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Managing Icelandic IT Operations Through Outsourcing

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Abstract

Iceland is a country in which the overwhelming majorities of its citizens regularly uses computers and are technologically literate. A review of CIOs representing 11 large corporations (by Icelandic standards) in seven industries yielded a set of trends that have emerged as representative of current Icelandic computer-based initiatives. Among these trends: a desire to reduce labor costs is not the primary reason for outsourcing; project management and requirements determination skills are in need; the establishment of IT strategy is typically not driven by the board of directors; while establishing systems that satisfy international standards is sought by most companies, none are eager to pursue certification; outsourcing is generally restricted to the fewest possible time zones; the most commonly used country for outsourcing is the Baltic nations and India; IT departments utilize outsourcing to secure sophisticated skills for one-time tasks, thereby permitting the company to maintain small IT staffs. Industry seeks business school graduates who can contribute IT strategy in the board room, create effective requirements documents, and possess a vision with respect to the application of technology to the competitive nature of business.

Keywords

Outsourcing, IT operations, Iceland, emerging trends

1. Introduction and background

Iceland's growth performance has considerably improved since the mid-1990s thanks to the widespread implementation of structural reforms. Financial-market liberalization and privatization, for example, have fostered entrepreneurship and investment. As a result, part of the previous relative decline in per capita GDP has been reversed over the past decade, and the country's standard of living has remained among the highest in the Organization for Economic Co-operation and Development (OECD) area. However growth has been volatile and accompanied by recurrent sizeable economic imbalances and tensions, only partly reflecting major aluminium-related investment projects (OECD, 2007).

The issue of globalization and the consequent practice of outsourcing work functions are not new (Jones and Kierzkowski, 2005) with origins dating back to the 13th century. In America outsourcing began in the 1970s when IBM developed the IT industry in India (Torrance, 2006), but it was brought to the forefront of interest with the recent publication of Friedman's (2005). In Iceland it may be arguably said that globalization began with the early adoption of internet technology is illustrated by Islandsbanki (re-branded as Glitnir in 2006), Iceland's first bank to introduce electronic banking through a dial-up connection in 1988. While mainly aimed at corporate

customers the service was also open to regular customers. As customers dialled up and connected to the banks modem service they were greeted by a text interface similar to early BBS services that enabled them to do simple transfers between their own accounts and limited ability to pay selected bills. The system was written and developed by Islandsbanki and although home computers were still not a household item, the use of the service grew steadily. Later when graphical display of html code was introduced, Islandsbanki moved the electronic banking services to the internet in 1996 (private verbal correspondence from an individual who performed the above task, 2007). Islandskanki was among the first in the world (Telecoms Infotechnology Forum, 1999) to offer "true" internet services. Soon other Icelandic banks followed suit. By 2002, two thirds of Iceland's household owned a desktop computer and internet banking had entered as the mainstream way of doing banking (Statistics Iceland, 2006) both for businesses and household. True internet banks are defined as those that permit their customers to review balances, transfer funds and pay bills on their web sites (TIF, 1999).

Iceland, with a population of 300,000, enjoys one of the highest standards of living in the world with a 2005 estimated GDP per capita of 55,000 USD. This high standard is supported by a very high labour participation rate and by renewable natural sources. High economic growth and rising productivity owe much to a flexible labour market, and extensive reforms in the fields of regulation and competition since the early 1990s. These have encouraged a more business friendly environment that has nurtured entrepreneurial spirit despite the small domestic market. Iceland's membership in the European Free Trade Association (EFTA) and the European Environment Agency (EEA) has ensured a largely unfettered access to European markets.

Iceland is the World's fifth most successful economy in exploiting developments in information and communications technology according to the World Economic Forum (2006). At the beginning of 2000, the balance sheets of the largest Icelandic corporations consisted mostly of domestic assets. The dramatic surge in the corporate balance sheet with total assets quintupled over the past three to four years has been largely due to overseas expansion, mostly through acquisitions. Given the small size of the Icelandic market, Iceland's largest corporations have focused on expanding their activities outside of the country.

This development is in large part due to early adoption of information and communications technology (ICT) and the successful utilization of its potential. Icelandic businesses, government institutions and households were among the earliest in the world, along with some other Nordic countries, to adopt information technology (Nordic Information Statistics 2005). About 98% of Icelandic business and households are connected to the internet with broadband use approximating 80%. According to the World Economic Forum (2006), Iceland ranked in 5th place in networked readiness in 2005 and 2nd in 2004, rising from 10th place in 2003. Iceland also scores high on other important IT measures such as business usage where it ranks 7th (Lopez-Claros, 2005).

