How to Identify eCommerce Opportunities

Developing the Electronic Business Value (EBV) Framework

A Joint Publication with Infocomm Development Authority of Singapore

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Introduction
OVERVIEW

The emergence of the Internet economy has created a totally new business environment where traditional business rules no longer apply. The new economy is characterised by instability and uncertainty that creates uneasiness among companies, especially the traditional brick and mortar companies. Many of them are keen to embrace eCommerce and compete in the new economy but are faced with a fundamental challenge: How to identify eCommerce opportunities? This report seeks to address this key question.

OBJECTIVES

“Developing the Electronic Business Value (EBV) framework” is a partnership project between Cap Gemini Ernst & Young Consultants Singapore and the Infocomm Development Authority of Singapore (IDA). The EBV framework serves as a guide to assist a company to identify and prioritise the potential eCommerce opportunities, focusing on the concept of value creation by eCommerce.

The report also examines the suggested key roles needed to capitalise and exploit the future opportunities for organisations. To illustrate the application of the EBV framework, a case study on the Computer Electronics Industry, in particular the Personal Computer (PC) segment, is presented in the final chapter of the document.

TARGET AUDIENCE

This document is targeted at readers with a basic understanding of eCommerce and an interest in embracing eCommerce for their companies. In particular, it is directed at

- **Senior Management** who are keen to utilise eCommerce to identify opportunities for their companies and are convinced that eCommerce will drive the future growth of their companies.
METHODOLOGY

In preparing this document, Cap Gemini Ernst & Young Consultants used several research sources, including both primary and secondary search. The primary search was based on Cap Gemini Ernst & Young’s in-house knowledge base, industry reports, white papers from key research houses and annual reports of several companies. The secondary search was based on Internet research on company profiles and industry trends, newspapers and trade publications. The EBV framework is developed in-house and is proprietary to Cap Gemini Ernst & Young.

In addition, Cap Gemini Ernst & Young Consultants Singapore, together with Infocomm Development Authority of Singapore (IDA), conducted interviews with several computer-related companies to obtain information on their current and future plans for eCommerce.

DOCUMENT OVERVIEW

The Electronic Business Value (EBV) framework is a step-by-step guide that is aimed at helping a company identify and prioritise its eCommerce opportunities. The flowchart of the EBV framework (as illustrated in Diagram 1.1) shows the processes and the activities contained within each process that a company needs to undertake to identify possible eCommerce opportunities. This framework is supported by Cap Gemini Ernst & Young’s approach towards the structuring of the processes and activities within the companies.

The document is not intended to identify specific eCommerce opportunities for an individual company. It seeks to provide a framework that guides a company in the process of identifying and prioritising eCommerce opportunities.
The aim of Process 1 in the EBV framework is to determine the desired eCommerce positioning of a company.

Chapter 2 : Definition of eCommerce

This chapter provides an overview of the eCommerce landscape and introduces the business rules that prevail in the new economy.

Chapter 3 - Process 1: Determine the Desired eCommerce positioning

Chapters 3 to 5 focus on the development of the EBV framework. The flowchart below exhibits the entire process from the identification of eCommerce opportunities to the prioritisation of such opportunities.

Diagram 1.1 : Flowchart of the EBV framework

Source: Cap Gemini Ernst & Young

Where are you now?

The initial step of Process 1 in the EBV framework is to determine the current stage of development of the company in eCommerce.

This involves an analysis of a company’s corporate strategy in terms of its business processes, people and technology. It also requires the evaluation of its existing eCommerce initiatives, if any. The current stage of development is determined using Cap Gemini Ernst & Young’s eTransformation evolution cycle. A description of the eTransformation evolution cycle is provided on page 19 of the document.

Where do you want to be?

The next step is to determine a company’s desired future stage of development and its eCommerce positioning using the eSpace concept. The eSpace represents the electronic marketspace that a company is operating in within the eCommerce environment. Cap Gemini Ernst & Young’s eSpace approach is outlined on page 23 of the document.

