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# Factors Influencing Sales Performance in SME and Micro-Enterprises in the Wholesale and Retail Trade Sector of Bangladesh

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## Abstract

This research explores the determinants of the sales performance of small and medium enterprises (SMEs) and micro-enterprises (also called “mudi doka”) in the wholesale and retail trade sector of Bangladesh. The factors included in the research relate to the entrepreneur and the business operation itself, i.e., both personal factors as well business-related factors. The study draws on a survey of 2,100 merchants and finds that business related factors have greater impact on sales than personal factors. In particular, important factors include use of internet, location of enterprise, entrepreneurial traits, and education of the owner. The research also provides policy recommendations and identifies some avenues for future research on credit and access to finance.

**Keywords:** Micro-enterprises, Personal and business factors, Entrepreneurial trait, SME performance

## Introduction

Bangladesh is characterised by large growing population, low natural resource base, and is prone to frequent disruptions due to natural disasters such as flood, cyclone, river erosion, and drought. It ranks among the highest in terms of the total number of disasters over the last 30 years (Sapir, Hargitt, and Hoyois, 2004). Despite these challenges, its economy has been growing successfully at over 5% a year, and it is in the process of graduating out of the category of the least developed countries (Khatun, 2018). One of the key drivers of this growth has been services sector, and particularly the wholesale and retail trade sector. Begum and Abdin (2015) argue that SMEs in Bangladesh are significantly contributing to poverty alleviation, employment creation, and therefore need policy support such as a government led SME-cluster to realize their full potential.

According to recent statistics, wholesale, and retail trade sector accounts for nearly 14% of GDP in Bangladesh (Growth of wholesale, 2018). This sector is dominated by SMEs, and particularly micro-enterprises. There are currently 8 million SMEs with 90% in the service sector (Bakht and Basher, 2015). These SMEs are considered to be the “engine of growth” and provide opportunities for self-employment in the rural economy, act an additional income source for farming households, and absorb people shifting out of agriculture into the service sector. However, cross-country analysis shows that nearly 50% of such SMEs do not survive beyond five years (Burns, 2016). Therefore, it is of interest to various stakeholders to understand factors that contribute to the success of these enterprises in this sector, which is also known as the Fast-Moving Consumer Goods (FMCG) market. In Bengali, they are typically called “mudi doka”.

## Research Questions

The purpose of this research is to assess which factors contribute to the success, as measured by average monthly sales, of SMEs operating in the wholesale and retail trade sector of Bangladesh. These include explanatory variables that relate to the entrepreneur and the business operation itself (Thibault, 2002). We consider 11 variables, classified into two sets of underlying factors: personal and business related. The variables are chosen from existing literature on small businesses. Personal factors refer to variables that relate to the owner, namely age, literacy, hours worked per week, similarity to previous work, business dependency, and use of a business plan. Entrepreneurial traits, which are critical for the success of the enterprise, are also included. Business related factors include variables that refer to the enterprise itself, such as location, age of business, business structure, formal financing, and use of technology.

The key research questions for this paper are:

- What personal factors affect the performance of SMEs?
- What business related factors affect the performance of SMEs?
- What personal and business-related factors jointly affect the performance of SMEs?

The following section reviews the literature and provides definitions of variables used in the paper.

## Literature Review

A number of studies have been carried out to understand the factors that impact SME performance in Bangladesh. Hossain and Asheq (2019) explore the role of entrepreneurial orientation on SME performance. Their study focuses exclusively on Dhaka and has a sample size of less than 200 SMEs. Uddin and Bose (2013) study SME performance in Khulna region and identify business plans, channels of distribution, management skills, and government support as statistically significant factors affecting SME performance. Their factor analysis study is limited to surveying 195 SMEs. Rahaman et al. (2021) survey 180 SMEs in Dhaka city using non-probabilistic sampling, and identify factors such as risk-taking, innovativeness, and proactiveness as having statistically significant impacts on SME performance. They also note that there is paucity of research in Bangladesh with respect to SME performance.

Aghaei and Sokhanvar (2020) utilize the Microdata Library of the World Bank to undertake a study on SME performance in Bangladesh. They utilize econometric analysis over a sample size of 1,076 SMEs, mostly located in urban areas. Their investigation focuses on business continuation and survivability and finds that there is robust relationship between the intention to continue and innovation, informality, and risk attitudes.

