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Impediments to SME Growth in Small Island Developing States - The Case of the Maldives

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IMPEDIMENTS TO SME GROWTH IN SMALL ISLAND DEVELOPING STATES - THE CASE OF THE MALDIVES

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Abstract

Small and Medium Enterprises (SMEs) play a vital role in the Maldivian economy, owing to its substantial contribution to improve the livelihood of small island communities through the creation of employment opportunities. However, as a Small Island Developing State (SIDS), SMEs in the Maldives face various challenges due to its unique geographical nature. Therefore, this paper examines these factors using a cross-sectional dataset. Among the many factors that affect the growth of SMEs, the results indicated that financial inclusion, under-developed transport infrastructure and limited economic activities are the key impediments to SMEs growth in the country.

1. Introduction

There is a strong nexus between SMEs and economic growth of a country as they are regarded as the backbone of the economy. It plays a major role in channeling a country towards prosperity since it creates new employment opportunities and improves the standard of living at an individual level. Further, it adds value to the nation's wealth by creating avenues for new markets and paving way for a thriving economy through innovation. According to the World Bank, formal SMEs contribute up to 45% of total employment and up to 33% of national income (GDP) in emerging economies. These numbers are significantly higher when informal SMEs are included.

Similarly, SMEs are an essential part of economic fabric in the Maldives and is a key to attain inclusive growth in the country. The Maldives has achieved substantial economic growth over the past 35 years, led by the impressive growth of the tourism industry. Nonetheless, there exist wide regional disparities in poverty rates and income distribution, especially between those living in the capital city (Male') and the atolls located in the most southern and northern part of the country. This was a result of the main driver of employment—tourism sector activities—being concentrated in the central region (where Male' is located). Hence, majority of the small businesses in the other regions are mainly engaged in fisheries, agriculture and trade sectors, although tourism sector is slowly developing in such regions. Therefore, the development of SMEs is of utmost importance in achieving sustainable and inclusive growth.

However, as a small island nation, the SMEs in the Maldives face various challenges due to its unique geographical nature. The existing literature is not very clear about the individual factors that affect the growth of SMEs in SIDS, however, small population, remoteness from major markets and limited availability of

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resources are the common disadvantages shared by SIDS across the globe. Therefore, this paper examines the impediments to SME growth in the Maldives as a small island economy.

The remainder of the paper is organised as follows. Section II provides a background of SMEs in the Maldives. This is followed by Section III which reviews the existing literature and Section IV which explains the main challenges faces by the SMEs in the Maldives. Section V describes the methodology and data while Section VI discusses the results and data limitations. Finally Section VII concludes and summarizes the findings of the paper.

2. Background of SMEs in the Maldives

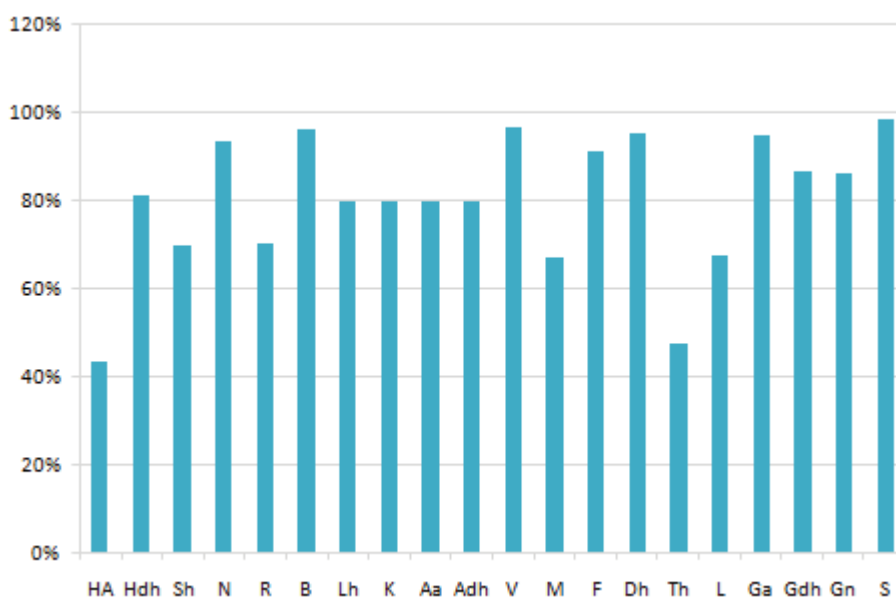
The Maldives is a very small South Asian country located in the Indian Ocean, consisting 1190 small coral reef islands. These islands are grouped into 20 atolls for administrative purposes and there are a total of 187 administrative islands in the country. It has a population of approximately 400,000 and is among the smallest countries in the world. In addition to the small population size, the chains of islands are spread over approximately 35,000 mi², making the country one of the world's most geographically dispersed. The capital city, Male', with an area of 5.8 km², is over-populated and accommodates more than one-third of the total population. On the other hand, the population of some islands merely approximates 500. Moreover, these islands are isolated from the major urban cities and there is no trade link between the islands or atolls due to under-developed transport infrastructure within the country.

