

Gender Impact on Small Firms in Latin America

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Summary:

This research examines whether gender difference affects the cash management efficiency of micro and small enterprises (MSEs) in Latin America. Cash conversion cycle (CCC), is adopted in this study as the key indicator to measure the cash management efficiency. According to our findings, we recommend that MSEs owners in Latin America who want to improve their cash management efficiency should put their first priority on revamping their inventory management system, such as by building up records and basic inventory policies.



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KEY INSIGHTS

1. Inventory management efficiency is a critical factor that affects cash conversion cycle. Male owners had better performance in this specific area than their female counterparts.
2. The relationship among financial indicators and SCM practices indicators should be clearer if we add new cash management assessment that relates directly to inventory management, supplier management and customer management practices.
3. For MSEs owners in Latin America who want to improve their cash management efficiency but have limited resources should put their first priority on revamping their inventory management system.

observe evidence that inventory management is a critical factor that affects CCC. According to our findings, we recommend that MSEs owners in Latin America who want to improve their cash management efficiency but have limited resources should put their first priority on revamping their inventory management system, such as by building up records and basic inventory policies. In addition, we do not find strong evidence of a gender impact on MSEs in terms of cash management, nor any correlations among financial indicators and supply chain management practices that are significant. We also propose a new cash management assessment that relates directly to inventory management, supplier management and customer management practices, and thus, we suggest to further explore this in relationship with financial indicators.

Introduction

Traditionally, female business owners have been believed to have relative disadvantages in operating businesses compared to their male counterparts especially in developing countries. This study examines whether gender difference affects the cash management efficiency of micro and small enterprises (MSEs) in Latin America. Cash conversion cycle (CCC), the metric which bridges supply chain upstream procurement and downstream sales, is adopted in this study as the key indicator to measure the cash management efficiency. We

Data

Lacking reliable databases containing business performance survey of MSEs in Latin America, the primary data source used in this research are come from local field research. The field data collecting procedure follows the MIT Genesys data collection guidelines version 5.0, and our survey cover five different sections: (1) General Information, (2) Business Practice, (3) Lean Practices, (4) SCM Practices, and (5) Behavioral Operations.

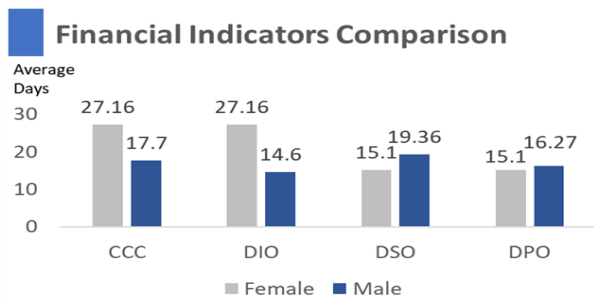


Figure 1. The financial indicators comparison

In this research, we gathered 18 MSEs datapoints from Latin America to conduct the analysis. As for location, ten companies are located in Mexico, and Eight companies are located in Columbia. As for gender, six companies are owned by female and

twelve companies are owned by male. As for industry, two companies are classified as primary industry, eight companies are classified as secondary industry and the other eight companies are classified as tertiary industry.

The mean values of financial indicators in our samples are shown in Figure 1.

Methodology

Although there are many ways to measure the operation efficiency of the business, this research focus on the cash management efficiency. We use Cash Conversion Cycle (CCC) to evaluate the cash management efficiency of MSEs in Latin America and compare the performances between businesses owned by female to the businesses owned by male. Our analysis process is shown in Figure 2.

The Formula of CCC can be breakdown as follows:

$$CCC = \text{Days Inventory Outstanding (DIO)} + \text{Days Sales Outstanding (DSO)} - \text{Days Payable Outstanding (DPO)}$$

We adopt CCC as our measurement because it has three advantages: (1) It can be quantified so it can be used to compare different companies' performance; (2) It can be broken down into three factors so researchers can dig deeper to find the root problems of the business operations by comparing number of days of three factors of the company with baseline numbers; (3) It highly correlates to other operation performance such as profit margin.

We set three hypotheses to examine our idea:

- H1: There is a gender impact on cash management and supply chain management practices of MSEs in Latin America.
- H2: Female business owners perform better than male business owners do.
- H3: There exist strong correlations among financial indicators and related supply chain practices.

