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A Strategy of Business Collaboration for Adopting Information Technologies in Small and Medium Sized Companies in Latin America

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ABSTRACT

Small and medium-sized companies (SMEs) in Latin America cannot always have access to complete integral IT solutions that supports business mission accomplishment and allows for presence or continuing participation on today's competitive market. One of the deterring factors is the current relationship between SMEs and IT vendors, being one of high IT costs and apparent indifference from the vendor towards the SME. Considering that SMEs account for 43% of Mexico's GDP, it is reasonable to consider them as clients for IT vendors, given the potential of offering IT solutions that support their growth and development. In this paper a business model for improving the relationship between SMEs and IT vendors is presented, along with the proposed evaluation methodology. The solution advocates for a partnership relationship among several SMEs, involving a "shared sourcing" strategy, allowing for shared total cost of ownership and risks among them, within a scheme of economies of scale.

Keywords

Economies of scale, supply chain management, total cost of ownership, IT acceptance in Latin America.

INTRODUCTION

Fast change and global competitiveness in markets are forcing companies to increase their processes efficiency, by means of reducing costs, increasing productivity and achieving a better return of investment. Small and medium-sized companies (SMEs) are aware of these changes and they strive to offer products and services of high quality with reduced costs. A key success factor for achieving this is the adoption of Information Technologies solutions. By *IT solution*, we mean a software application that supports one or several of the value chain processes of a company, along with the infrastructure (hardware, administration) required for its support and operation. A company that provides such applications, as well as the proper infrastructure (even indirectly) will be referred to as an *IT vendor*.

According to our experience, the vast majority of IT vendors develop and tailor their products and services for a reduced target market, consisting of those companies that have the financial resources required for absorbing the often high costs of technology deployment, software licenses, and support. This situation makes it hard for smaller companies to have access to IT solutions. Even so, SMEs strive for competitiveness, although they cannot implement integral IT solutions that support their business goals, even if they require them. For this reason, it is the authors' opinion that the full potential of SMEs in Latin America as business opportunities for IT vendors has been underestimated. In view of this, in this work we introduce a proposal for a business solution that would allow SMEs to access IT solutions in a way that is still profitable for the IT vendors. Our proposal involves the shared ownership of IT solutions by several companies within a cooperative scheme, which allows for a significant reduction of total costs of ownership (TCO).

THE RELEVANCE OF SMEs IN THE LATIN AMERICAN MARKET

There are several criteria for defining what a small or medium-sized company is. In this work, we have chosen a definition from the International Labor Organization (2003), that classifies companies with respect to their number of employees: a company with 10 to 50 employees is considered small-sized, and a company with 51 to 250 employees is considered medium-sized.

According to the Mexican National Institute of Statistics, Geography and Informatics (INEGI, 2000), there are about 2.8 million companies in Mexico. From these, only about 4% (or about 113,000 companies) fall into the SME classification. However, this 4% generates 43% of Gross Domestic Product (GDP), and about 30% of the working force in Mexico, as shown in Table 1.

Classification	Number of Companies	% Companies	% GDP	% Employment
Micro	2,722,365	95.70%	20%	49%
Small	88,112	3.10%	21%	15%
Medium	25,320	0.90%	22%	15%
Large	8,474	0.30%	37%	21%
Total	2,844,271	100 %	100%	100%

Source: INEGI (2000)

Table 1. Classification of companies in Mexico

As we can see, this little percentage of SMEs accounts as the major employment source of the country. It is reasonable to assume that making an impact on this companies will impact the country economy, which makes these companies a potential business opportunity that should be considered by IT vendors.

One of the factors that hinders IT adoption in Latin American SMEs is the relationship they have with major IT vendors, which is one of apparent indifference from vendors towards SMEs. Vendors typically adopt a differentiation strategy where the customer base is small, but not cost sensitive. On the other hand, a cost-leadership strategy is needed to provide an affordable solution to companies that do not have enough financial resources to undertake an IT initiative, but constitute a large customer base, such as SMEs. Such strategy may be based on small margins, but a large volume is what makes it profitable. For example, a study by Riemenschneider and McKinney (2001-2002) based on Ajzen's theory of planned behavior (1991) found that cost is an important factor in the decision of adopting Web-based e-commerce

Currently, some major IT vendors have become aware of the potential market represented by small companies. Products like MySAP, from SAP, bCentral from Microsoft, Enterprise from PeopleSoft, and the ERP software from the Mexican company Dynaware are examples of this emerging interest. Still, the products offered are generally web-based ones, mainly designed for e-commerce applications.

