

The \$100 question: What are the supply chain priorities for small firms in developing countries?

By: Rafaela P. Nunes and Ramón Paulino
Advisors: Dr. Josué Velázquez and Dr. Cansu Tayaksi

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Summary: This research paper focuses on defining priorities for supply chain practices in small firms in developing countries. We studied micro and small companies in Mexico City and by combining the resulting insights of a system dynamics model; we study the relationships between best practices and small firms' growth. The result is a strategic framework that provides guidance to small firms on how to prioritize the adoption of best practices to improve survival and growth.



Before coming to MIT, Rafaela P. Nunes worked as an Independent Supply Chain Consultant. Prior to that she graduated with a BS in Naval Engineering from Universidade de São Paulo and then worked for L'Oréal for 5 years.



Before coming to MIT, Ramón worked as an operational excellence senior consultant with CCI. Prior to that he worked for Baxter Healthcare in a Quality and Product Engineering role. He holds a Bachelor's degree in Industrial Engineering and a degree in Corporate Finance from the Santo Domingo Institute of Technology (INTEC).

KEY INSIGHTS

1. Regardless of growth capacity, small firms should start focusing on prioritizing practices that improve service and quality
2. Once quality and services practices are in place, small firms should focus on market expansion, collaboration, and capacity building
3. Price competition strategy in small firms does not sustain long-term growth.

Introduction

Latin American countries face a complex economic situation caused by lower growth and the prevailing uncertainty in the global economy. Furthermore, the labor productivity gap (i.e. GDP per employee) of micro and small firms in Latin America lags significantly behind that of their larger counterparts. For instance, labor productivity of small firms relative to that of large firms

ranges from 16% to 36%, while in Europe it ranges from 63% to 75% (OECD - ECLAC, 2013). Since 98% of the firms in Latin America are micro and small, labor productivity is a significant factor that affects the rate of development in the region.

The adoption of supply chain and business best practices is associated with performance improvement in large and small firms. However, for the context of small firms, a strong limitation on resources makes imperative to prioritize their focus and practices. Therefore, for small firms to move towards greater productivity, it is essential not only to implement supply chain practices, but to understand which activities are most important for their performance.

Growth is not the only determinant of a small firm's survival, but it increases the firm's probability of enduring through external pressures. Based on this knowledge, a literature review focused on Small-and-Medium-Sized Enterprises (SMEs) from emerging countries, and the study of 15 Mexican Micro and Small Enterprises (MSEs), we use system dynamics to illustrate how different practices impact small firm growth and develop a framework to prioritize these practices.

Data and Methodology

We collected data, in partnership with students and faculty from Monterrey Tech, Mexico from 15 micro and small firms located in Mexico City.

The data collected for these companies includes information about their business practices, lean manufacturing practices, company processes, and the routine of one of the company's key decision makers. In addition, we gathered information about the companies' competitive advantage. We particularly asked the general manager: "What is your main advantage among your competitors" and explored the question with some examples of main competitors. We also interviewed the companies to understand their main challenges according to the managers' expertise. Both "Competitive advantage" and "Main challenges" are along with general company socioeconomic data in Table 1.

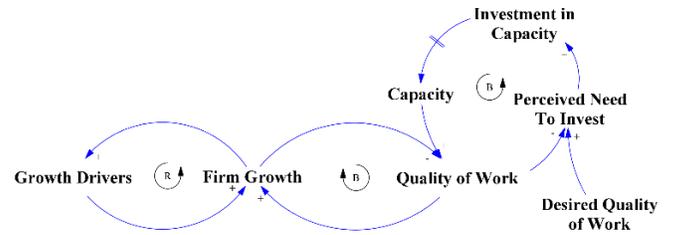


Figure 1: Base Limits to Success model

Best Practice Evaluation

For potential best practices that micro and small firms could implement to improve their business, we used 40 Supply Chain practices from the Data Collection Guidelines Manual that includes practices on the following domains: Supplier Relationship Management, Customer Relationship Management, Operations, and Planning and Business Processes. Based on the impact on sales growth of each of these practices, as tested

against the model in Figure 1, we assigned to each question a performance attribute driven by the practice, split into two categories: "growth drivers" and "baseline keepers".

"Growth drivers" are those performance levers that lead to new customers or an increase in sales in existing customers in the systems dynamics model: marketing practices, collaboration practices and capacity increase. "Baseline keepers" are practices that drive better performance with existing customers; the baseline keepers drive firm efficiency but do not necessarily bring about new sales.

This classification is the basis of our proposed framework, by differentiating priorities between companies that are in a growth path and those that do not have this goal.

Results and Recommendations

From the insights derived from the system dynamics model and the data collected in the companies in Mexico, we proposed the framework (see Figure 2) as a prioritization guideline for best practice implementation in micro and small firms.

