

Outsourcing – Factors in the Phenomenon

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Abstract: Outsourcing is a recent “fashion” often considered by the strategic management of large organizations in the developed world. The objective of this paper is to identify ingredients that made outsourcing so *fashionable*, and assess to what degree these factors exist from the perspective of three countries: Canada – in which the authors work, the UK – a similarly development market, and Argentina – a ‘rising star’ from the developing world. Although Canada and UK may be considered as being ahead, the outsourcing concept is by no means specific to highly developed economies alone.

1. Introduction

The world is undergoing an evolution from the industrial society to an information society, hence from industrial economy to information economy/ electronic commerce. At the core of this revolution is Information Technology – IT. The OECD (Organization for Economic Cooperation and Development) identifies IT as one of the major components of growth and international competitiveness [12].

With IT playing such a key role in the emerging new economy, it is becoming increasingly important to provide IT for an enterprise to complete this transformation/ evolution towards electronic commerce. However, the typical corporate IT department is not big enough to handle the needs of all the e-business operations in a company by itself [4]. Therefore, companies will be compelled to rely on external service providers for applications, Internet services and network connections.

In this study, the relations between the economic level of a country and its market for external service providers, i.e. outsourcing, was investigated. The objective was to understand the Canadian IT outsourcing market with its associated advantages and disadvantages. In order to facilitate such a review, two other countries were compared against Canada: Argentina and UK. Argentina was selected, because it is one of the “rising stars” of the

developing world – it belongs to the “Upper Middle” class of The World Bank Income estimates of 1999 GNP per capita [23]. Moreover, in terms of connectivity [14], and scientist/ engineers working in R&D [23], Argentina is leading the way in South America.

The UK, on the other hand, is taken to be an example of a country with more equivalent to Canadian economic standards and language. Specifically, using The World Bank Income estimates, UK and Canada are both classified in the “High” income class [23]. Hence, the 1999 GNP per capita for the UK is 22640 USD, 19320 USD for Canada, and 7600 USD for Argentina. This is illustrated in Figure 1.

In the remainder of this paper, we will investigate the factors influencing IT outsourcing in these countries. This will be followed by law and policy issues in each country. A discussion is presented to conclude the paper.

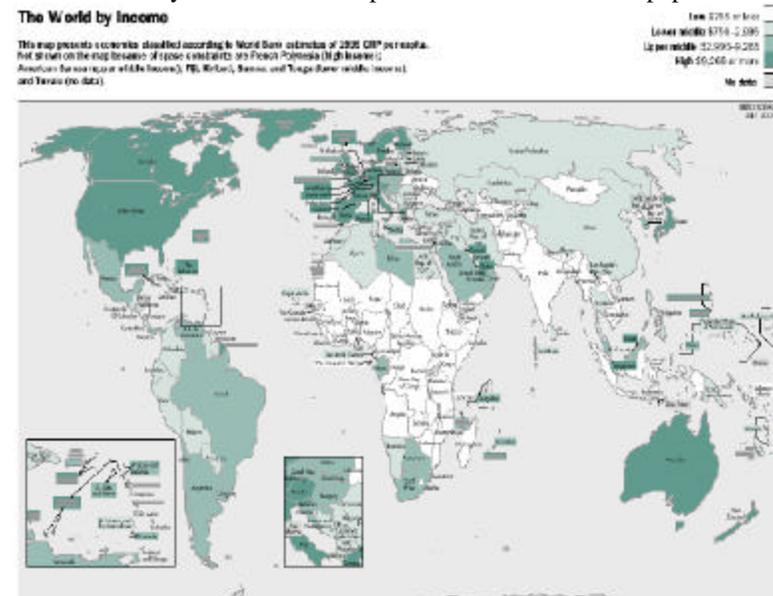


Figure 1. The World by Income [23]

2. Factors Influencing IT outsourcing

According to British Telecom, outsourcing is defined as “*The transfer of a company's asset and /or responsibilities to a third party to manage and operate thus providing customers with a commercial advantage. It may involve a process, a function, a service or a project or any combination of these*” [2]. In this context, the transference of a company's non-core business to an external service provider, i.e. outsourcing contractor, will allow the company to focus more on the major product or service that it is trying to manufacture or produce. Therefore, many companies, which do not consider IT as their main function, start to look for outsourcing contractors.

