

CHAPTER FOUR

CASE STUDY

As mentioned previously, this research paper attempts to draw a comparison of IT contribution in enhancing productivity level between a manufacturing-based and a service-based organisation. Under the condition of anonymity, the manufacturing-oriented company would be known as M1 while the service-oriented company would be labelled as S1.

4.1 *Manufacturing Sector*

4.1.1 Background of Company

M1 is established in 1979 with a paid-up capital of RM10 million. Its main activity is in the process of manufacturing thermoforming packaging, PE/Form Bags and Sheets, Plastic Corrugated Carton Boxes, and extruded sheet. The company has a labour force of 228 employees with an annual sales of about RM34.9 million (1998).

4.1.2 IT Implementation

M1 history of IT application begins in the early 1980's with the in-house application of MRP software and subsequently in 1994, IT is integrated into its overall production process. Its IT policy originates from the group level in which IT application is matched with its business needs so as to enhance competitiveness.

The infrastructure provided is one that is PC-based with custom-oriented technology plus a basic MRP system but has yet to include the computer integrated manufacturing (CIM) system. In terms of support service, the headquarters and vendors are constantly providing assistance in order to meet the requirements of M1.

M1 has a ratio of IT users of 2:1 PC with the management constantly reviewing the necessity to improve the above ratio. Its training programmes are OJT-based and a mock IT workshop, conducted by IT personnel from the headquarters. M1 identifies its training needs as IT labour market is highly volatile rather than sending its employees to programmes that are of little benefit to the company.

Looking at the integration of IT planning with business strategic directions at M1, the organisation clearly sets its business environment to complement with IT application through building a solid IT infrastructure. The elements that are critical include:

- i. supportive organisation;
- ii. understand the business in terms of competitor, supplier, and customer;
- iii. match IT planning with the business model;
- iv. analyse the cost impact of IT planning; and
- v. familiarise the non-quantifiable aspects such as staff morale, teamwork, and productivity.

4.1.3 Impact of IT Implementation

From its experience of practising IT, M1 finds that IT has provided an efficient mechanism for data warehousing, in terms of data collation and automation. Information pertaining to payroll, customer orders, and customer complaints, are gathered in a more presentable manner for faster, easier, and efficient data retrieval. Moreover, with the availability of this data warehouse, information is exchanged via Internet with customers and vendors. Plus, it improves the decision-making process and gives the competitive edge for organisations implementing IT.

IT also improves customer service as it is able to provide customer's request for a special discount, through information retrieved from M1 customer database, thus creating convenience, conducive, and ease of customer relationship. The impact of IT is also apparent from the successful integration with the whole operation as IT is regarded as enabling tools to enhance decision-making.

In addition, a shorter period of time is required to perform the overall organisation functions as effective and efficient as possible without changing the process involved. In terms of operational uses, IT application has managed to identify and reduce bottleneck processes or functions, hence improves coordination among units like inventory, payroll, and such.

M1 approach to a more effective IT implementation is mainly dictated by its organisational needs rather than to be subservient to the latest technology available in the market. Among the factors that are taken into consideration are:

- i. utilise facts and figures to decide IT usage which would give a better picture for recommendation (wholistic approach);
- ii. cost efficient that the technology per se could offer;
- iii. labour requirement in terms of providing the necessary training to adapt the workforce to the technology that would be implemented;
- iv. investment needs so as to meet the organisational objectives;
- v. technical aspects in terms of the know-how with respect to the new technology; and
- vi. balance human element with technology so that needs are in tandem with wants.

Throughout implementing IT in M1, the impact of IT is rather obvious in several aspects:

- i. business process where IT reduces cycle time of process;
- ii. organisation structure where IT creates visibility and transparency within the organisation;
- iii. management style becomes flexible and leaner, albeit requires a certain degree of control, plus enhanced communication between level of workers, and information dissemination becomes the norm; and
- iv. better teamwork as workers are able to share information and exchange ideas where the bottom line is IT planning incorporates Human Resource planning well.

4.1.4 Productivity Analysis

As IT investment requires a huge capital and labour input, it is interesting to know the impact it has on the productivity performance of M1. Undoubtedly, with the advent of IT into the main activity of M1 as a packaging company, M1 performance in terms of productivity growth is rather encouraging, achieving a growth level at par with that of its sub-sector average as in Table 5 below.