Islam et al. (2011) carry out a study that is similar to this paper, noting the personal and business factors that affect SME performance in Bangladesh. However, their sample size is small (less than 100 SMEs), and the research focuses only on major urban SME clusters. The study finds that a composite index of SME characteristics has no impact on performance, while a composite index of entrepreneurs' characteristics did have a significant impact.

Our paper is noteworthy because it focuses on rural and peri-urban areas across Bangladesh, rather than urban clusters. Furthermore, the sample size for our research is over 2,000 enterprises and is larger/more representative compared to the studies cited above. Finally, our study focuses more on micro and small enterprises, whereas traditionally most studies have tended to focus on small and medium size manufacturing/processing/handicraft enterprises. The following section outlines the key variables and the justification for incorporating them into this research.

## Research Variables

The theoretical foundation of this paper draws on Thibault (2002), who carried out a similar study focusing on SME performance in Canada. Thibault looked into impact of various personal and business-related factors on sales performance among SMEs in Canada. Islam et al. (2011) undertook a similar study on SMEs and focused on parameters related to SME and entrepreneurial characteristics. However, their study specifically examined value chains such as food and allied products, textiles and apparels, engineering, and fabricated metal products etc. rather than FMCG micro-merchants. Below we provide a summary and discussion of the key variables used.

### ***Monthly Sales***

In our research, self-reported monthly sales data is taken to be a measure of performance and is a dependent variable. The literature indicates that businesses are often reluctant to share sensitive financial information; however, this is not the case for micro-enterprises operating in Bangladesh. Stranger (1998) and Thibault (2002) both used sales as a performance measure as it is the most reported performance measure and understood by all respondents. However, many studies in Bangladesh have used self-reported Likert-based questions to measure SME performance (Islam et al., 2011; Hossain and Asheq, 2019; Rahaman et al., 2021). While both sales data and five-point Likert-based questions are self-reported, sales data provide greater range and is easier for entrepreneurs to recall and are more accurate than subjective assessments of business performance.

### ***Education***

Education and literacy are likely to play key roles in the overall performance of a business enterprise. Entrepreneurs with better education are likely to generate greater net income (Heck et al., 1995). Saleem (2017) finds that socio-economic factors such as education, skills, and age are important determinants of SME performance. In this paper, the ability to read a newspaper in Bangla has been taken as an indicator of functional literacy.

### ***Age of Entrepreneur***

The age of the entrepreneur can be an important factor, as it may be the case that older business owners are likely to be more committed to their enterprises than those who may be either planning to shift to other types of employment or use other employment as a contingency. Older owners may also have access to higher social capital and network, making their business more resilient to shocks. Orser and Foster (1992) found that business owners who were over 40 years of age are likely to have greater income than those below 40 years of age. In this study, self-reported age (in years) is taken to be an independent variable. Islam et al. (2011) have also utilized age as a key independent variable.

### ***Business Dependency***

According to Thibault (2002), entrepreneurs who are dependent solely on their enterprise for their livelihood are likely to be more committed, determined, and entrepreneurially oriented (EO), thus directly enhancing the performance of the enterprise. In our study, the entrepreneur is business dependent if the sole source of household income is from the retail business. Hossain and Asheq (2019) also identify entrepreneurial orientation (EO) as a key factor impacting SME performance in the boutique sector of Dhaka.

### ***Previous Relevant Experience***

In a study of 2,713 SMEs within the European Union, Soriano and Castrogiovanni (2012) found that both profitability and productivity are positively related to industry-specific knowledge possessed by the owner prior to starting up the SME. In line with this, we look into whether the respondents had previous experience with running a micro-enterprise retail business. Hossain and Asheq (2019) also include prior experience in their hierarchical regression analysis but find it to be not significant. Islam et al. (2011) also identify prior experience as critical for business success, using proxies to capture this, and incorporate them in their SME and entrepreneurs' characteristics composite indicators.

### ***Days Worked***

Orser and Foster (1992) demonstrate that businesses that operate on a full-time basis are generally more successful than those that operate part time. In this study, the number of days the business is operational is taken as a proxy for days worked by the owner. None of the studies on Bangladesh that are cited above have used this variable, and the variable is likely to be correlated with entrepreneurial orientation such as proactivity and commitment (Hossain and Asheq, 2019).