2. Motivation
The authors of this paper sought to study the effect of outsourcing on Icelandic industry largely because no such study had ever been undertaken, and having a benchmark study would be important as Iceland continued its impressive industrialization record. We performed a diligent survey of all business literature in the National Library of Iceland searching for research articles

on the state of outsourcing. None were located. An investigation of all articles dealing with technology, technological change, or computers in Icelandic business yielded very few useful articles. One article dealt with productivity and technological change within the context of cost functions (Institute of Economic Studies, 2003), another with technological strategies with respect to retail banks (Gunnarsdottir, 1999), a third addressed productivity in business (Hertsson, 1993), a fourth discussed technology in society (Jonsson and Hujibens, 2005), a fifth was a proposal for action to utilize technology (Federation of Icelandic Industries, 2005), another addressed the competitive advantage of high-income nations built on technology (Þorgeirsson, 2004), and the last was the annual Nordic Information Society Statistics (2005), a compendium of articles, tables and graphs on information and communications technology. While this last reference was the most promising, it only identified Swedish and Finnish enterprises as participating in outsourcing. In short, the available information on outsourcing in Iceland was nonexistent. The authors saw the emergence of an unfortunate pattern.

At the onset the authors had hypothesized that few, if any, Icelandic corporations would be engaged in outsourcing of IT functions because the educational system in the Nordic countries is such that education through the Baccalaureate level is essentially free to its citizenry. The educational system in Iceland is sound and they have an active computer science and business school with programs suitable to produce graduates for the IT industry. As we interviewed the CIOs it quickly became evident that we needed data in this area in order to reflectively formulate any kind of adequate hypothesis. Hence, this initial paper is a compilation of the data we found and expect it to be the source of other papers that build on methodologies and formulated hypotheses. If we are in error by this action, we stand beside the world's greatest consulting detective, Sherlock Holmes[*], who said "I have no data yet. It is a capital mistake to theorise before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts." This paper is an initial inquiry into the collection of facts upon which the future theories shall be built.
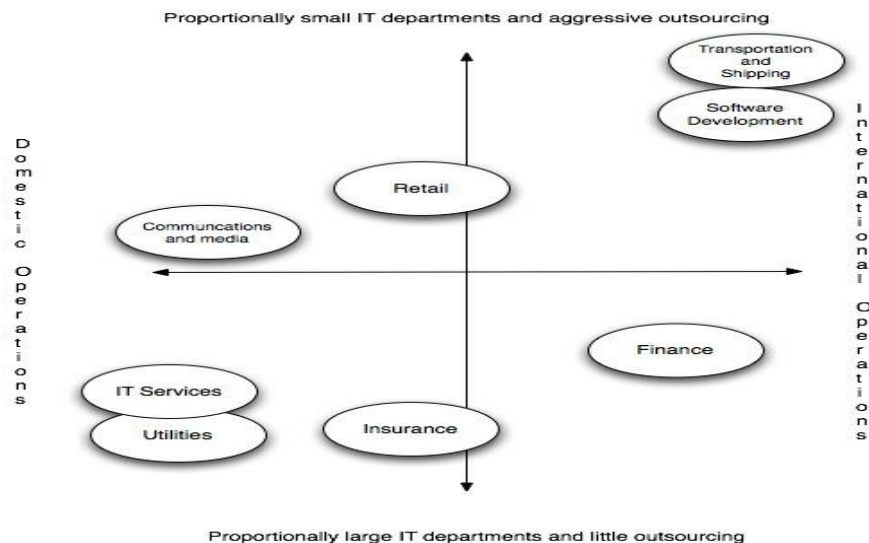

Figure 1 General comparison on industry types interviewed.

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[*] "A Scandal in Bohemia" by Sir Arthur Conan Doyle.

3. Method

Eleven selected large companies representing a cross section of Icelandic industry (communications, software, transportation, insurance, retail, banking, power, and shipping) are analyzed from the perspective of their involvement in the outsourcing and offshoring of IT related functions.

Each interview occurred with the corporate CIO, department head, or similar position, using a variation of Klein, et al (1989) and Taylor's (2005) interview technique designed to elicit expert knowledge and secure tacit information that might not otherwise be forthcoming. A set of questions was provided in advance, but only for use in guiding the discussion and ensuring that certain points were covered. Executives were encouraged to reflect on their experiences and share insights. From these conversations it is evident that the complexion of Icelandic corporate strategy has changed over the past five years, and will continue to change in the forthcoming decade. The conversations were taped, converted to CD format with background noise removed as necessary, and compared with field notes. To preserve anonymity, a condition set down at the onset, no individual company is addressed in this paper either by name or by industry other than in the aggregate sense.

A set of specific industries was identified based on company size, annual revenues, and the presence of an identified IS/IT department or function. Appointments were made with IT officials and a pre-meeting set of questions sent, via email, to use in preparation of our interview. Each interview occurred with the corporate CIO, department head, or similar position. The authors spent from one to two hours with each IT official discussing the role of IT operations and its involvement in outsourcing and off shoring. In addition to extensive notes by both authors, interviews were taped, converted to digital format for analysis, and summarized. Since no such study had ever been done previously, we felt it would be best to permit the managers to freely associate with the issues under discussion while holding the overall pattern of topics to a consistent list of topics. The purpose is to discover outsourcing and off shoring trends that might be emerging in Iceland. It is worthwhile to note that virtually all companies have a strong interest in service oriented architecture, though none specifically articulated it.