Table 5: Productivity Indicators of M1 in 1998

Productivity Indicators	M1		Sub-sector	
	1998 (RM)	1997-98 (%)	1998 (RM)	1997-98 (%)
Labour Productivity	80,561.51	18.27	69,869.51	11.26
Capital Intensity	63,944.00	12.18	53,709.86	9.69
Capital Productivity	1.26	5.44	1.301	1.45
Process Efficiency	1.404	5.72	1.652	6.08
Labour Cost per Employee	33,600.35	17.32	20,270.74	4.48
Unit Labour Cost	0.071	-41.32	0.06	-12.80

Referring to the above table, every productivity indicator reflects a significant growth for the period 1997-98 especially for Labour Productivity and Capital Productivity. Analysing the Labour Productivity in-depth using linkages analysis (a general linkages of the ratio is attached in Appendix 1), this indicator can be influenced by two other indicators, namely Capital Productivity and Capital Intensity.

Base on the performance in the above table, the increase in Labour Productivity is caused by the efficiency in utilising fixed assets in creating a higher Added Value. In other words, Capital Productivity has contributed more to the increase in Labour Productivity of M1 if compared with Capital Intensity. Furthermore, a low ratio of Capital Intensity indicates that M1 adopts a labour-intensive policy rather than a capital-intensive policy.

This is supported by the increase in Labour Productivity, which is influenced by the increase in Capital Productivity compared with Capital Intensity. The increasing trend in Labour Cost per Employee should be viewed as a positive sign as this increase has contributed directly to an improved performance of Labour Productivity for the year 1998. The ability of M1 in reducing 6.4% of Unit Labour Cost in 1998 is significant in enhancing the competitiveness of the organization.

M1 high Process Efficiency ratio suggests an efficient and effective manner in utilising its own resources. This implies that M1 has utilised its production techniques, technological innovation, managerial and labour skills efficiently and effectively. Relatively, the ratio growth is encouraging, to that of M1 sub-sector.

4.2 Service Sector

4.2.1 Background of Company

S1, an international five-star hotel in Malaysia, begins its operations in April 1985. It offers services and facilities such as well-equipped guestrooms, restaurants specialising in Japanese, Chinese, French and Continental cuisine as well as recreational facilities to its local and international guests. In terms of meeting facilities, S1 has 13 function rooms, a Grand Ballroom and Executive Conference Centre that are fully equipped with state-of-the-art meeting facilities.

Since it began operations, S1 has received numerous local and international awards for its services and facilities. To date, the hotel has a total of 23 local awards and 48 international awards. Most recently, S1 was voted as "The Best Hotel in Kuala Lumpur" by The Asian Wall Street Journal, clinched first placing under "Best Hotel by Country" category by Asiamoney's Business Travel Poll, placed first under the "Best Hotel by Region" category by Euromoney's Business Travel Poll and was accorded the 96/9 Excellence In Hotel Services by the Malaysian Tourism Promotion Board.

4.2.2 IT Implementation

Being a service-oriented establishment, S1 IT system is mainly incorporated as management information system, using the Hotel Information System (HIS), later changed to Fidelio Property Management System (PMS) in 1996. The latter provides a wider platform of information management whereby it provides a better flow

information to all levels of employees, and also reduce maintenance cost, and improve customer service.

S1 IT policy is a formalized computer information system that can integrate data from various sources (departments) in order to provide the information necessary for management decision-making. Among the systems used in S1 operation are:

- i. Fidelio PMS for guest reservation, check-in, check-out, housekeeping, and guest history;
- ii. Fidelio Food and Beverage for restaurant outlets to do their daily ordering and track daily stock inventory;
- iii. Fidelio Sales and Catering for account management and marketing statistics reports;
- iv. In-house accounting Payable System and Fidelio Account Receivable for billing purposes.

With a workforce of about 850 people and 170 PCs, the IT users in S1 is about 70 percent with the ratio of two user to one PC. The IT training provided by S1 is a combination of in-house training and off-the-job training conducted by a certified training institution.

Investment in IT for any organisation is influenced by several motives to enhance business performance. For S1, factors that are considered in IT investment are the cost in acquiring hardware and/or software, and the returns from the particular investment.

4.2.3 Impact of IT Implementation

Undoubtedly, the introduction of IT has benefited S1 in terms of integrating the information flow between functional areas, catering effectively to the information needs of all levels of the management with a more accurate information, and supporting the needs of the management more effectively with the on-line networking.

Looking at the business process and the organisation structure, IT has helped S1 to emphasise more on customer service by providing a guest database, which includes several pertinent information such as duration of stay, room preference, and favourite hotel outlet. It also helps to enhance productivity through efficient and faster service especially during guest registration.

S1 also believes that IT facilitates the decision-making process whereby decentralisation of decision is possible as IT enables lower level of employees to execute crucial and urgent decision without waiting from higher level of authority. For example, when a guest checks in, requesting for a discount on the room rate, the front office personnel could make cross-reference from the guest database for that individual profile. If he were a regular patron of the hotel, he would be immediately accorded a certain discount based on his history of patronage. Empowerment is also in the scenario as IT enables lower level of employees to formulate their own decisions.