### ***Business Planning***

Research has found a positive correlation between the use of a written plan and SME performance (Soldressen et al., 1998). According to Thibault (2002), this is a business-related factor; however, in line with Sidik (2012), the existence of a business plan may be considered an important dimension of entrepreneurial trait; having a business plan shows foresight, dedication, and the ability to collate information to formulate future course of action. In Bangladesh, it is impossible to find micro-merchants with a written business plan, as these are mostly informal. Therefore, the practice of written records for transactions is taken as a proxy for entrepreneurial trait, which is also a personal factor. Uddin and Bose (2013) identified business planning as a key factor influencing business success of SMEs.

### ***Financing***

Various studies have shown that access to finance, particularly access to formal credit, is a major constraint for SMEs (Beck and Demircuc-Kunt, 2006). Inadequate financing is one of the predominant causes of failure and bankruptcy for SMEs (Bradley, 2000). In Bangladesh, the majority of the micro-enterprises do not have access to formal credit; fewer than ten per cent of SMEs have access to institutional finance from formal banks or microcredit institutions (Khandker et al., 2013). We consider such availability of credit to be a business-related factor. Qamruzzaman and Jianguo (2019), in their macro-economic study on SMEs, identify financing as a necessary but not a sufficient condition to spur SME development in Bangladesh.

### ***Technology (ICT)***

SME competitiveness can be significantly improved through the adoption of new technologies, particularly information and communication technologies (Morgan et al., 2006). ICT tools can be deployed to streamline processes and generate data that can be leveraged to take additional services, such as use of digital platforms or e-wallets. These can be an easy way to develop a transaction history which can then later be used to secure formal credit. Rahaman et al. (2021) identify technology adoption and innovation as affecting the business performance of SMEs. However, the impact of ICT on SME performance is not always clear, and some studies have shown that ICT automatically does not enhance SMEs' performance, unless the technology is integrated with business operations (Azam, 2015). For this study, the usage of internet is taken to be an indicator for the ICT variable.

### ***Age of Business***

Like the age of the owner, it is likely that as age of a small business increases, its performance may also increase. Orser and Foster (1992) found that businesses that earn more were also the ones that were older. In our study, the age of business in months (some of the businesses were less than one year old) is taken to be an independent variable. Rahaman et al. (2021) also include the age of a business as a key determinant of business performance.

### ***Geographic Location***

The location of a business can be critical to its survival (Bradley, 2000). While location specific effects can be more vital for some industries than for others, for the purpose of the present study, the focus is primarily on the urban/rural divide, i.e., whether the presence of SMEs in rural areas has a direct impact on sales performance. Orser and Foster (1992) found that SMEs located in urban areas, on average, had greater profit than those in rural locations. Begum and Abdin (2015) identify the clustering of SMEs as a key factor influencing their performance. Other micro-studies focused mostly on urban and peri-urban areas. Our study covers urban, peri-urban, and rural areas, and hence a comparative analysis is possible.

### ***Business Structure***

Businesses can be registered formally under sole proprietorships, partnerships, or corporations. For this study, we exclude corporations from our sample. From the perspective of limited liability, corporations are likely to be the better option (Thibault, 2002), but because this alternative is not available in Bangladesh for SMEs, it is not relevant for our study. Instead, what is applicable is that fact that many micro-enterprises in the rural sector are run as a family enterprise rather than as sole proprietorships or partnerships. There may be both positive and negative aspects to this - having the enterprise run by the family may increase the likelihood of securing collective family funds, thus