Similar to many other SIDS, the Maldives is blessed with a few abundant natural resources and the economic activities are less diverse. Until 1970's the Maldives was renowned for fisheries and the fisheries sector was the main contributor to the GDP. Tourism industry was introduced in 1970's and since then, the industry has been flourishing in the Maldives. Currently, it is the largest industry in the country, accounting for 28% of the GDP. Hence, the tourism sector continued to be the catalyst for the development of the Maldives. While the tourism sector benefits the SMEs through the spillover effect; fisheries, agriculture and trade remains the main economic activities for the SMEs.

A visual representation of the significance of SMEs is shown in Figure 1. On average, the total number of SMEs as a percentage of registered businesses in each atoll is 80%. Particularly, the ratio is higher for those atolls with a small population.

The SME sector in the Maldives was given scant attention until very recently. The Ministry of Economic Development (MED) in close collaboration with the Asian Development Bank (ADB) started the SME project in 2006 with the objective of promoting SMEs, particularly in atolls, as part of the Private Sector Development Program (PSDP). The SME development program is aligned with the government's national strategy and priorities. Hence, SME Act was implemented in 2013 and MED has been providing technical support through the 7 established business centers that cover every atoll and every inhabited island in the Maldives. Also, the MED has introduced various micro-finance schemes with the objective of creating a sustainable environment for SME growth. Despite all these effort, SMEs are facing various challenges that are hampering their potential growth, mainly due to the geographical barriers.

Figure 1: SME's as a Percentage of Registered Businesses in Each Atoll



Source: Maldives Inland Revenue Authority and Ministry of Economic Development.

3. Literature Review

In the past, enormous amount of research has been carried out to examine the importance of SMEs growth in developing countries and the key role played by the SMEs in income distribution and poverty reduction. In general, these studies identified that there are broadly similar challenges faced by SMEs; access to finance, human resources, market information, technology and etc. For instance, Yoshino and Ferhad (2016) emphasized the vital importance of SMEs for Asia's economic success. They have thoroughly studied the four major reasons for the slow growth of SMEs in the Asia and suggested the required measure for mitigating them. These challenges include: lack of finance, lack of comprehensive database, low level of R&D expenditure and insufficient use of information technology.

However, a few researches have examined the most pressing factors affecting the growth of SMEs in small nations. But, researchers have been motivated to explore the challenges facing small economies by the fact that SMEs in such small islands encounter somewhat unique hurdles due to their geographical nature. Chelliah and Nair (2012) studied the most vital challenges faced by small business owners in Fiji using a survey conducted among 164 owners. It was observed that lack of access to business advisory services and capital were the key challenges faced by the owners. Kisto (2014) analyzed the constraints of SMEs in Mauritius by interviewing a sample of 400 SMEs around the island. The results showed that major challenges perceived by SMEs in Mauritius are related to shortage of skilled labor, finding customers, financial management and high cost of production such as investing in raw materials.

In 2010, the MED carried out SME mapping survey in 16 island locations, covering three provinces and five atoll groups. The result finds the following barriers to business development in order of importance: (i) lack of funds; (ii) limited space; (iii) lack of support services; (iv) limited stock; (v) lack of market information; (vi) transport problems; (vii) absence of business relationships; and (viii) water supply and electricity problems. Although, this survey has identified the barriers to development, the key underlying impediments of SME growth have not yet been tested using the SME data available in the Maldives.