What opens the door to the IT outsourcing therefore is economy of scale [15]. Customers benefit by getting enterprise-class IT services at affordable prices. Instead of purchasing and setting up their own IT software, they outsource what they need and, thus, obtain better control over their operational costs. As for the outsourcing contractor, the objective is to see a profit by spreading the cost over a large base of users/clients. In this work, we investigate one side of this coin, that is, the factors that influence the IT outsourcing contractors, before analyzing the results of these factors in Canada comparing them with its Argentinean and British counterparts.

The most obvious factor influencing an outsourcing decision is a bottom line effect in cost savings for the corporation. Other factors include, but are not limited to, the amount of available expertise, the standard of living, and law and policy issues. Each of these issues will be reviewed in the following.

The IT costs a company or corporation can incur vary from industry to industry, corporation to corporation and definitely from country to country. However, there are a few core features that will influence a company to consider the possibility of outsourcing. One of these will be the cost of IT personnel, and another is the cost of data communication. This is based on the assumption that any company that is considering hiring internally as opposed to outsourcing will have IT employees, and will require to do data communication at some point in time to successfully perform. Table 1 summarizes these costs in Argentina, Canada, and the UK.

Table 1: Cost of hiring an IT manager or administrator (in Canadian dollars)

Country	Personnel Cost	Internet Access Cost
Argentina	IT Manager: ~ \$31,000 [6]	~ \$555 [20]
Canada	IT Manager: ~ \$80,000 [3]	~ \$960 [19]
United Kingdom	IT Manager: ~ \$126,000 [7]	~ \$525 [18]

From table 1, it is evident that an IT manager in the UK earns considerably more than an IT manager in either Canada or Argentina. Argentinean IT managers appear to be the lowest paid. Therefore, it may be more beneficial for a company in United Kingdom to consider outsourcing. Moreover, it must be remembered that hiring personnel does not just constitute paying a monthly salary but providing benefits, bonuses as well as pension plans and retirement packages. Outsourcing will reduce the burden of hiring personnel as well as looking after them.

In addition the standard of living in a country can have an influence on the outsourcing decision. Hence, on the face of it, the figures in table 1 indicate that IT personnel and data communication costs are low in developing countries such as Argentina. However, the level of Argentine economy is lower than the “High Income” countries like Canada and Britain [8]. Thus there is still a significant pressure for considering outsourcing instead of setting up in-house IT applications, for much the same basic cost driven rationale as in more developed markets. As for the data communication costs, UK is leading in terms of affordable prices (see Table 1).

From this picture, we conclude that most of the companies that will consider outsourcing will be small-to-medium size enterprises, referred to as SMEs. Such enterprises will quickly see the advantage of gaining access to software and hardware that they could not afford to purchase. Nevertheless, one may think that outsourcing contractors will make the most profit if they are in such a market. However, this is not always the case. Outsourcing contractors say that they have two customer types coming to their companies for different reasons [12]. *SMEs* outsource because they want enterprise-class applications at a reasonable cost. On the other hand, *large corporations* outsource software-controlled tasks for the

sake of efficiency so that they can free up their own IT personnel to work on mission critical tasks [12].

Another important factor that influence companies to outsource is finding people with the relevant knowledge and experience. As electronic commerce becomes more and more important for companies, demand for IT professionals who can develop and support such systems naturally increases. Indeed, outsourcing contractors will have a better chance of attracting the right professionals since they can often provide a better range of opportunities. That is to say, the flexibility of working with different customers in different areas helps these outsourcing contractors to attract talented IT professionals more quickly. Table 2 summarizes the IT staff acquisition from easiest to most difficult by job type [17]. It is interesting to see the differences between the US market and the rest of the world. Such as database analyst is difficult to find in the USA but much easier in the rest of the world whereas network analyst is easy to find in US but more difficult in the rest of the world. On the other hand, it is not surprising that metrics specialist is hard to find in all markets given that few companies collect such data.

