

# Original Research Articles

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## Challenges to Management from Loss of Control, Connectivity Problems, Organizational Change Caused By New Information Technology Infrastructure

### Abstract:

This paper reports on an investigation on the effects of new technology infrastructures on the management of Pacific Brewing Ltd. Areas covered included the organizational structure, staff members at all levels, quality of staff and the general risks involved. The information presented in this paper was obtained mainly through interviews and personal observation. The main issues highlighted are: 1) lack of human and technical resources; 2) lack of commitment by management; and 3) the need for more training programs to educate staff on the importance of information. From this investigation it was recommended that: a) Sufficient funds need to be allocated for investments in IT within the company and b) staff at all levels need to show more commitment towards upgrading their Information Technology.

### Introduction:

Pacific Brewing Ltd is the sole manufacturer of the local beer and Coca Cola products within the country. At present, the company has a 150 full time staff and temporary employees. There is seven senior staff including the General Manager in the management team representing areas such as Human Resource, Finance, Marketing and Sales, Production, Engineering, Quality and Control.

This investigation was commissioned by the General Manager of Pacific Brewing Ltd to provide an analysis on the emerging challenges caused by new Information Technology Infrastructure to the company's management. It was hoped that the findings of the current study would address some of the concerns that the General Manager had over the current status of the company with relation to the impact of new Information Technology infrastructures now implemented and experienced by other business organizations.

### Methodology

The information presented in this paper was obtained from interviews with management members and a few other senior staff of the company, as well as through observations by the author of the way business processes are carried out in the company. Questions in the interviews with management and senior staff focused on the following areas:

- Present organizational structure of the company
- Control over the various work flows within the company especially in

terms of the company's relationships between suppliers and customers

- The present situation of the current employees at all levels in terms of computer literacy
- The role of the Information Technology Department in the company

The investigation was successfully completed and the writer was able to collect most of the required information to complete this study on time.

## **Discussion**

The concept of the digital firm is still new to most local organizations including Pacific Brewing Ltd and the effects of new infrastructures created by new information technology techniques have not yet been fully experienced by the company. However, being the major manufacturer of beverage products locally, it is thus necessary that the company should not neglect the fact that information technology can be an aid in its yearly goal to meet its annual profit targets. On the whole, planning to implement the new information technology infrastructures and aiming to become a partial digital firm has posed many daunting challenges to the company. These challenges are discussed as follows:

### ***A. Transformation to the Organizational Structure***

The organizational structure of Pacific Brewing Ltd is currently hierarchical where only the Senior Management staff members are engaged in decision making. The decisions made are then filtered down to other levels of employees in order to conduct the business processes within the company. The implementation of new technologies for connectivity and collaboration can result in the transformation of organization structures. As mentioned in [1] (2004 p19 -20):

The new technologies for connectivity and collaboration can be used to redesign and reshape organizations, transforming their structure, scope of operations, reporting and control mechanisms, work practices, work flows, products, and services. It is proposed that the transformation to the organizational structure is through the introduction of middle managers who are all expected to participate in the decision making process of the company thus causing a flatter organizational structure. This is seen as a challenge to the company now due to several factors:

The next level of staff down from senior management is currently not qualified in terms of academic qualifications therefore do not meet the requirements for the proposed senior positions. The concern here then is whether to recruit new employees to fill in these new positions and leave out the "unqualified" existing staff member who may be next in line, or recruit the existing staff and spend money on training these members to upgrade their skills in the respective areas. This is seen by management as a dilemma especially in the technical area of the company because it implies that some of the more experienced existing staff may get redundant and at the same time it is very hard to find qualified people to replace them. A direct consequence of this transformation is that new managers will be given more opportunities to participate in the decision making process of the company. This poses another daunting challenge to the present management in the sense that employees are so used to their current routines, and it is going to take some real testing time to get the new managers adjust to their new responsibilities. It is seen as an unsure option for the company given the calibre of most of the existing staff. This change in structure will also mean that management control will also be broadened. Currently, the means of communications between the different sites of the company is mainly by telephone such as when placing orders to the main branch. There is currently no networked technology in place to enable managers to know instant information on production sales and performance in the different sites of the company. This information will only be passed on manually to the main office at the end of the month. For the current management to be able to broaden their scope of control is very challenging since the required communication tools are currently not installed. For management, it is going to be an expensive practice for the company at the moment since there is no proper network system in place.

