A COMPARATIVE STUDY ON THE CONCEPTS OF PRODUCT LIFE CYCLE AND INFORMATION SYSTEMS STRATEGIC GRID TOWARDS THE ORGANIZATIONAL DEVELOPMENT (SPECIAL REFERENCE TO PRODUCT Vs SERVICE MARKETING ORGANIZATIONS)

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ABSTRACT

This research aimed at identifying the impact of “Product Life Cycle” (PLC) and the “Information Systems Strategic Grid” (ISSG) in organizations. ISSG plays a vital role to identify the organization’s existing position and future trend in relation with Information Systems. The theory of product life cycle is the expected life cycle of a typical product from design to obsolescence. The PLC is generally divided into four distinct phases: Introduction, growth, maturity and decline. The goal is to maximize the product’s value in each stage. Similarly the ISSG is also comprises four segments stating support, turnaround, factory (production) and strategic. This concept classifies organizations according to their existing and potential capacity on Information Systems. Since both of these concepts have the same goal in organizational development, a comparative study has been done in a Product marketing organization - ICL Marketing (Pvt) Ltd and a Service marketing organization – Commercial Bank of Ceylon to identify the relationship among them. The findings show that there is a close relationship between PLC and ISSG and the innovation of products / services and continuous development of Information Systems according to the need of marketing those products / services are the key success factors for organizational sustainability.


INTRODUCTION

Marketing and Information Systems are two different phenomena and which individually and collaboratively influencing an organization’s development in gaining competitive advantage. The concept of Product Life Cycle (PLC) is very important and playing a key role in determining the stages of the organization’s products in every marketing organizations. The theory of PLC was first introduced in the 1950s to explain the expected Life cycle of a typical product from design to Obsolescence. Writing in Marketing Tools, Carole Hedden observed that the Life cycle is represented by a curve that can be divided into four phases: Introduction, growth, maturity and decline. The goal is to maximize the product’s value and profitability at each stage. It is primarily considered a marketing theory. Similarly the evolution and the revolution brought
about by Information & Communication Technology (ICT) opened up avenues for individuals and organizations to use limited resources in an effective and efficient manner. (Tennakoon and Syed, 2008). The crucial role of IT in changing the way of economy works is clear for all of us (Parsons, 1983)

In some industries IT is even capable of changing the nature of the products and service or their production processes. According to the advocates of Strategic weapon perspective, these unprecedented effects do not necessarily have the relative competitive position of economic factors unchanged. Among these concepts, the information Systems Strategic Grid (ISSG) of Mc Farlan and Me Kenney is one which stood the test of time. The ISSG analyses the applicability of IT as a Strategic weapon on the industry level. This grid classifies the industries according to their present and medium range affectedness by the Strategic impact of IT applications.

2. RESEARCH OBJECTIVES

The main objectives of this research could be listed as follows

- To find out the importance of the concepts of PLC and ISSG in a competitive business enterprise / organization.
- To identify the application of these concepts in Product Vs Service marketing organizations.
- To identify the relationship between these concepts in determining the organizational development.
- To identify how far these concepts help the organization to gain higher market share and sustain competitive advantage.

3. THEORETICAL BACKGROUND AND LITERATURE REVIEW

3.1. PRODUCT LIFE CYCLE (PLC)

A company’s differentiating and positioning strategy must change as the product market and competitors change overtime. Most Product Life Cycle curves are portrayed as bell-shaped. This curve is typically divided into four stages: introduction. Growth, maturity and decline (Wassen, 1978). A product has a Life cycle is to assert four things. Products have a limited Life; Product sales pass through distinct stages, each posing different challenges, opportunities and problems to the seller; profits rise and fall at different stages of the PLC; and products require different marketing, financial, manufacturing, purchasing and human resource strategies in each stage of their life cycle. (Kotler, 2000)

According to Johansson (1997) in the typical marketing illustration, the product Life Cycle follows as S curve, with the growth period corresponding to where the S has its steepest ascent. This is when a new product is often introduced in foreign markets to capture first mover advantages.
The PLC is a conceptual tool which provides a means of describing the sales patterns of products be they goods or service products, over their time in the market (Meldrum and Mc Donald, 1995)

Researchers have identified from six to seventeen different PLC patterns. Three common alternative patterns of PLC are a growth – slump maturity pattern often characteristic of small kitchen appliances, the cycle – recycle pattern describes the sales of new drugs and the scalloped pattern especially for new product characteristics, uses or users. The PLC concept can be used to analyze a product category, a product form a product or a brand (William, 1967)

The PLC concept is best used to interpret product and market dynamics. As a planning tool the PLC concept help managers characterize the main marketing challenges in each stage of a product’s life and develop major alternative marketing strategies (Kotler, 2000) Wasson (1978) believes that fashions end because they represent a purchase compromise and consumers start looking for missing attributes.