4. Challenges faced by the SMEs in the Maldives

4.1. Financial Inclusion

Similar to many other SIDS, financial sector is under-developed in the Maldives and financial inclusion remains one of the main obstacles to fostering SMEs growth. Given the geographical barriers and the widely-dispersed population, delivering financial services to every individual is a huge challenge for the Maldives. Currently, only a few atolls have more than one bank branch and hence, access to finance has been a major issue for the SMEs in remote islands. Furthermore, SMEs in outer Male' region find greater difficulty in obtaining finance as they lack valuable collaterals and guarantees - land is less valuable in islands and movable assets such as boats are not regarded as collateral. However, most of the small entrepreneurs lack such collateral and proper book keeping records to prove their profitability. Further, the non-existence of an SME bank or financial products tailored to SME needs, coupled with few commercial banks, have made it costly for SMEs to make investments. Although there are growing numbers of SME finance schemes in the country, inadequate financial literacy remains a challenge for these schemes to be successful. Most of the SMEs lack financial knowledge and are reluctant to take loans for start-ups. Particularly, this issue is more serious among women. Traditionally, entrepreneurs rely on their own capital investments or informal borrowing from family and friends.

4.2. Under-developed Transport Infrastructure

The under-developed local transport infrastructure and transport services is another factor that is hampering the growth of SMEs in the Maldives. As the islands are remotely located from one another, the lack of a regular sea-based integrated transport system reduces the accessibility to markets and also increases the transport cost of businesses located in atolls far away from the capital city. Moreover, almost half of the inhabited islands do not have proper harbor and access facilities (ADB 2011a). In addition, investing in such a mega transport infrastructure project needs a large amount of financing and covering the return of investment will be difficult due to diseconomies of scale. Further, as seen in many other SIDS, the small population in many islands impedes the creation of a sizable domestic market. Therefore, most of the traders in these small islands come to Male' to find a market for their products.

4.3. Limited Economic Activities

The endowment of few natural resources is a common feature that the Maldives shares with some of the SIDS. The limited natural resources coupled with less diverse economic activities are also growing challenges faced by the SMEs. While tourism is the main driver of economic activities, the fisheries sector still plays a major

role in generating income for island communities, especially in the southern part of the country. Nevertheless, the fisheries sector is faced with imminent challenges due to climate changes and dwindling fish prices in the international market. In addition to tourism and fisheries, a number of SMEs in the islands, particularly micro-entrepreneurs and home-based entrepreneurs, are engaged in agriculture and manufacturing local products such as lacquered wooden artifacts, mat weaving and thatch weaving.

4.4. Lack of Regulations to Protect SMEs

The SME Law was enacted in the Maldives with the objective of addressing various challenges faced by the SMEs and enabling a safe and formal environment for SMEs to thrive. Despite the existence of a law and various other regulations to support the sector, the Maldives still lacks some of the supplementary regulations, such as a competitive law, to support micro entrepreneurs. For instance, most of the micro and home-based entrepreneurs in the islands face difficulties in obtaining a market for their products as most of the resorts opt to carry cheaper, imported products which are usually labeled as Maldivian products.

4.5. Lack of Awareness and Other Social Issues

In addition to the aforementioned challenges, SMEs in the Maldives faces various other challenges related to lack of awareness and social issues. For instance, although women are prioritized in the SME finance schemes, they are reluctant to take up loans or start a business due to the difficulties of paperwork associated with filling tax returns. Further, there are also cultural beliefs in some island communities that women should not work, while majority of the women are not able to give full commitment to a business due to family responsibilities. Moreover, according to the MED business centers, lack of financial management and proper business planning has been identified as some of the barriers to SME growth among the small islands.

5. Methodology and Data

5.1. Empirical Setup

Among the many factors that affect the growth of SMEs in the Maldives, the goal of the empirical analysis is to test the key impediments it faces as a small island economy: lack of financial inclusion, under-developed maritime transport and limited economic activities. Thus, the general model can be written in the following form.

$$\begin{aligned} \text{Entrepreneur}_i &= \beta_0 + \beta_1 \text{Financial Inclusion}_i + \beta_2 \text{Transport}_i \\ &+ \beta_3 \text{Economic Activities}_i + \varepsilon_i \end{aligned}$$

Where i indexes the atoll. The dependent variable measures the number of entrepreneurs in an atoll i.e. small or large. The variable Financial Inclusion measures the level of financial inclusion in the atoll. Lack of financial inclusion in an atoll reduces the number of entrepreneurs in that region and hence, β_1 is expected to be positive for all the type of entrepreneurs. Further, the variable Transport measures the connectivity between that atoll and Male' City. If there are frequent number of vessels travelling between Male' City and the atoll,

entrepreneurs can easily get access to the markets, hence more businesses are likely to be developed in that atoll. Therefore, the sign of β_2 is expected to be positive. As discussed above, new economic activities such as opening new resorts or increased number of fish catch in an atoll would create new businesses. Therefore, β_3 is also expected to have a positive sign. Finally, the stochastic error term is given by ϵ_i .