***B. Control over various business processes especially in terms of Pacific Brewing Ltd's relationship to its suppliers, distributors and customers.***

The relationship between the Pacific Brewing Ltd and its suppliers, distributors and customers is very valuable. The company currently has four distribution locations in the country and a number of overseas suppliers.

It is recommended that Supply Chain Management systems be utilized to improve the information flows between suppliers, distributors and customers. Supply Chain Management Systems enable managers to receive information from suppliers when placing orders for raw materials or services and vice versa. This will be an asset to the company if some of these systems can be installed for the use of managers. It will also be beneficial for the company to be able to monitor sales of its products by the distributors and sales team so they can predict actual production numbers and overall sales more accurately. As mentioned in [2]: Supply chain management has generated much interest in recent years for a number of reasons. Many managers now realize that actions taken by one member of the chain can influence the profitability of all others in the chain. Firms are increasingly thinking in terms of competing as part of a supply chain against other supply chains, rather than a single firm against other individual firms. Also as firms successfully streamline their own operations, the next opportunity for improvement is through better coordination with their suppliers and customers. The costs of poor coordination can be extremely high.

***C. Adoption of E-commerce strategies***

Another strategic and beneficial direction is the adoption of E-commerce strategies. E-commerce is a must for Pacific Brewing Ltd if it intends to increase sales both locally and overseas. Many business firms who have adopted e-commerce strategy as a model of business dealings have proven successful. For example, [3] reports in the January 1, 2002 issue of the CIO Magazine that:

In the early days of the web, The Goodyear Tire & Rubber Co.'s domestic and global business units rushed to stake their claim in online territory, launching about 200 websites, each with its own infrastructure and applications. Most companies did the same. But now, the Internet land rush is over, and companies are civilizing their online frontiers by consolidating. Today, after a year and a half's worth of work, 75 percent of Goodyear's business units are using a single platform. Goodyear's Web consolidation project is part of a corporate strategy to run IT globally, rather than locally. Eric Berg, CIO and vice president of e-commerce, wanted the company to be able to roll out new e-commerce applications worldwide without having to customize them for multiple platforms. That consolidation has cut Goodyear's cost of operating and upgrading its websites in half. Meanwhile, James Fessel, an equity analyst with PNC Advisors in Philadelphia, notes that the consumer market targeted by those websites—individuals or corporate customers who buy new tires for their vehicles—is Goodyear's most profitable group of customers. And efficient e-commerce can only improve the productivity of its dealers.

***D. Adoption of Innovative Technologies***

Improved connectivity through innovative technologies such as wireless and broadband need to be leveraged for enhanced productivity, efficiency and effectiveness. For example the sales team at Pacific Brewing should be equipped with wireless laptops to allow them to transmit sales information to the central office instantly.

The company should take advantage of these new networked technologies especially now that the local government is introducing the "Open Market" strategy to allow more markets to trade locally as part of globalization. As defined in [4], an Open Market is 'an unrestricted competitive market in which any buyer and seller is free to participate.'

Again, it is a real concern for Pacific Brewing Ltd management because the Internet platform is not properly connected to provide a solid platform for such technologies. Even internally, the intranets and extranets are

not very satisfactory in terms of information transmission rate and bandwidth, not to mention the lack of resources to implement such technologies. The company might be facing more competing partners in the near future because of the Open Market strategy now introduced locally. Thus there is increasing need to adopt new technologies to automate most of the business functions and provide instant information for managers to prepare the company for new rivals in the industry of beverage production.

### **E. Computer Literacy and Training**

Another challenge is the computer literacy level of employees at Pacific Brewing. One of the points that emerged from the current investigation is the need for proper training in Information Technology for all staff.