In Launching new products a company can pursue one of four strategies – Rapid Skimming, slow skimming Rapid penetration and slow penetration. In the growth stage a rapid climb in sales could be observed. Early adopters like the product and additional consumers start buying it. New competitors enter, attracted by the opportunities. They introduce new product features and expand distribution. The maturity stage normally lasts longer than the previous stages and poses formidable challenges to marketing management. The maturity stage divides into three phases growth, stable, and decaying maturity. In this stage some companies abandon weaker products and on new products.

Finally the decline might be slow as in the case of oatmeal; or rapid as in the case of the Edsel automobile. Sales may plunge in zero or they may petrify at a low level. Unfortunately most companies have not developed a well thought out policy for handling their aging products, (Alexander, 1964)

Smith.(1994) suggests the life of your product or service changes as markets change, and customers’ needs change over time, or new alternatives come on to the market meeting customer needs. It also suggests that any given product or service is likely to proceed through a number of stages in its life from birth to death.

According to Dwyer and Tanner (1999) products have been likened to living organisms. They are introduced to the market or have a birth. Then they grow (n sales) mature and at some point die out. This cycle of development, introduction, growth maturity and decline in sales is called the PLC.

3.2. INFORMATION SYSTEMS STRATEGIC GRID (ISSG)

Cash,et.al (1999) have suggested a framework for classifying the strategic use of IT which arrays a firm’s existing applications against those that are currently under development.

The authors found one bank that fit this cell well. Without computers, the bank would be awash in a sea of paper; it could not possibly keep up with the volume more than that banks are offering
new services based on home computers connected to their own computers. The bank must think of how to use its systems strategically to offer services that will let it capture a greater market share (Lucas, 1994)

Dissanayake (1993) has done a study on the strategic use of Information Technology. In his paper he quoted the major examples of American Air lines ‘Sabre’ reservation system, Merill Lynch’s Cash Management account and the American Hospital System (AHS). He analyzed whether the senior managers have considered the strategic opportunities offered by Information Technology when formulating business strategies. From his study of six firms he fixed the six firms in four different positions in the ISSG.

It was in the mid 1980’s that the term Strategic Information Systems (SIS), which stands very close to the strategic weapon metaphor, first surfaced in the literature. The first attempt to define the notion and give a detailed discussion about the topic can be linked to Wiseman (1998). Wiseman defined SIS as the use of IT in order to support or change a company’s competitive strategy.

The research of strategic information systems began with case studies prepared mainly at American universities. Placing the label ‘strategic’ on applications was done in a rather intuitive way, but in most cases the precondition was the system’s strong orientation towards customers or suppliers, and the increase of sales and market share as a result of the application. Among the famous (often quoted) cases are American Air lines ‘Sabre’, AHSC/Baxter’s ‘ASAP’, Digital’s ‘XCON’ and McKesson’s ‘Econoscan’.

SIS literature draws the strategic grid model of Cash, et.al is one which stood the test of time (see figure 1)

**FIGURE 1: THE STRATEGIC GRID MODEL**

<table>
<thead>
<tr>
<th>HIGH</th>
<th>LOW</th>
</tr>
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<tbody>
<tr>
<td>Factory</td>
<td>Strategic</td>
</tr>
<tr>
<td>Support</td>
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The Strategic Impact of the IS Development Portfolio

The strategic grid model analyses the applicability of IT as a strategic weapon on the industry level. The model classifies the industries according to their present and medium range affectedness by the strategic impact of IT applications.

In the case of industries of the ‘support’ segment IT plays a supplementary, secondary function. It is important that there is no change expected in this situation in the foreseeable future. Because of its secondary role, IT requires low or medium expenditures and only occasional attention on the part of senior management. An example is the cement industry where companies typically use only simple data processing systems.

The ‘factory’ segment contains industries where IT plays a key role in conducting everyday activities, but crucial IT applications are built out for the long run, and therefore there is no specific need for development. An example is the modern steel industry, where planning and execution of operations are computerized.

Industries in the ‘turnaround’ segment are in a unique situation: they are just going through the IT revolution. E.g. currently many retail chains are implementing computerized systems with their suppliers and apply automated fill-up systems.

If the role of IT in an industry had been crucial in the past and it is expected to remain crucial in the future it is justifiable to speak about a ‘strategic’ situation. Probably one of the best examples is the sphere of financial services, where computers, teller machines, point-of sale systems have been commonplace for a long time now, but newer and newer applications (home-banking, Internet transactions etc.) keep putting novel challenges before market players.