One method of estimating equation (1) would be using the classical Ordinary Least Square (OLS) estimation procedure. However, it is important to examine whether the dependent variable fulfills the basic assumption of OLS estimation, since this is a small sample.

5.2. Data

Dependent Variables:

There are two dependent variables in our model; the large entrepreneurs (large) and the Small and Medium Entrepreneurs (SMEs). Both the variables measure the total number of businesses in each atoll for the year 2015. Currently, an official register of SMEs and large businesses in each atoll is not available in the Maldives. Therefore, these variables are estimates produced for the purpose of this empirical research, based on the data obtained from the Maldives Inland Revenue Authority (MIRA) and the Ministry of Economic Development.

In the context of the Maldives SME Law, a business entity that generates an annual revenue less than MVR20.0 million is classified as an SME. Using this definition as a basis, the number of SMEs and large entrepreneurs for 16 atolls were estimated. However, data on the remaining four atolls (Lhaviyani, Kaafu, Ali Alif and Alif Dhaal Atoll) were not available from the MIRA. Based on the available data, it was observed that, on average, 80% of the businesses registered in each atoll are SMEs. Therefore, an estimate was produced for the remaining four atolls using this information as an assumption. Furthermore, this assumption was cross-validated using the sample of the top 80% revenue makers collected for the Quarterly Business Survey of the Maldives Monetary Authority.

Explanatory Variables:

The number of bank branches and the amount of loans issued in each atoll can be used as an indicator for financial inclusion. For example, if there are more branches in an atoll, it creates a competitive financial environment and entrepreneurs would be able to obtain credit at an affordable rate. Further, increased amount of new loans also stimulate the economy and increase the number of businesses. Data on these variables for the year 2015 were obtained from all the commercial banks operating in the Maldives. For transport, the total number of trips made by vessels between atolls and Male' for the year 2015 was used as an indicator for vessel movement. This data was collected from the Maldives Ports Limited which monitors the local vessel movements in Male' City harbor. Finally, the number of new tourist beds and fish catch (in metric tons) in each atoll for 2015 were used as an indicator for the economic activities. Data for these variables were obtained from the Ministry of Tourism and the Ministry of Fisheries and Agriculture.

6. Result and Data Limitation

6.1. Result

Estimating the SMEs:

Table 1 presents the results from estimating the model for the SMEs using OLS regression. Equation (1) regressed SME on all the factors discussed in the base line model. Although the variables have the expected sign, the coefficient of most of the variables is not significant. This was due to the problem of multicollinearity in the model. Since majority of the new loans issued goes to the tourism sector the variable new loan is strongly correlated to new beds. Therefore, the variable new loan was dropped from the model and equation (2) was estimated. As a result, the marginal effect of branches, local transport and new beds has now become more significant.

Table 1: Estimation for the SMEs

| VARIABLES | (1) Original | (2) Multicollinearity Adjusted | (3) Robust SE | (4) Using weights |
|----------------|----------------------|--------------------------------------|-----------------------|----------------------|
| branches | 121.0*** (22.18) | 137.8*** (17.51) | 137.8*** (9.348) | 138.1*** (13.91) |
| newloans | 0.111 (0.0926) | | | |
| localtransport | 0.257* (0.138) | 0.323** (0.129) | 0.323** (0.141) | 0.262* (0.122) |
| newbeds | 0.0881 (0.183) | 0.253* (0.124) | 0.253*** (0.0471) | 0.294** (0.101) |
| fishcatch | 0.00564 (0.00423) | 0.00647 (0.00424) | 0.00647* (0.00320) | 0.00446 (0.00433) |
| Constant | -49.69 (57.02) | -100.1** (39.21) | -100.1** (46.23) | -68.49 (40.85) |
| Observations | 19 | 19 | 19 | 19 |
| R-squared | 0.975 | 0.973 | 0.973 | 0.996 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

However, as discussed above, the model needs to be tested for the basic assumptions of OLS estimation. Hence, Equation (2) was tested for the presence of normality in the residuals using Kurtosis test with the null hypothesis that the residuals are normal. There is not enough evidence to reject the null hypothesis at 0.01% (p-value of 0.00%) and hence, the residuals are normally distributed. In addition, Equation (2) was tested for heteroscedasticity using White test and not enough evidence was found to reject the null hypothesis that the standard errors are homoscedastic. However, it is possible to suspect that the model may suffer from the problem of heteroscedasticity as atoll level data have been used and the error term may not be constant for all the atolls. Thus, equation (3) was estimated using robust standard errors and equation (4) by giving weight to each atoll based on their population.