From the point of view of management, majority of the staff including management members at Pacific Brewing Ltd are computer illiterate or possess minimal knowledge about computers and their usage. This naturally is cause for great concern to management of Pacific Brewing Ltd because in order to keep up with the changes imposed to the industrial firms by technology, human resources must be available and well trained in the information technology field. This must start from top managers where they should be able to use network systems like Supply Chain Management Systems or E-commerce to extract and analyze information for decision making. All staff must be able to use Internet for e-mail communication and other uses. Ultimately, there should also be policies set up by the company for monitoring and control of the use of these technologies.

### **Related Risks**

There are also various risks involved in the aftermath of upgrading staff computing literacy. According to [1], these risks are as follows: The issue of Copyright is a very sensitive topic in Information Technology today. Staff should be made aware that reproducing ideas and software programs can be costly to the company or the staff concerned. The staff should also be made aware that on the Internet, one can easily copy and distribute information to other people. Therefore, it is important to train staff to know how to use the Internet and they should be made to realize the value of information as they are exposed on such technology.

Another serious risk is the abuse of user email and downloading privileges. Excessive use of e-mail systems to copy and transmit unnecessary documents during work hours is a common cause for concern in the workplace. For example, downloading obscene images or digitized MP3 music files which are not necessarily work related documents. Another related risk is the unrealistic expectations of entrant users of technology in what technology can or cannot do. The training program should emphasize to staff what to expect when using technologies like the Internet. Users should be trained to believe that not everything is possible with technology and not blame the systems when an error occurs. Furthermore, human interactions with technology whether inputting data or interpreting output should always be a two way process whereby if something goes wrong it should be fixed by the user. The challenge to management is to be able to come up with strategic plan of how long staff should be trained to become effective and responsible users of the new technologies mentioned. The training program must be effective in order for employees to become more productive when working with technology rather than abusing it.

### **The Role of Information Technology in Pacific Brewing Ltd**

The current situation at Pacific Brewing Ltd is that there is no internal Information Technology Department to monitor all Information Technology related activities within the company. This then becomes the most vital challenge faced by the company's management. According to [4]:

Information Technology sits squarely at the intersection of two massive forces of change – relentless business pressures and a rapidly evolving technology landscape. Information Technology's responsibilities have grown to include new technologies (eg. Enterprise resource planning (ERP) and customer relationship management

(CRM)) increasingly, the chief information officer (CIO) is included in a company's executive team and Information Technology is considered fundamental to any business strategy. Today, Information Technology's influence encompasses much of the traditional organization and is extending beyond the walls of the firms to its customers, suppliers, and partners. The significance in the role of Information Technology personnel within a company must be considered carefully. It is recommended that the whole organizational structure must be modified to include Chief Information Officer as a management member with a staff to carry out the technological functions of the company. The challenge here is to educate management personnel to accept the importance of technology thus the need for proper personnel to implement and monitor the various technologies that may be required by the company.

## Recommendations

This report has focused mainly on the main areas identified as posing challenges to Pacific Brewing Ltd as a result of new Information Technology infrastructures. The areas discussed and included in the report were:

1. Present organizational structure of the company
2. Control over the various work flows within the company especially in terms of the company's relationships between suppliers and customers
3. The present situation of the current employees at all levels in terms of computer literacy.
4. The role of the Information Technology Department in the company

The study identified the concerns of management caused by new changes created by the new information technology infrastructures as well as the risks associated with some of these concerns. These were: 1) the lack of human and technical resources; 2) lack of commitment by management; and 3) the need for more training programs to educate staff on the importance of information. From the results of this investigation few important recommendations emerged:

The General Manager should propose for a budget allocation within the next few financial years to fund the setup of an Information Systems department within Pacific Brewing Ltd. Sufficient funds need to be allocated for investments in IT within the company. There should be more commitment shown by the staff towards learning and applying knowledge to perform any business process required of them especially with relations to Information Technology. The value of information should be taken more seriously and implicit in that is the need for programs to increase staff awareness of the value and potential of information technology and also the need to train staff to become more effective users of information technology tools.

## References

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