educational attainment of the entrepreneurs and sales of the microenterprises (Lambda Value (λ) = 0.222).

Considering the age of the entrepreneurs when the business started and the expenses of the microenterprises, a perfect positive association between these was found (Lambda Value (λ) = 1.000), and the level of significance 0.027 leads to the rejection of the null hypothesis, "there is no significant association between the age of the entrepreneurs when the business started and the expenses of the microenterprises in the study area." However, no association was noticed between the gender, educational attainment and birth order of the entrepreneurs along with expenses incurred by the enterprises.

So far the association between the age of the entrepreneurs when the business started and the profits of the microenterprises are concerned, a high positive association between these variables was revealed (Lambda Value (λ) = 0.750), and the level of significance 0.003 leads to the rejection of the null hypothesis, "there is no significant association between the age of the entrepreneurs when the business started and the expenses of the microenterprises in the study area." Also, there was a low positive association between the educational attainment of the entrepreneur and the profit of the microenterprises.

6. CONCLUSION

Microenterprises play an important role in strengthening economies across the world. They commit to an improvement of the quality of life for individuals, families and communities. Even though their role is critical for economies, their performance is influenced by several socio-cultural and demographic variables and attitudes of the entrepreneurs, including the management capability, firm and business environment. Hence, from the policy perspective and strategies, both in the macro and micro levels, research toward the understanding of the extent to which several factors influence the performance of microenterprises assumes significance. Therefore, an attempt was made to examine the association between the management functions, marketing factors and personal characteristics of the entrepreneurs with the performance of the microenterprises in the study area. The empirical evidence shows that the performance of the microenterprises in terms of sales and profits was associated with the planning, organizing, directing and controlling functions of management. Similarly, it was also revealed that the sales and profits of the enterprises were highly associated with the quality of the product as well as the promotion carried out by the enterprises. So far as the personal characteristics of the entrepreneurs were concerned, the result shows a high positive association between the age of the entrepreneurs when the business started and the sales as well as the profits of the microenterprises. However, there was no association between the gender as well as birth order of the entrepreneurs and sales. Overall, the study reveals that several factors relating to the management, marketing, and personal characteristics of the entrepreneurs were associated with the performance of the microenterprises.

Our study is not free from limitations. First, the work is concentrated on microenterprises operating only in one district in a province and therefore, our findings may not be generalizable to other areas. However, we assume that similar conclusions will be found in other geographical regions with comparable environmental and economic structures. Attempt should be made in future studies to extend the analysis to other geographical areas in and out of the country and to examine other determining factors such as the financial, technological and policy environment. However, in the absence of a systematic micro level study in Cambodia, the empirical findings of this study have implications for practitioners, especially for owners and managers of microenterprises to ensure better performance of their enterprises through appropriate strategies.

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