TOWARDS A BUSINESS SOLUTION FOR SMEs AND IT VENDORS: IT ADOPTION MODELS

IT adoption levels are different depending on the adopting company's size. Most IT solutions are first adopted by those companies that have enough resources to start a long and expensive implementation process, than by the rest of the companies. Therefore most IT vendors then focus their efforts on building solutions for the most profitable potential clients.

In-source IT Solutions

The most straightforward manner, in which a company can adopt an IT solution, is to acquire it from an IT vendor. The company then owns and manages the purchased solution, thus absorbing the *total costs of ownership*, or TCO¹. Large companies have been pioneers in IT adoption and use for a long time. However, the process is not equally easy for SMEs. They possess not only far less resources, but also less awareness of the possibilities that IT offers for fostering competitiveness.

¹ For a definition of TCO, see, e.g. Elram and Sifer, 1998.

Outsourcing IT Solutions

Another way of having access to IT solutions is to outsource them: this is, to hire an IT vendor to host and manage the IT solution. At first glance, it would look like outsourcing would be a cheaper solution for a company, given that the IT vendor would absorb most aggregated costs, and would be able to do business within a economies of scale model by serving several clients. This is not necessarily true, however, given that outsourcing increases the complexity of managing the IT solution, incurring in hidden costs that should be taken into account. Typically, a company chooses outsourcing as a strategic decision, and not to lower costs. Therefore, this is still not a solution for some SMEs.

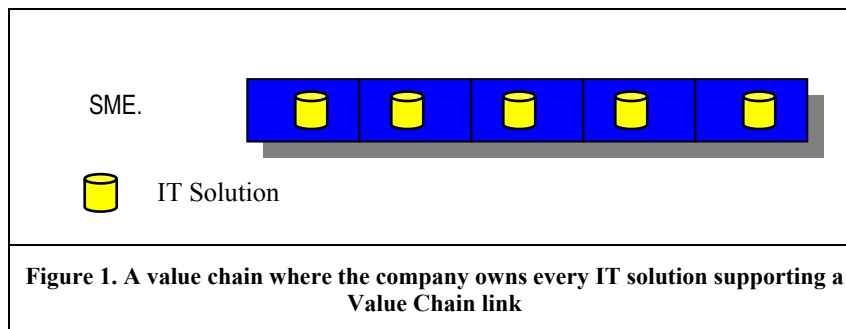
First Attempt at a Solution: Economies of Scale

In principle, a business solution for IT vendors would be to sell cheaper products to a large number of SMEs, within a strategy of economies of scale. This strategy is based on offering low priced products with a slight margin of utility, the key factor to obtain a good return being the ability to sell the product in large quantities.

As it happens, this is not a completely viable solution. Economies of scale work well in areas like manufacturing, where the final user buys a finished product. For the case of IT adoption by SMEs, the situation is different: even if the IT vendor is willing to offer a cheaper solution, the company might still not be able to implement the solution. This apparent paradox occurs because the TCO is still high. The IT vendor would have to provide a complete outsourcing solution to absorb these costs, with the corresponding risks associated to it.