According to Grillers (2001) most of the companies paid attention to the technological problems. But paid, very little attention to the interrelationship between IS and the organizational factors.

The Sri Lankan banking & Financial sector has undergone rapid changes due to information technology and is one of the “fastest growing industries” (Central Bank of Sri Lanka 2003).

According to Mutsaers et.al, (1998) financial institutions were the early adopters of IT Scholar predicted that technologies will takeover banking in the near future. (Kumara,2006). The above reasons encouraged the researcher to choose the banking industry for this research.

Mirsa & Rao (2008) studied the Paradigmatic methodology to MIS development in Higher Education Commission in Pakistan and the findings showed that this approach is both helpful to HEC and universities to properly evaluate and monitor the work being done by them.

4. IMPACT OF THE CONCEPTS ON ORGANIZATIONS

In order to understand the concepts of PLC and ISSG, The ICL Marketing (Pvt) Ltd and the Commercial Bank of Sri Lanka have been taken into consideration since these two companies are well-known leading companies in product and service marketing industry respectively.
4.1. BACKGROUND OF THE ORGANIZATIONS

4.1.1. THE ICL MARKETING (PVT) LTD

The ICL Marketing (Pvt) Ltd a member of the capital Maharaja group of companies is a leading player in the fast moving consumer goods (FMCG) market in Sri Lanka.

The ICL Marketing of today has its origins in a company called MR Distributors, set up in the 1940s. At that time the company handled the distribution of products such as Parker pens and inks, Cheese Borough Pod’s cosmetics and toiletries, Yale locks and so on. This company became the Maharajah Organization Distributors in 1972. It commenced manufacturing of consumer products with the setting of its first factory in 1981. In 1989, it was renamed ICL and the marketing operations devolved to ICL Marketing Private Limited and the manufacturing operations to International Cosmetics Limited.

With its origins in the decade of the 1940s, ICL today is not just one of the oldest but also one of the largest ‘consumer product’ companies in the country. Over the last six decades, ICL Marketing has built a well-diversified portfolio of strong local brands, which it manufactures and markets.

The strength of ICL Marketing is reflected not just in the strong brands that it has built but also the number of people it reaches out to in the country. Through its strong distribution network spanning the length and the breadth of the Island, ICL Marketing products reach out to various consumer segments in the country, cutting across socio-cultural, economic and geographic spectrums.

The wide range of products that the Company offers, under its own brands, are all manufactured by its sister company, International Cosmetics Limited. This large and contemporary manufacturing factory is equipped with modern machinery and a trained workforce. Its products are manufactured to international standards under strict quality protocols.

5.1.2. COMMERCIAL BANK OF CEYLON (CBC)

This bank was established in 1920 as the Eastern Bank Ltd and incorporated as CBC in 1969. The largest on line real time bank with ATM network and highest System availability. The IT infrastructure of the bank went through a major overhaul during the year with the upgrade of both the production as well as the backup machines to the latest models. In each year both the management committee and the Board of Directors critically review the corporate plan and the Budget prepared for the ensuing three years on a “rolling basis”. The objectives, Strategies and goals have been regularly revised based on the SWOT analysis. It is the first Sri Lankan bank to acquire a foreign bank’s branches outside the shores of Sri Lanka.

In 2006 – it was rated as the Best Bank in Sri Lanka by “Global Finance” for the 8th consecutive year. Fitch Ratings Lanka Ltd. Upholds the AA+ (1ka) rating in their annual review. SAFA rated Annual Report 2005 as the Winner in the Best presented Accounts in the Banking Institutions Sector and also as the Winner of he inaugural award for the Corporate Governance Disclosure.
The ICASL ranked in the Annual Report 2005 of the Bank as the Overall Winner and the Winner of the Banking Sector for the 5th consecutive year. It has won 5 main awards including the overall Winner award at the “National Business Excellence Awards 2006” organized by the National Chamber of Commerce and raised US $ 10 Mn. by issuing five year bonds, the first of its kind by an indigenous bank in Sri Lanka.

5.2. PLC AND ICL MARKETING (PVT) LTD.

For the purpose of analyzing the relationship between the concepts of PLC and ISSG the ICL Marketing (Pvt) Ltd has been taken into analysis.

In case of different products the products are in different stages of PLC due to the global competition. Further different brands of products are also in different stages of PLC. For example, Black Knight is the brand and various products are under this brand. After shave may be in the Growth Stage and Hair cream may be in the maturity stage. Similarly Tea is in the maturity stage and O₃ Cologne spray may be in the introduction stage.