Returning to the three countries of interest in this study, the World Bank survey performed in 1999 [23] indicates that the number of Scientist and engineers in Research and development in Argentina is 660/million people, in Canada 2719/million people, and in UK 2448/million people. This implies that Argentina does not have as much specialized manpower as compared to the other two companies.

Another statistic to note is illustrated in Table 3. Canada surpasses the other two countries in the number of personal computers per 1,000 people and the number of Internet hosts per 10,000 people. Argentina, a country with about the same population as Canada and half the population of UK, is the lowest out of the three in these respects. This is interesting since one may be inclined to assume that regardless of the size of the population, the number of personal computers per capita would be similar as opposed to having the least number of personal computers and Internet hosts per capita for the larger population. Therefore, it can be concluded that Argentina does not have as much infrastructure as the other two countries.

Therefore, from the lack of manpower and the lack of infrastructure, outsourcing would seem to be the logical choice for a country like Argentina. However, the authors believe that this makes Argentina a country less like to outsource as opposed to a country like the UK or Canada. This is because with less available manpower and a worse infrastructure, in order for companies to have an advantage over other IT companies, it would make sense to have these people work for them with the existing infrastructure as opposed to sharing these individuals and companies. Moreover, an outsourcing contractor would be overburdened resulting in less favorable results if they cannot handle the load well. In the same manner, Canada would be the most likely to outsource. This is because there is a greater abundance of people making it more profitable to have the outsourcing contractor take care of salaries, bonuses and benefits for these people. This leads to less responsibility for the company and more allocation of resources to core business matters. This is supported by the PriceWaterCoopers [16] study which is discussed later in this paper.

A PriceWatersCooper study also provides an interesting perspective to the issue of outsourcing in general. When surveyed, 55 percent of European countries did some form of business process outsourcing. 87% of these were satisfied, 9 % dissatisfied while 4% gave no answer. In South America, only 40 percent used outsourcing with 70% being satisfied, 10 percent being dissatisfied and 20 percent providing no answer. This is with respect to 63 percent globally who did some business process outsourcing with 84 percent being satisfied, 10 percent dissatisfied and 6 percent giving no answer. In North America, 72 percent of the companies outsourced with 91 percent being satisfied and 9 percent being dissatisfied [16]. South America comparatively does less outsourcing compared to the global market and is less satisfied with the outsourcing than the other two regions. North Americans were the most satisfied with outsourcing. These figures also lend credence to the idea that South America is the least open to the idea of outsourcing while North America is the most open to the idea of outsourcing. The numbers are summarized in Table 4 and Figure 2.

Table 2 IT staff acquisition [17]

US	Non-US
Documentation and training staff	Intranet specialist
Network analyst or architect	Database analyst
System designer or architect	Internet specialist
Internet specialist	Business analyst
Business analyst	Documentation and training staff
Test engineer	Systems analyst
Intranet specialist	Project leader
Support programmer	Support programmer
Development programmer	Development programmer
Quality assurance specialist	System designer or architect
Systems analyst	Test engineer
Database analyst	Quality assurance specialist
Project leader	Network analyst or architect
Metrics or process specialist	Metrics or process specialist

Table 3: Population (in millions), Number of Personal Computers per 1,000 people and Number of Internet hosts per 10,000 people [8]

	Population	Personal Computers	Internet Hosts
Argentina	36.6	44.3	38.48
Canada	30.6	330.0	540.17
United Kingdom	59.1	263.0	321.39

Table 4. Percent of Companies surveyed that use outsourcing

Areas	Use outsourcing
North America	72
Europe	55
South America	40
Global	63

In the same study, 62 percent of the European decision makers believed that outsourcing directly improved shareholder value compared to the 66 percent worldwide. This was in comparison to the 44 percent in South America and 75 percent in North America [16]. It appears as though North Americans are most convinced of the benefits of outsourcing while the South Americans are the least convinced of the benefits of outsourcing. However, it should be remembered that these figures are about outsourcing in general and demonstrate the openness of a region to the business practice of outsourcing.