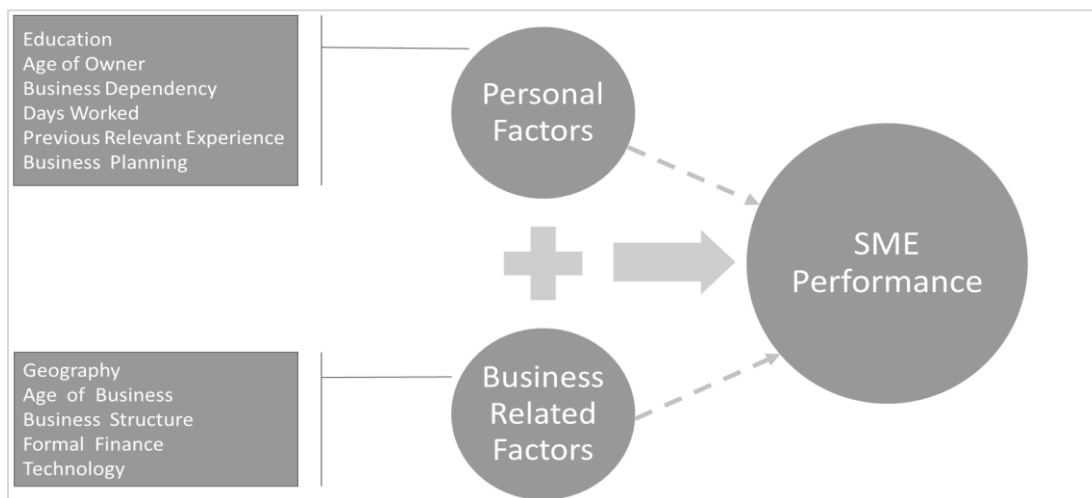
enhancing the ability of the SME to withstand shock. Also, multiple owners may bring in different skill sets and access to various social and network capital, which can be leveraged to enhance SME performance. However, there may be negative implications as well. These may be a coordination failure regarding decisions or operations when the SME is jointly owned, as well as a lack of formalization regarding management and responsibilities. The present study investigates the difference between formal sole proprietorship and partnerships as opposed to the more informal family ownership.

In the aforesaid section, not all variables from Thibault (2002) were selected. These include gender and number of workers employed, because the findings of this study show us that in Bangladesh over 98% of retail shops are owned by males and 94% do not have paid employees. According to UNCDF (2018), over 1.9 million people are involved in the micro-merchant segment of the retail sector in Bangladesh. Of these people, women account for little less than 95,000, and the majority serve as unpaid family labor, i.e., less than 5% of workers. Paid employment is less than 75,000 workers or under 4% of workers.

The next section investigates the overall conceptual framework for the study, methodology, data, and the hypothesis.

## Theoretical Framework and Hypotheses

As mentioned earlier, the paper augments the framework developed by Thibault (2002) and applies it to the context of small and micro-enterprises in the wholesale and retail trade sector of Bangladesh. Thibault's model and variables are adaptable to the Bangladeshi context, and various other studies have used similar variables. The following figure illustrates this conceptual model.



**Figure 1: Conceptual Framework**  
Source: Adapted from Thibault (2002)

Each of the personal and business-related factors depend on other variables and therefore affect performance individually and jointly. Table 1 provides the summary of each of the hypotheses and the next section explains the research design and data collection method

**Table 1: Key Hypotheses**

FACTOR	VARIABLE	HYPOTHESIS
<b>PERSONAL FACTOR</b>	Education	H1: The higher the level of education/literacy of the owner, the greater the sales generated
	Age of Owner	H2: The greater the age of the owner, the greater the sales generated
	Business Dependency	H3: The more dependent the owner is on income from business operations, the greater the sales generated
	Days Worked	H4: The greater the number of days worked in the business, the greater the sales generated
	Previous Relevant Experience	H5: The greater the degree of similarity to previous work experience of the owner, the greater the sales generated
	Business Planning	H6: The greater the effort invested by the owner on business planning, the greater the sales generated
<b>BUSINESS FACTOR</b>	Geography	H7: The more urban the SME, the greater the sales generated
	Age of Business Month	H8: The greater the age of the business, the greater the sales generated
	Business Structure	H9: Businesses that are partnership or sole proprietorship generate greater sales
	Formal Finance	H10: The greater the amount of formal financing, the greater the sales generated
	Technology	H11: The greater the use of technology/internet, the greater the sales generated

Source: Adapted from Thibault (2002)

## Research Method and Design

Our study is based on a reduced form dataset of a survey conducted by Orquest under the Micro Merchant Landscape Assessment funded by Merchants Development Driving Rural Markets (MDDRM) SHIFT SAARC project of United Nation Capital Development Fund (UNCDF)<sup>1</sup>.

### Sampling

The study covered both urban and rural area, excluding metropolitan divisional towns. Samples were drawn from the *mohallah* (neighborhood) and village levels in urban and rural areas, respectively. The urban and rural ratio of the sample distribution roughly followed the population distribution and was 25:75. The nationwide survey was conducted among 2,100 small/micro retail merchants. A stratified random sampling technique was used, covering all seven administrative divisions. Population proportional to size (PPS) method was applied for the selection of primary sampling units (PSUs) within each division – *mohallahs* and villages. In the selected PSUs, target merchants were identified and interviewed from the nearest cluster of retail outlets through a snowballing method; five merchants were interviewed in a selected PSU.