The marginal effect on the variables is very similar to the estimates of Equation (2), except for fish catch which is significant in the Equation (3). This might be due to the fact that not many atolls are heavily dependent on fisheries sector unlike in the most southern parts of the country. Therefore, the results are consistent with the findings and there is enough evidence to conclude that financial inclusion, local transport and economic activities affect the number of SMEs in the atolls. Most importantly, lack of financial inclusion and an efficient local transport infrastructure hampers the growth of SMEs in the atolls.

Estimating the Large Entrepreneurs:

Although our key objective is to test the factors that impede the growth of SMEs, similar regression was estimated for the large entrepreneurs for comparison and the results are reported in Table 2. The signs of the explanatory variables are consistent with the initial expectation. Similarly, the model was tested for normality and heteroscedasticity. There was not enough evidence to believe that the model suffered from the problem of heteroscedasticity and non-normality. Unlike SMEs, the effect of local transport and fishing activities were not found to be significant for large businesses. This implies that the local transport is not a challenge for large entrepreneurs as most of them have their own vessels.

Table 2: Estimation for Large Entrepreneurs:

| VARIABLES | (1) Original | (2) Multicollinearity Adjusted | (3) Robust SE | (4) Using weights |
|----------------|-------------------------|--------------------------------------|-----------------------|-----------------------|
| branches | -1.121 (3.281) | 17.83** (6.720) | 17.83 (12.57) | 13.55** (5.855) |
| newloans | 0.126*** (0.0137) | | | |
| localtransport | -0.0270 (0.0205) | 0.0475 (0.0495) | 0.0475 (0.0524) | 0.0556 (0.0514) |
| newbeds | 0.0245 (0.0271) | 0.210*** (0.0474) | 0.210** (0.0758) | 0.257*** (0.0426) |
| fishcatch | -0.000648 (0.000626) | 0.000292 (0.00163) | 0.000292 (0.00118) | 0.000327 (0.00182) |
| Constant | 12.73 (8.436) | -44.26** (15.05) | -44.26*** (11.16) | -49.94** (17.20) |
| Observations | 19 | 19 | 19 | 19 |
| R-squared | 0.992 | 0.940 | 0.940 | 0.992 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

6.2. Data Limitation and Future prospects

Although the estimates were consistent with the expected result, the model has limitations in relation to precision due to the unavailability of a complete dataset. Further, there are unobserved factors such as

business knowledge, proper business planning, financial management, financial literacy and other factors that would affect the growth of SMEs. For instance, given the far-reaching impact, providing adequate training is a barrier, particularly when viewed from the perspective of the geographically dispersed. However, it may not be possible to study those factors without a panel dataset. Therefore, data collection mechanism needs to be improved in this area and regular surveying need to be conducted to understand the true factors. Also, it is important to maintain a comprehensive SME database and facilitate further studies in this area.

7. Conclusions

In this paper, a cross-sectional dataset was used to observe the factors that affect the growth of SMEs in the Maldives. Although the literature is clear on the factors that impede the growth of SMEs in developing countries, the factors that hinder the growth of SMEs in SIDS are not very clear. Further, the factors vary among different countries and it solely depends on the nature of the country. Therefore, this paper contributed to the literature by identifying the factors that affect the growth of SMEs in the context of the unique geographical nature of the Maldives.

The paper finds that lack of financial inclusion and under-developed maritime transport infrastructure are significant barriers to SMEs growth in the Maldives. Moreover, economic activities, such as development of tourist resorts and guesthouses in atolls and the level of fishing activities, also affect the number of small SMEs, especially in atolls. Furthermore, it was observed that that transport is not a significant challenge for large businesses in the Maldives as most of the large businesses such as resorts or large scale wholesalers or retailers have their own vessels as a mode of transport. This implies that lack of regular maritime transport infrastructure is a key factor that impedes the growth of SMEs in the Maldives. Most importantly, the unique geographical barrier in the Maldives is the underlying cause of all the observed factors.

Therefore, as a small island nation, it is crucially important to study the effectiveness of government policies related to SMEs and focus on developing key areas that can improve SME growth. In particular, by investing in maritime transport infrastructure, the Maldives will stand at a better position to achieve some of the Sustainable Development Goals.

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