Satisfaction of Outsourcing with respect to Region

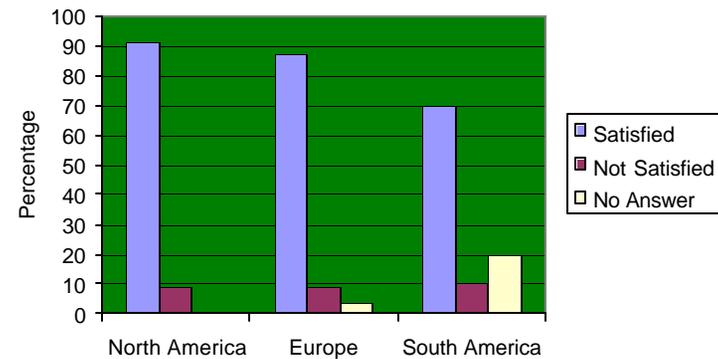


Figure 2. Percent of companies satisfied and dissatisfied with outsourcing with respect to region.

3. Law and Policy Issues

Law and policy issues can be considered as one of the most important factors that will influence the decision process for outsourcing. Law and policy issues will affect the contracts, which are essential in binding a partner and provider in an outsourcing agreement. Contracts, on top of the legal securities, have multiple benefits. The formation of a contract allows for role definitions as well as providing a framework for communication. A contract can be signed either electronically or manually, i.e. on paper. However, each country has a different view of digital and/or electronic signatures.

Naturally Argentina, Canada and the UK all have different views on the same issue, too. This can most starkly be viewed with the issue of electronic signatures. In Canada, the definition of an electronic signature is “A signature that consists of one or more letters, characters, numbers or other symbols in digital form incorporated in, attached to, or associated with an electronic document” [1]. As per the Uniform Electronic Commerce Act, a valid contract may be formed via an electronic document. It also explicitly states that a contract is not considered invalid or not enforceable on the grounds that it is an electronic document. Therefore, one can infer that for an electronic document to be valid to a partner, there should be a way to undeniably link that electronic document to the partner indicating that digital signatures are completely binding just like a contract on paper [21].

The United Kingdom defines an electronic signature as “...much of anything in electronic form as: (a) is incorporated into or otherwise logically associated with any electronic communication or electronic data; and (b) purports to be so incorporated or associated for the purposes of being used in establishing the authenticity of the communicator or data, the integrity of the communication or data or both” [1]. The Electronic Communications Act 2000, Chapter 7 states that electronic signatures in electronic communications can be admitted into evidence to determine the authenticity of the sender and the integrity of the communication [10]. This means, that a contract that was signed over an electronic medium can be considered binding, since the integrity of that document can be verified through electronic signatures.

On the other hand, digital signatures in Argentina are defined as “The result of the transformation of a digital document through the use of an asymmetric cryptosystem and a hash result, in such a way that a person that has the initial digital document and the public key of the signer can positively determine whether: (1) The transformation took place through the use of a private key that corresponds with the public key of the signer; (2) The digital document has been otherwise modified since the transformation took place” [10]. According to a decree on April 16th, 1998, it was agreed that digital signatures be promoted for a limited term for evaluation purposes. This authorized digital signatures for a period of two years from the date the procedure manuals were published [22]. The fact that the use and authority of digital signatures appears to be on an experimental basis, companies may not have as much confidence.

As a result, it appears that Canada has the loosest definition of an electronic signature but makes the document completely binding with an electronic signature. Whereas, the United Kingdom recognizes the existence of digital signatures but does not state, like the Canadian Electronic Commerce Act, that a contract cannot be broken on the basis that it was formed electronically. Instead, the Electronic Communications Act 2000 states that this can be admissible into evidence. Finally, although Argentina appears to be on the other end of the spectrum, it does not have a legal basis for electronic documents and is still considering the viability of digital signatures. Indeed, such lack of law and policy issues will make it difficult to form “secure contracts” for IT outsourcing where the rights of both partners (the company that is outsourcing and the contractor who provides the service) are satisfied in terms of providing the service and completing it.