### Research Design

The following two regression equations were drawn. Table 2 explains the variables and how they are measured.

#### Personal Factor equation:

$$Sales_{y_i} = c + \beta_{1i}Edu_i + \beta_{2i}AgeO_i + \beta_{3i}BusDep_i + \beta_{4i}DaysW_i + \beta_{5i}PrevExp_i + \beta_{6i}BusPlan_i \quad (1)$$

#### Business Factor equation:

$$Sales_{y_i} = c + \beta_{1i}Geo_i + \beta_{2i}AgeB_i + \beta_{3i}BusStruc_i + \beta_{4i}FormalFin_i + \beta_{5i}Tech_i \quad (2)$$



**Table 2: Variable Description**

<i>Construct</i>	<i>Indicator</i>	<i>Variable Name</i>	<i>Definition</i>
<i>Dependent Variable</i>	Monthly Sales	<i>Sales<sub>y</sub></i>	Self-reported monthly sales figure
<i>Personal Factors</i>	Education	<i>Edu</i>	Ability to read a Bangla newspaper: Yes = 1; No = 0
	Age of Owner	<i>AgeO</i>	Age of the owner in number of years
	Business Dependency	<i>BusDep</i>	Sole source of household income is from MM business: Yes = 1; No = 0
	Days Worked	<i>DaysW</i>	Number of days working in MM business
	Previous Relevant Experience	<i>PrevExp</i>	The previous occupation of the respondent: Another MM business = 1; Others = 0
	Business Planning	<i>BusPlan</i>	Keeps written record of some/all sales = 1; No written record of sales = 0
<i>Business Factors</i>	Geography	<i>Geo</i>	Urban = 1; Rural = 0
	Age of Business	<i>AgeB</i>	Age of the business in number of months
	Business Structure	<i>BusStruc</i>	Single proprietorship and partnership = 1; Family business = 0
	Formal Finance	<i>FormalFin</i>	Access to finance from formal providers (e.g., MFIs and Banks) = 1; Access to informal financial source = 0
	Technology	<i>Tech</i>	Uses internet (WiFi or others) = 1; No internet = 0

Ordinary least squares (OLS) was used to estimate both equations. The second step entailed estimating a third regression equation using only those variables which were found to be significant in the first two equations (1 and 2); any of the variables that had significance levels exceeding 0.10 (rounded to two decimal places) was removed from future analysis. The next section discusses the findings from the analysis.

### Data Analysis and Interpretation

In the first step we run two separate OLS models using equation 1 and 2 above. The third model only includes those variables with significance level below 0.10. Table 3 shows the outcome of the regression analysis.

From the table below we see that most of the personal factors are not statistically significant<sup>2</sup>, whereas almost all business-related factors appear to be significant. The F-statistics for all three models is significant at the 1% level, implying that the overall model specifications are affirmed by the data.

The signs of the coefficients are mostly in agreement with the various hypotheses posited in Table 1. We find that education, planning, urban location, age of the business, and internet connectivity are all positively correlated with higher sales. However, in case of the age of the owner, we see a negative correlation i.e., a higher age implies lower sales. This contradicts our hypothesis, and the explanation may be that younger entrepreneurs are more educated, entrepreneurially oriented, leverage technology more, and are therefore performing better. A simple correlation between Education (Edu) and Age of Owner (AgeO) was found to be significant and negative (-0.24\*\*\*), implying that they are indeed negatively correlated. However, the magnitude of impact of age seems to be minimal. This needs to be further explored in future research.

In the case of business structure, there is ambiguity regarding its impact on sales. It seems that from our analysis, enterprises which are family owned perform better than those which are owned by sole-proprietorships and partnerships. Further research needs to be undertaken to ascertain what pathways trigger this impact, although some were suggested in the previous section.

Some likely variables were also found to be statistically insignificant; for instance, we see that business dependency, although having positive impact on sales, was marginally significant at 11% level (just above the 10%

threshold) and hence was not included. The same applies to previous experience, which was marginally significant at 15% level.

Access to formal financial resources turned out insignificant with the negative sign. This is an interesting finding as much research have shown that credit constraint is a critical problem for SMEs and micro-enterprises. To understand the finding, Table 4 was developed which shows the number of respondents not taking loan, taking informal credit, securing credit from MFI, and securing credit from banks.