The emerging digital economy not only revolutionises the product-oriented organisations' facade of conducting business transaction but also the service-oriented organisations. In the case of S1, its restaurant outlet is now equipped with IT service centres to cater the needs of its patrons. As for the waiters, they are equipped with smart cards to take customer's orders to the kitchen.

Looking at the impact of IT on its human resource planning, the management of S1 has provided an intranet service for its employees. This service provides all related information with respect to the hotel operation to enable information sharing among all the employees of S1 regardless of rank-and-file.

The assimilation of IT into the S1 environment is necessary to ensure the survival of the organisation and to remain competitive with the rest of industry players. Nevertheless, being a service-oriented organisation, it is difficult to replace the human element with IT element per se, as personal touch is still required to serve the needs of its guests. Thus, balancing both of the elements is essential so as to meet the requirement of the customer.

4.2.4 Productivity Analysis

Table 6: Productivity Indicators of S1 in 1997

Productivity Indicators	S1		Sub-sector	
	1997 (RM)	1996-97 (%)	1997 (RM)	1996-97 (%)
Labour Productivity	55,129.00	-9.43	45,039.00	-4.93
Capital Intensity	310,898.00	21.76	278,242.00	28.07
Capital Productivity	0.177	-25.62	0.162	-25.77
Process Efficiency	1.01	-16.51	1.05	-13.23
Labour Cost per Employee	25,038.00	22.61	21,084.00	19.94
Unit Labour Cost	0.229	24.27	0.24	18.03

As a service-oriented organisation that is highly dependent on labour, S1's productivity ratio may hardly reflect the IT contribution per se. From the Table 6 above, looking at its competitiveness ratio, Labour Cost per Employee, S1 enjoys a positive growth of 22.61%, above its sub-sector average growth of 19.94%. This reflect high returns to individual workers and vice-versa.

Analysing the contributing factor for the Labour Cost per Employee ratio, Labour Productivity, which on the other hand experiences a negative growth of 9.43% in the same period. This unfavourable ratio could be due to factors such as high bought-in materials and services, wastage of time and materials, and inadequate salary or wage rate. Moreover, the labour market for the hotel sector is experiencing a high labour turnover during this period.

In order to identify the cause of the reverse growth, two other ratios that are linked to Labour Productivity, Capital Productivity and Capital Intensity (refer Appendix 1), should be looked into. S1 shows a high ratio of Capital Intensity with a positive growth of 21.76%. On the other hand, its Capital Productivity experiences a negative growth of 25.62% for the period 1996 to 1997, reflecting a poor fixed assets utilisation. One explanation for this scenario, S1 is still in the stage of implementing its new information system for its operation and its staffs are still grasping with the new technology back then during the period in review.

Although the Labour Cost per Employee ratio shows an increasing trend, it fails somewhat to contribute directly in enhancing the Labour Productivity ratio for the year 1997. The increasing Unit per Labour Cost ratio further shows that S1 faces a high labour cost situation. Among the factors identified are labour scarcity, lack of skilled labour, plus high labour turnover. Furthermore, in the second half of 1997, the hotel sector is coping with the aftermath of the Asian financial crisis that has badly affected the South-East Asian economies at large.

In the same period, S1's Process Efficiency ratio declining of 16.51%, portrays a rather unfavourable scenario whereby it does not fully utilise its own resources namely labour, plant and equipment, and capital to generate added value and minimise the bought-in materials and services. Comparatively, its sub-sector is in the same league, registering a reverse growth of 13.23%.

4.3 *A Review of Performance*

Evidently, the productivity performance of both companies are distinctly different and of their own league. To recapitulate, M1 clearly shows a strong emphasis on productivity management. Its productivity indicators show a healthy growth sign reflecting the ability of M1 in managing its resources effectively and efficiently. This is further enhanced by the solid IT planning and infrastructure provided by the head office so as to ensure that IT implementation in M1 is smooth and productive.

The same cannot be accorded to S1 as during the period in review, it does not show a positive sign in terms of its productivity growth. What can be inferred from the scenario, S1 has yet to focus on the importance of productivity management, albeit it has many programs, such as Employee Opinion Survey, and Customer Loyalty Program, to monitor its performance.

Predictably, the IT impact on its productivity performance is somewhat lacking as S1 has to face a volatile labour supply condition in its sector in that particular period. Furthermore, being a service-oriented company, S1 is confronted with the prerequisite to render a genuine hospitality for its customer, and simultaneously the quest to provide up-to-date IT facilities in its modus operandi.