THE COMPLETE SOLUTION

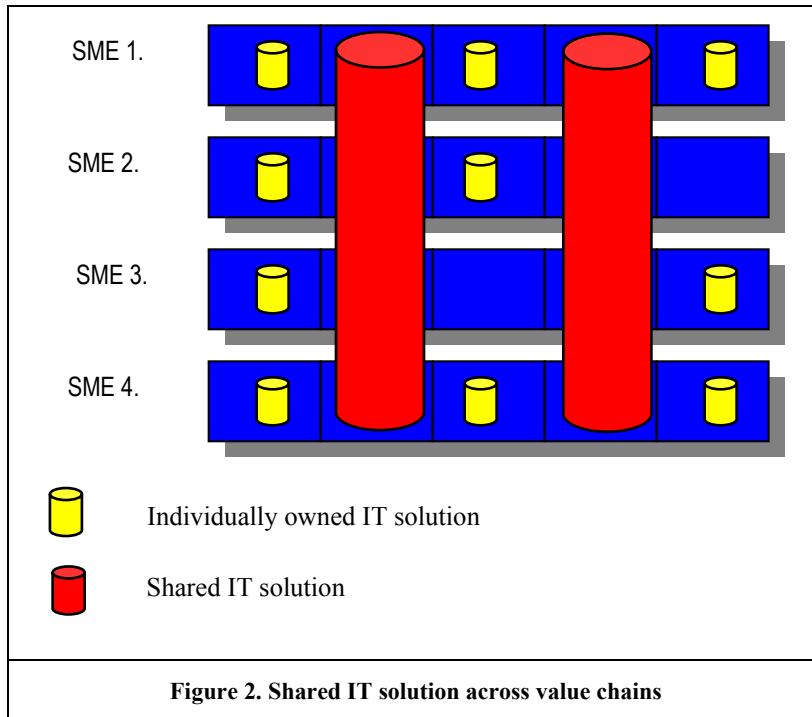
Typical IT solutions consist on the acquisition of applications that support the processes of one of more links of the company's value chain². As shown in Figure 1, the company can eventually own IT solutions to support processes in all of its value chain, absorbing the corresponding TCO, such as license fees, or server costs. The company also assumes security risks, network problems and other issues related to owning the IT solution.



Our Proposal: Shared Sourcing

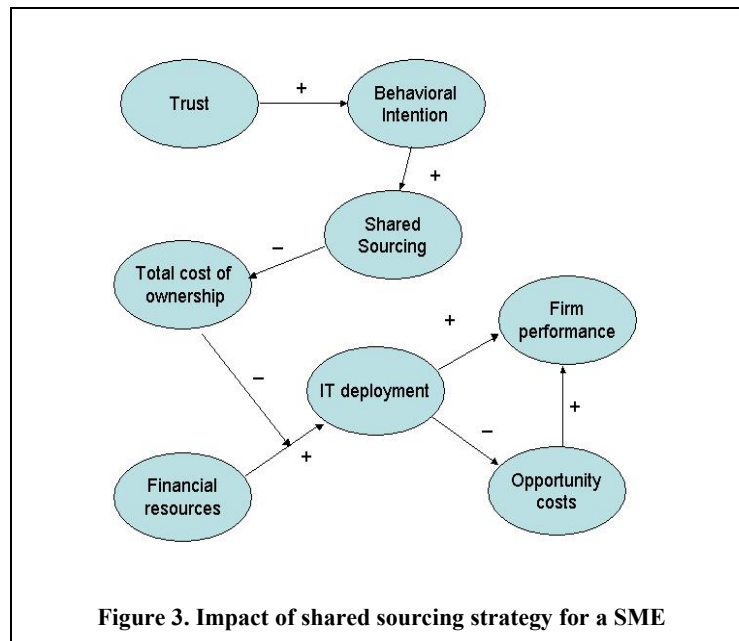
If the main reason why SMEs cannot be targeted with a model of economies of scale is that TCO remains high, then a solution should be based on a model that also reduces the TCO. Our proposal achieves this in the following manner: a number of SMEs, all of which have similar processes in a link (or links) of their value chains, acquire an IT solution for the common process. Now the involved companies are “cooperative partners” since, even though they use the solution independently, they share the TCO, and also the benefits and risks related to operating the adopted IT. The IT vendor becomes a partner in the measure it facilitates or encourages the sharing of the IT. The model is now one of cross-sectional economies of scale within the value chain as shown in Figure 2, where every individual company has to pay only for the proportional part of the adopted solution.