To preserve anonymity, the authors agreed not to provide information that might identify, either directly or by inference, company or manager names other than a general reference to the general type of industry. Hence, the results presented in this paper are based on an aggregate of all interviews. We offer an analysis of the perceptions of IT managers in the balance of the paper and address a series of items that either was introduced by the authors or by one or more managers/VPs/CIOs. It is apparent that some items are more generally accepted by IT management than others. If an item is noted as being of slight importance it may be assumed that only one or two managers related to that item; consequently, a strong importance infers that an overwhelming majority, if not a consensus, were in agreement. Items that might be considered important but are not mentioned in this paper are omitted only because none of the IT managers mentioned them.

4. Outsourcing IT functions

Virtually all Icelandic companies interviewed either engage in, or have engaged in, outsourcing within the past five years. A few have been engaged in outsourcing for about 10 years. Some of the trends that have emerged are expected as logical and obvious, but some are a bit more interesting.

1) Specific skill sets can be brought immediately to bear on the problem at hand rather than the IT department having to go through the expense (in time and money) to train internal employees on the tools necessary to complete the task. Some tasks require a specialized skill, but only for a single project of short duration. Purchasing specialized IT skills is the form of subcontracted labour is common for most multi-national corporations, but this is a relatively new experience for Icelandic companies.

2) By outsourcing tasks employee training time is eliminated (for that particular task) and consequently the speed with which a project can be completed is a major benefit to the IT department.

3) Relatively little outsourcing is done in India, and none in China. Outsourcing to mid-European and the Baltic countries was a more common occurrence. Several had less than acceptable experiences dealing with Russian companies, the dominant problem being that of communications. Russian subcontractors generally did not speak Icelandic or English. In spite of the fact that all Iceland IT managers spoke very good English, the absence of a common language placed IT projects at risk.

4) The time difference in outsourcing was generally a modest concern for IT managers. It is apparently better to be in closer time zone proximity, for questions can more easily be answered as each problem is identified rather than an email that attempts to explain the problem, using words that might not be equally understood with respect to meaning and in a language that is not competently known, and responses given, via email, that are misinterpreted at the other end. Western nations, i.e. the USA, advertise the usage of (for example) Indian and Pilipino services as a substantial benefit because tasks are being completed while the American executives sleep. Such a successful accomplishment presumes either a correct understanding of the task, or the task being requested is relatively trivial. Complex tasks, actions, and projects do require interaction between the requestor of the service and the supplier of the labor. Icelandic company IT executives have recognized this problem and successfully addressed it with outsourcing companies located in relatively closer time zones.

5) Of those few companies actively engaged in outsourcing to countries such as for example India, the subcontractors have sometimes placed these employees at Icelandic companies for a few weeks to several months, depending on the project. There have been no reported conflicts between existing IT employees and the subcontracted employees.

6) There is relatively little trust in the overall effectiveness and security of the internet. At least one company has purchased its own fiber optic cable and has direct and total control over their data. Several others use the internet and have strong encryption algorithms, but a few use standard SSL encryption.

7) There was no consistent trend with respect to the level of funding for IT operations though the majority of companies specifically wanted to maintain a limited IT in-house presence at financial levels that did not evoke marked attention at higher levels in the company.

8) The overwhelming majority of companies placed high value on centralized data storage and management. It was not uncommon to restrict subcontract employees, and in several cases

their own employees, from direct access to the data. Backups of data were always viewed as important but only about half of the companies had a process in place whereby backups were saved off site. In a few cases backups were saved in the same building or a building of close proximity.

9) The average size of IT departments is about 6 people, with supplemental support secured via subcontract employees through outsourced tasks. One company that actively engaged in domestic computing services had a staff of over 100 IT personnel.

10) The time required to bring a project from identification to on-line status is substantially reduced when utilizing subcontracted employees.

11) The need to properly prepare requirements documentation was echoed by **all** to be a major concern. Being able to properly and completely produce an expert document that details the problems to be solved and the means by which the completed project is to be merged with the existing operations, is a sophisticated level of training that is needed to be taught at the university level or hired away form other companies. It was not infrequent to hear that outsourced projects failed to be implemented because the software delivered was not the product desired.

5. Conclusions

Iceland is an extraordinarily technology literate country that has embraced the internet and the corresponding technologies. The role of technology has permeated the larger business to the level of adoption of outsourcing as a normal means of doing business. The motivation for outsourcing is not reduced labour costs but rather, there is a better utilization of existing employee skills and the reduction of time in addressing new technology services. IT strategy generally is not formulated in the board room; it is the IT professionals who bring their recommendations to the board where it is generally approved for implementation. Security of data is of paramount importance, but only about half of the companies have backups stored in locations far removed from the company database. Trust in the use of internet cables ranges from high to low. Almost all of the companies have a need for mid- to upper-level employees who have a vision of technology and can suggest methods by which technology can be brought to bear on creating competitive efficiencies. Most IT leaders are engineers by academic training who have learned business knowledge through experience, and many have taken advanced training to enhance their IT knowledge and skills.

All companies identified difficulties in establishing a project requirements document. Difficulties in clearly identifying the project needs and expectations, and then bringing the outsourced project back into the company operations, remain a challenge.

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