The findings show that the company introduces new brands in order to sustain in the competitive market and there is no strict regulation / condition that the all products / brands are in the same stage. Once the company feels that a particular brand of product has become in the maturity stage, it immediately do the modifications in the product and re-introduce in a new brand name. This is the ultimate strategy developed by the ICL Marketing (Pvt) Ltd in case of organizational development.

5.3. ISSG AND ICL MARKETING (PVT) LTD.

In case of ISSG, the ICL Marketing (Pvt) Ltd is in the support position, because according to the information collected from the top level people of ICL, the company only uses the ICT for the Transaction Processing purposes. The Company’s full attention is towards the development of products and promotional activities and not on the implementation of ICT oriented operations. However the company is leading in the business due to the application of new strategies in marketing activities.

5.4. PLC AND CBC

As a service providing organization the CBC has been taken into consideration. CBC was established in Sri Lanka in 1969 and its major customer group is business people. According to the Regional Manager of the CBC Sri Kantha (2007) in his article mentioned that the Commercial bank has been continuously rated as the best bank in Sri Lanka by Global Finance Magazine, New York for eight years. As usual of other competitors it has also three major products-savings deposits, Fixed and Current deposits. In case of savings deposits, there are about ten unique accounts available at the bank due to the perfect competition in the industry. As like product marketing organization, these products are also in different stages. But the major difference the author identified in this service marketing organization is the stages are only ‘Introduction’ and ‘Growth’. The reason behind this is when a particular product is being in the maturity level, the bank will definitely face some difficulties to be obsolete in the market.
Therefore the bank frequently updates its operations according to the needs and wants of each customer. This is one of the salient features in the bank.

5.5. ISSG AND CBC

Generally the information systems used by financial sector is much higher than the other sectors. According to Ranasinghe (2000) banking sector in Sri Lanka uses IT 90% on average which is the highest when compared to the other sectors. It illustrates that Sri Lankan banks use many information systems in their day to day operations. In case of CBC regarding the IS application Development portfolio and the existing Information Systems, both the conditions are high. Therefore the CBC is in the ‘Strategic’ position in ISSG. Further the author found, the CBC invests, its capital highly on IT development in order to thrive in the market and capture the market share. This is another secret for its Strategic position. The CBC has been continuously increasing its profit by many billion in each year. The continuous development of IT in the organization is due to the competition and as a result of this the CBC is now the market leader in banking industry.

6. DISCUSSION OF RESEARCH FINDINGS.

The Comparative analysis of the concepts of PLC and ISSG in the Product marketing organization – ICL Marketing (Pvt) Ltd and the service marketing organization – CBC have been analyzed in this paper. The findings show that the concepts of PLC and ISSG are important to organizational development, because the stage of the PLC and the position of the ISSG determine the development and success of the organization. There is a close relationship between the stage of ‘Introduction’ in PLC and the ‘turnaround’ position in ISSG. Because in both the situations, many strategies to be used by the company for development. The ‘Maturity’ stage is somewhat equivalent to the ‘Factory’ position. In each condition if there is no future development, they have to die or quit from the market. The ‘Growth’ stage has a strong relationship with ‘Strategic’ position and finally the ‘Decline’ stage is somewhat similar to the ‘Support’ position. In this stage company needs improvement. Therefore the author strongly believes that there is a strong relationship between the concepts of PLC and ISSG in organizational development. When we compare the product marketing and service marketing organizations, the impact of ISSG is higher than the application of PLC in service marketing organization. In contrast, the PLC’s influence is much higher in product marketing organization (especially in Fast Moving Consumer Goods) than in service marketing organization.

7. CONCLUSIONS & RECOMMENDATIONS

The concepts of PLC in Marketing and ISSG in Information Systems have been taken for the analysis of this research paper in case of product and service marketing organizations. Various literatures have been reviewed to support the theoretical framework. The findings show that there is a close relationship between the PLC and ISSG in organizational development and especially the four stages in the PLC have been compared with the four positions in the ISSG. The author recommends from the findings that the ‘Growth’ stage in PLC and the ‘Strategic’ position in the ISSG are key factors for the successful development of companies in the competitive industry.
REFERENCES

Alexander.R.S. (1964). The Death & Burial of Sick Products Journal of Marketing, April, 1


Commercial Bank of Ceylon, Website retrieved on 8th July 2008 from http://w.w.w.combank.net/newweb/html/abt_traditions.asp.


Meldrum, M Mc Dunald, M (1995), Key Marketing Concepts, Me Million Press.

Mirsa, A.S and Rao, N.M (2008), A paradigmatic methodology to Mis development, Proceedings of the 5th International Conference on Business Management Colombo, 244-248.