² For a definition of supply chain see, e.g. Hugos, 2002



Two Perspectives, One Strategy

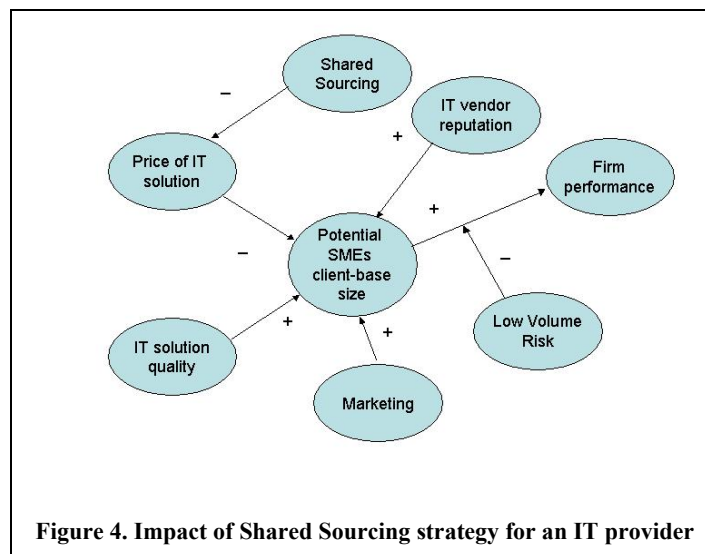
It is our belief that a shared-sourcing scheme represents a competitive advantage for both IT providers and SMEs. We propose the following models of the impact of this cooperation. On Figure 3, the impact on a SME is presented, where the shared sourcing strategy helps in lowering TCO, which in turn facilitates the acquisition of IT solutions, ultimately improving firm performance for the SME.



Comments

- TCO is reduced because it is distributed among all the partnered SMEs in a model of economies of scale.
- There are cases of American companies sharing resources to have access to expensive applications. This solution is novel in Latin America because of cultural conditions that may deter potentially competing companies from sharing resources. The successful implementation of the shared model depends on the level of trust that companies can have on each other.
- Firm performance is a measure of how successful a company is. Growth, return on assets, labor (non production employees) and percent in change in labor are all indicators of firm performance.

Figure 4 shows how the shared-sourcing strategy would affect an IT vendor. As we have said earlier, the possibility of SMEs having access to IT solutions opens the market for more than 100,000 companies in Mexico, which in turn may positively impact the IT vendor's performance.



Comments

- Even if the vendor doesn't provide a particular solution for SMEs, the shared sourcing approach means new customers that would have no access to the solution otherwise.
- If the vendor facilitates the shared sourcing approach (e.g. by lowering the price) low volume risk is more important.
- Given the importance of SMEs in Mexican economy, cooperation of the IT vendor with them would result in a national social impact by supporting SMEs' development.

Implementation and Evaluation of the Proposed Strategy

It is important to consider Latin American cultural factors when assessing the feasibility of the proposed model and its successful implantation. We have established three phases for evaluating and ultimately implementing our strategy.

Phase 1.

Here, we will measure the degree of willingness of SMEs' management to cooperate with other companies – possibly competitors – in order to gain access to high cost IT products. The main issue is to assess levels of trust (like in security issues when sharing an application) as a catalyst for behavioral intention. Instruments for measuring the behavioral intention constructs will be based on the Motivational Model of Davis, Bagozzi, and Warshaw (1992) and the Theory of Reasoned Action of Fishbein and Azjen (1975). The perception study will be based on a cross-sectional analysis via the survey method.

Phase 2.

Here, the model will be refined in concordance with the results obtained in the previous phase. The purpose is to improve the model to maximize its acceptance among SMEs.

Phase 3.

This is the implementation phase, where a business incubator should be established, that would guide SMEs through the process of IT conversion to e-business players. During this phase, a comparison with other solutions should be done. Direct observation for a longitudinal analysis will be used to measure the following issues:

- Understanding the actual behavior of management and vendors, and their reaction to sharing IT resources.
- Measurement of actual firm performance, as a direct result of IT deployment, using instruments based in those used by Santhanam and Hartono in 2003.

CONCLUSIONS

It is of paramount importance for the development of Mexican industries that its small and medium sized companies become more competitive, given that they account for 43% of GDP. A shared sourcing strategy can help SMEs in being more competitive and productive. We believe that initiatives like this one can really make a difference on Mexican economy. Naturally, overcoming cultural barriers and resistance to change is vital if initiatives like this are to prosper. The expected results of the study should pave the way for the realization that cooperation can be, indeed, a business opportunity.

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