**Table 3: Regression Analysis**

<i>Dependent Variable: Sales_Y</i>				
	<b>Variable</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
	<i>const</i>	64,269.50 (0.38)	106,301*** (0.00)	89,475.7*** (0.00)
<b>Personal Factors</b>	<i>Edu</i>	23,670.70*** (0.00)		20,641.5*** (0.00)
	<i>AgeO</i>	-331.10** (0.05)		-441.21** (0.02)
	<i>BusDep</i>	6,316.14 (0.11)		
	<i>DaysW</i>	3,771.22 (0.72)		
	<i>PrevExp</i>	6,831.54 (0.16)		
	<i>BusPlan</i>	13,799.1*** (0.01)		
<b>Business Related Factors</b>	<i>Geo</i>		11,830.40*** (0.01)	12,683.8*** (0.01)
	<i>AgeB</i>		97.18*** (0.00)	116.98*** (0.00)
	<i>BusStruc</i>		-11,674.10** (0.02)	-8,348.78* (0.10)
	<i>FormalFin</i>		-3,573.81 (0.37)	
	<i>Tech</i>		23,592.4*** (0.00)	18,376.8*** (0.00)
<b>Regression Statistics</b>	<i>P-value (F)</i>	0.00	0.00	0.00
	<i>F(stat)</i>	6.40	11.90	12.87

**Table 4: Sales and Credit**

	No Credit	Informal Credit	MFI Credit	Bank Credit
N	810	243	878	169
%	39%	12%	42%	8%
Correlation with Sales	0.05**	-0.03	-0.07***	0.08***

From the above table we can see there are nuances that needs to be explored. For instance, taking no credit is positively correlated with sales, which may imply that healthy performing SMEs do not take or need loans. At the same time, microfinance institution (MFI) and bank credit, while significant, have different signs. This may be because micro-credit loans are mostly taken to address sudden shocks or to pay suppliers, since MFIs have weekly scheduled repayment. On the other hand, bank loans, which are larger in volume and take longer to secure, may be for the expansion of the business or investment spending. These need to be further explored in future research.

## Conclusion

The exploratory study presented in this paper assesses the impact of personal and business-related factors on the sales performance of SME and micro-enterprises in the wholesale and retail trade sector of Bangladesh. Using a reduced form dataset from both urban and rural areas, the regression analysis yielded some interesting results, such as the primacy of business-related factors over personal factors. It was found that experience and skills, in terms of education and utilization of technology, have a statistically significant impact on business performance. Younger entrepreneurs are likely to be digitally savvy and can innovate faster. Another finding was the importance of business planning in generating sales, which is in line with Uddin and Bose (2013).

Development projects or the government can focus on developing one-stop digital portals for providing business development services to these types of merchants at a relatively low cost. Also, private sector provision of business development services remains underdeveloped in Bangladesh. Fintech and other tech companies could further expand their service to micro-merchants, targeting them with appropriate products such as digital bookkeeping, inventory management, and similar tools. Formalization and digitization can also facilitate merchants to take credit from banks as opposed to higher cost microfinance or wholesaler-based value chain finance.

In addition, some avenues for future research were also identified, particularly regarding access to finance and credit. There needs to be greater understanding about how credit is used for meeting any liquidity crunch or business expansion. The use of internet was also found to have a significant and positive impact on sales of enterprises, and there may be an opportunity in Bangladesh for the promotion and growth of digital business services, including digital financial services and mobile financial services. It is hoped that, in future, more detailed research will be conducted regarding micro-merchants and their business performance, given their increasing importance and contribution to Bangladesh's economy. An important extension of this research would be to consider sectors beyond the FMCG sector and include merchants in the agriculture value chain.

## Endnotes

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<sup>1</sup> The MDDRM component is funded under the EU PRISM project. The survey was carried out in January and February of 2018. The publicly available data can be retrieved from [https://www.microentrepreneursasia.com/dataset\\_details/4](https://www.microentrepreneursasia.com/dataset_details/4).

<sup>2</sup> For regression and statistical analysis, gretl software was used; gretl is an open-source statistical package developed by Allin Cottrell, Wake Forest University and Riccardo "Jack" Lucchetti, Università Politecnica delle Marche.

## Disclaimer

The authors' institutional affiliation is provided for identification purposes only. Views expressed are solely those of the author. The standard disclaimers apply.

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