Analysis and Results

To make the inference of the population based on our sample dataset, we need to adopt a statistical hypothesis test to examine if there is significant difference between male owners' performance and female owners' performance. We apply student's-t test to conduct the statistical test on the first and the second hypotheses mentioned in Methodology section because our sample size is less than thirty.

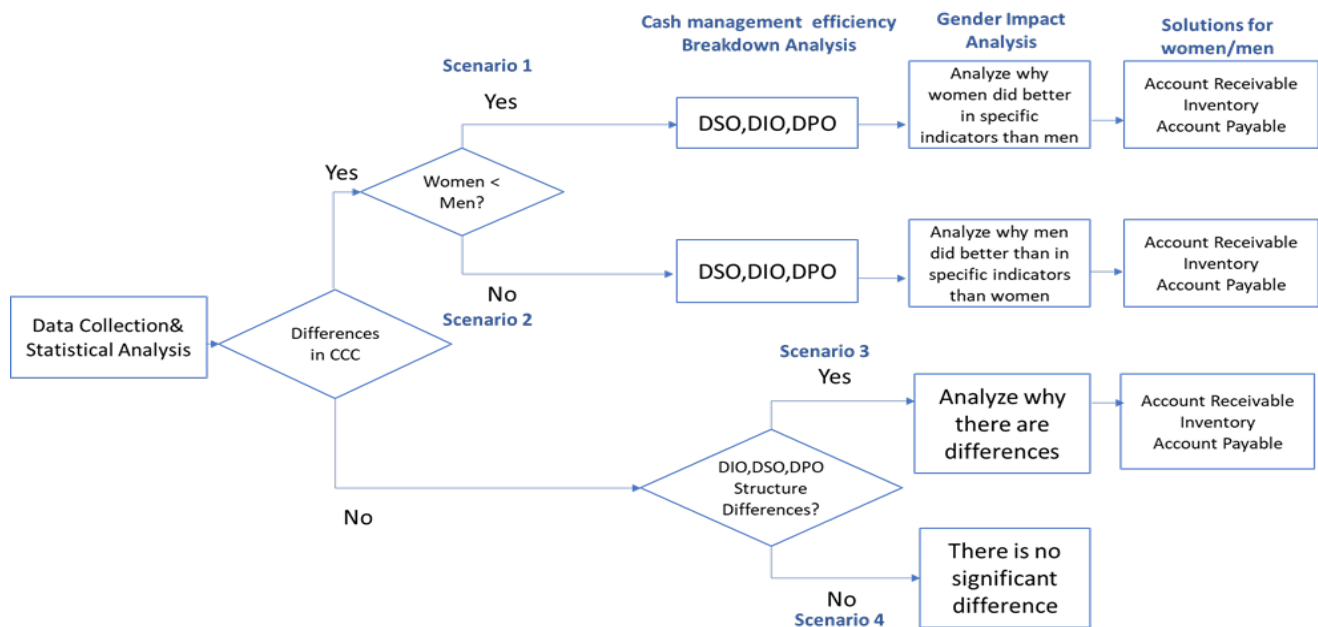


Figure 2. The analysis process flow chart of this research

In this research, we set the significance level equal to 0.05 ($\alpha = 0.05$) and run the student's-t test to examine all hypotheses.

After conducting statistical test to the hypotheses H1, the result shows that under the 95% confidence level, we can conclude there is no gender impact on the cash management and supply chain management practices of MSEs in Latin America.

And then we examine the hypotheses H2, we find that there is no significant difference in most of performance variables between female business owners and male business owners except DIO. Based on the statistical analysis, we can conclude that under the 95% confidence level, male owners' DIO performance is better than female owners' DIO performance but not in the case of other variables.

Before testing the H3, we conduct correlation analysis and get the result shown as Figure 3. And then we also adopt statistical test to examine the significance among variables.