“http://www.ilpf.org/digsig/analysis_IEDSII.htm” is a summary of the digital and electronic signature implementation initiatives currently underway in Canada, UK and Argentina [13]. According to this source, there can be a minimalist approach and a prescriptive approach to legislative policy. The difference in these approaches is that a minimalist approach attempts to facilitate the use of digital signatures, while the prescriptive approach is used to establish a legal framework of the policy. The prescriptive policy allows the government to directly affect standard regulations and the direction of technology in the country. The minimalist

approach instead attempts to remove hurdles to making a technology more available and easy to use.

Argentina lends itself to a more prescriptive point of view while Canada attempts the minimalist approach. United Kingdom, however, has a two tiered approach of sorts: the European Union advocates a minimalist approach and UK has a prescriptive layer on top of this approach giving flexibility. Again, this is interesting with respect to the trends that have been observed in this paper. Canada and Argentina are at the two extremes while the United Kingdom is in the middle.

4. Discussion

IT outsourcing is not as easy and simple as it seems since it requires an enterprise to change and adapt to a new manner of business thinking. However, as mentioned above, as electronic commerce becomes more important for companies, IT outsourcing becomes increasingly significant because of the perceived gains in cost saving, and efficiency of time/personnel usage needs [8, 9, 11]. The service contractor can provide up to date hardware, software and personnel, allowing a company to better focus its energy and resources on the core business functions. Furthermore, this allows the company to compete with the others in the same industry/ sector at a higher level, since it has access to world-class standards. These high standard services may be enjoyed by both the employees and clients and can almost be instantly enjoyed by the company without having to invest the effort in developing the technique – provided that the outsourcing has been done successfully.

Just as outsourcing IT seems to be the ultimate solution to a business's problems, there are trade-offs that should also be considered when considering outsourcing. Outsourcing provides a very modular business: one company utilizes the product or services of another company. However, this can lead to a loss of control for the customer company that sought outsourcing if the contract is not written sufficiently carefully or if the whole process of communication between the two partners is not set up carefully [5]. Moreover, in the case of a bad contract, the delivered items may not be up to the company's expectations resulting in poor services as opposed to the wanted world-class services [15]. In such a case, the

difficulty of switching to a different outsource contractor without experiencing a loss of business is very challenging and expensive problem to solve. Another issue to consider is the time required in negotiating with the outsourcing contractor and familiarizing the contractor with the business practices of the company [5]. In other words, there are pros and cons to outsourcing, but as the technology goes in this direction and information becomes more and more important, there is no other option for the business to take but be there as quick as possible. Hence, outsourcing becomes increasingly seen as a solution.

Finally, countries at higher levels of economic development, like Canada, naturally benefit from a higher initial level in infrastructure, economic standard and IT expertise. All of these aspects support a new market such as IT outsourcing in terms of both, satisfying the needs of Canadian companies, and acting as an outside service provider for other developing or developed countries. On the other hand, countries such as Argentina may actually be at an advantage if they can increase the IT expertise level within their country and improve their infrastructure and law & policy issues. In this case, the lower costs of personnel may enable them to provide software and application services for markets in different countries as well as within their country. As for countries like the UK, where the infrastructure is one of the best at an affordable cost, the big disadvantage is the cost of IT professionals. However, this problem is then addressed by two approaches - on one hand, by outsourcing to other countries and on the other hand by attracting more professionals from all over the world. Hence, as it is shown in [13], the UK is making use of both approaches, where this will balance the market eventually in terms of process and abilities.

In summary, the authors believe that the opportunities between the three countries considered here are almost even, but for very different reasons. It will be interesting to observe which ones will be able to capitalize on their position most. Canada, for the moment, appears to offer the best of both worlds, provided that it can keep its IT professionals.

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