ID	Age (years)	Size (employees)	Sector	Industry	Competitive advantage	Main challenges
MEX1	16	25	Commerce	Energy	- Features - end to end solution	- Cost reduction - Internal communication gaps
MEX2	36	26	Manufacturing	Equipment	- Quality (durability) - Market pioneer	- New players - Process standardization
MEX3	33	na	Manufacturing	Food and Beverage	- Quality - Branding	- Increase machine capacity - Increase machine flexibility
MEX4	6	20	Manufacturing	Food and Beverage	- Quality (international standard)	- Entering new markets - export - Increase machine capacity
MEX5	17	20	Manufacturing	Safety Equipment	- Quality - Service (fast delivery)	- Customer collaboration - Process standardization
MEX6	21	14	Manufacturing	Textile	- Innovation - Quality	- Market Expansion
MEX7	9	36	Service	Marketing	- Market pioneer - Quality	- Market Expansion
MEX8	20	18	Service	Commercial Printer	- Price - Quality	- Getting into new markets - Fierce competition
MEX9	9	na	Service / Commerce	Wellness	- Features - end to end solution - Service	- Market Expansion - Inventory Management
MEX10	na	na	Manufacturing	Furniture	- Quality / Service	
MEX11	na	3	Commerce	Party articles	- Relationship - Price	- Training - delegate - Inventory control
MEX12	50	90	Manufacturing / commerce	Furniture	- Service (personalized project) - quality	- Build a growth strategy (organization/capacity)
MEX13	10	19	Manufacturing	Plastic	- Features - Quality	- Increase Capacity
MEX14	1	2	Commerce	Toys	- Innovation - Quality - sustainable sourcing	- Market Expansion
MEX15	10	20	Manufacturing	Plastic	- Features (do things big companies don't want)	- Capacity + efficiency - Price strategy

Table 1: Company profiles

System Dynamics Model

Given that growth is an influential factor in increasing the likelihood of survival of micro and small firms, we use system dynamics thinking, specifically a custom variation of the Limits to Success system dynamics archetype. This model relates internal and external factors to a firms' sales growth. Using this model as a basis, we added variables that describe the relationships between small firms' growth and best practice implementation. Figure 1 describes the basic Limits to Success relationships used for this analysis.

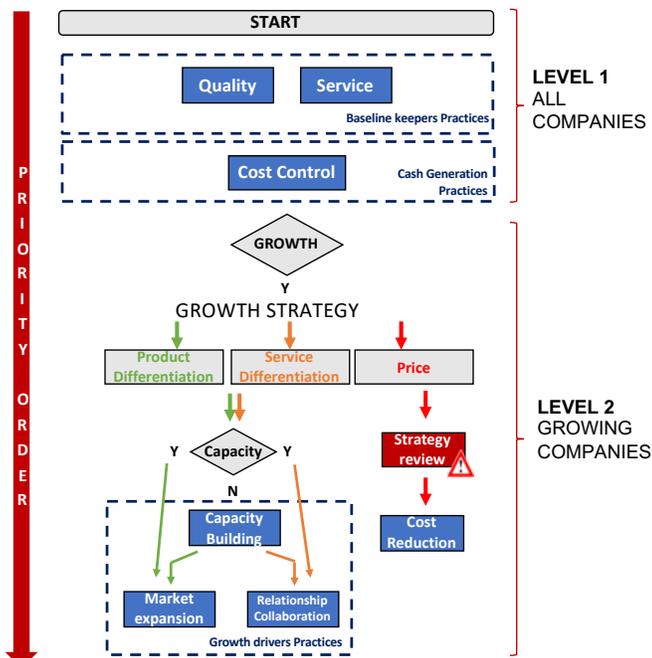


Figure 2: Framework for Small Firm Practice Priorities

At the top of the priority order are practices related to quality and service. Our results show that these practices are essential and should be prioritized by all the companies independent of growth outlook. We name these practices “baseline keepers” because, even though they will not necessarily drive growth, they will sustain certain degree of stability in a small firm by keeping the current customers satisfied and willing to buy again.

Cash generation practices are next in the priority order. The cost control practices, although important for the company’s financial health, will not keep or acquire new customers. However, they are essential to support sustainable growth and operations of the company.

The third element in the priority order is the firm’s growth. If the firm is looking to grow, then we suggest priorities based on the firm’s growth strategy. If the firm is not looking to grow, they should keep focus on the first two elements of the framework, “baseline keepers” and cost control, to keep the business on track. For growing-focus firms, the priorities relate to the firms’ growth strategy and differentiation conditions. In any scenario, the firm must ensure they will plan capacity to support growth. Therefore, capacity planning is a priority for growing firms.

If the firm has planned capacity, they should then invest in practices that fuel growth according to their strategy.

For firms competing in the product differentiation market, expansion practices will bring forth new customers. For firms competing in service differentiation, i.e. flexibility of delivering different services adapted to customers’ needs, growth will more likely come from current customers asking for new variations of the current services. Therefore, activities related to customer collaboration and relationship building are key. Finally, small firms should avoid engaging in price competition. This strategy drives short-term growth but does not sustain long-term growth.

Conclusion

Improving the productivity of micro and small firms is imperative for Latin American development. These companies represent a large majority of companies in the region and have untapped potential. Although previous studies recognize the relationship between business practices and the importance of tailor-made guidance for micro and small firms, there is a gap on how those firms should prioritize these practices to improve productivity and survival. Micro and small firms have limited resources and, as a result, the decision of which business practices to prioritize can be the threshold for them to adopt best practices.

We proposed a practice prioritization framework aimed at micro and small firms level. We found that strategies related to be the low-cost operator is a misguided focus for small firms, and they should instead prioritize flexibility and product differentiation strategies (i.e. quality and service). After achieving a baseline of service and quality practices, small firms that are looking to grow can focus on the practices that will drive sales growth.

Our framework is not only intended to help micro and small firms to prioritize decisions, but support governments to better develop training programs and interventions aimed at micro and small firms. Our work also contributes to a not much explored area of supply chain management: small and micro firms in emerging economies.