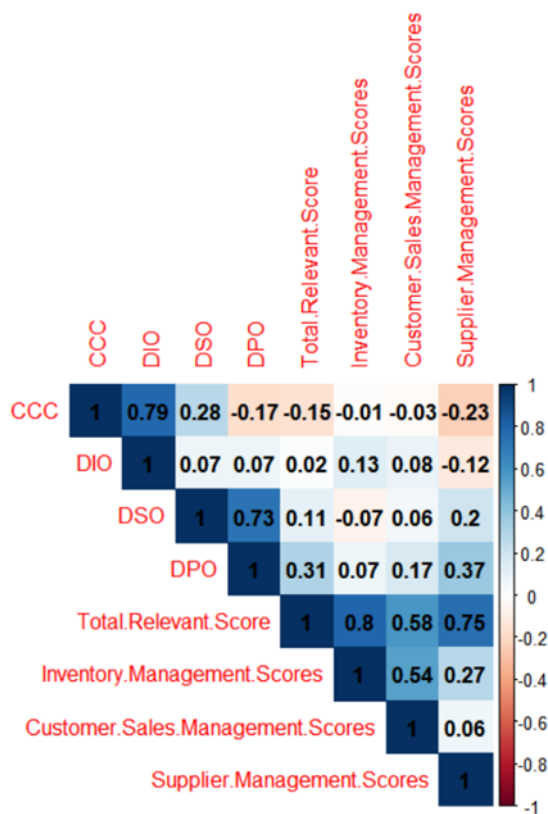


Figure 3. The Correlation Graph Among Financial Indicator and SCM Practices

Based on the Figure 3, we can conclude that although most of relationships among paired financial indicators and SCM practices are not strong, there are some exceptions. DPO has a slightly positive relationship to supplier management scores, and CCC has a

strong relationship with DIO. It means the inventory management is critical factor that will affect the cash management in MSEs in Latin America. According to the statistical test result, we can conclude that under the 95% confidence level, CCC and DIO have strong positive correlation.

Recommendations

Based on the analysis result, we can see not all factors which compose to CCC can significantly affect the cash management efficiency. Considering most MSEs in Latin America do not have sufficient financial budget or time to deal with all problems at the same time, we recommend following our priority list to deal with issues in the top of the list to improve the cash management efficiency. Our priority list is as follows:

(1) First priority - inventory management

Reason:

- a) Strong relationship with CCC.
- b) Relatively easy to execute.

How:

- a) Build up relevant inventory records to track daily inventory. After all, records are the foundation of the improvement.
- b) Build up basic inventory management policy such as base policy (e.g. Ordering on consumption). After building up the solid inventory records and basic inventory policy, the enterprise can prevent to order excess raw material and to control the finished inventory accurately. In the end, it can increase the cash management efficiency.

(2) Second priority - supplier management

Reason:

- a) Some relationship with CCC.
- b) Relatively difficult to execute. It is relatively difficult to execute compared to inventory management.

How:

- a) Review the payment term policy in the contracts with main suppliers.
- b) Consider approaches to extend the payment term. For instance, MSEs can form a purchasing coalition to request better offers to suppliers, or aggregate demand from different suppliers to increase the procurement volume.

MSEs should leverage their purchasing power to negotiate the better payment term because it directly affects the cash management efficiency.

Conclusions

Previous studies show that cash management is one of the key factors to survival rate of micro and small enterprises (MSEs) and gender plays an important role in the business operation performance especially in developing countries. These findings inspired us to go further to study if we can find similar phenomenon in MSEs in Latin America. Based on our analysis, we cannot conclude that there is significant difference in cash management efficiency between male owners and female owners. In addition, we found that in most cases, the relationship between cash management efficiency and supply chain management (SCM) practices is relatively weak. Therefore, we conclude that we cannot expect to improve the cash management efficiency merely through improving SCM practices.

However, there are some relevant findings in this research. First, in all financial indicators, there is no statistical evidence that either male or female owners perform better in days of inventory outstanding (DIO). Second, DIO has strong relationship with cash conversion cycle (CCC). Although the strong correlation does not mean there is causation, nevertheless we argue that DIO plays an important role here as one of the components of CCC. Third, although the impact does not seem strong, days of payable outstanding (DPO) has some correlation with supplier management. Therefore, supplier management could potentially improve the DPO indicator.

Since reducing days of CCC by our definition, can effectively increase the survival rate of MSEs. Based on our findings, we recommend business owners should focus on inventory management practices. Not only because its correlation with CCC is stronger than other factors but also it seems more manageable to execute for companies.