This market positioning is based on a company’s readiness to remodel, change or create new business models to compete in the new economy. The
identification of the desired eCommerce positioning will ascertain the level of investment, the complexity of the eCommerce initiatives, the involvement of the company and the degree of change that it is willing to adopt.

**Chapter 4 - Process 2: Identify the eCommerce opportunities**

After the desired eCommerce positioning is determined, a company needs to explore and identify the eCommerce opportunities that are available in the selected eSpace. This is achieved by using two parameters.

Firstly, a company is required to evaluate the market participants that it interacts with and examine the feasibility of implementing the eCommerce opportunities with the most appropriate market participants. The decision to select the market participants for the implementation of eCommerce initiatives is determined by a list of selection criteria.

Next, the company needs to identify the potential eCommerce opportunities that it can implement with the selected market participants.

The deliverable of Process 2 in the EBV framework is an eCommerce opportunities grid that provides a list of eCommerce applications that a company can adopt with the various market participants.

**Chapter 5 - Process 3: Prioritise the eCommerce Opportunities**

**Are you ready?**

With limited resources to implement all the eCommerce opportunities, a company has to prioritise and select the most appropriate opportunities that is ready for implementation.

Process 3 in the EBV framework is aimed at prioritising the opportunities to assist a company in its implementation plan. This process is based on the eReadiness of a company, using factors such as the ease of implementation, the cost involved and most importantly, the Electronic Business Value (EBV) that the different eCommerce opportunities bring to the future growth of a company.

Finally, a matrix is developed to cluster the various eCommerce opportunities into different categories based on the prioritisation process.

**Chapter 6 - Application of EBV framework to the Personal Computer (PC) Industry**

This chapter applies the EBV framework to the PC industry as a case study. It illustrates how the key PC players embrace eCommerce within their organisations.
Definition of eCommerce
INTRODUCTION

A marketplace as a historically-evolved institution allows businesses and its customers to convene at a certain time and place to conduct trade. Today, the Internet has changed the classic business and economic paradigms, providing new electronic marketplaces. New models of commercial interaction are developing at increasing speeds, that facilitate the ability to participate in an electronic marketplace and reap its resultant benefits. Technopreneurs are able to start new businesses easily, with smaller up-front investment requirements by tapping on the Internet to reach out to the rest of the world.

With the advent of the new millennium, coupled by strong market forces and mounting competition, the Internet paves the way for the proliferation of eCommerce as an independent ubiquitous coordination mechanism that supports the exchange of goods and services globally. Corporations can no longer ignore the increasing importance of eCommerce or seek the preservation of the status quo.

ARE BUSINESSES PREPARED?

In a recent International Data Corporation (IDC) seminar, a senior analyst from IDC warned Asian businesses to embrace eCommerce now or risk losing business to new emerging competitors. According to IDC, eCommerce revenue in the Asia Pacific region outside Japan will double from US$1.9 billion in 2000 to US$3.8 billion in 2003.

If eCommerce presents so many business opportunities, why are companies still hesitant in embracing eCommerce? Based on a local market survey conducted by the National Computer Board (NCB) last year, only 9% of the companies surveyed engaged in some form of eCommerce activity.
The compelling reason for the slow adoption of eCommerce by companies in Singapore was due to the lack of a perceived need for eCommerce, and a poor appreciation of the value that it presents to companies. This clearly signifies a critical lack of understanding of the benefits offered by eCommerce to companies.

However, with the occurrence of such market changes, organisations can no longer remain insular in nature. Companies have to come to grips with the eCommerce wave that is sweeping across the market, in order to be successful. In the same vein, managers cannot operate effectively without a major change of mindset, attitudes, skills and knowledge.

### WHAT IS eCommerce?

Over the past decade, businesses in virtually every sector of the world economy have benefited from the adoption of eCommerce. However, the widespread interest in eCommerce is relatively recent. Thus, any definition of what is or is not included in the rubric of eCommerce is bound to be controversial and is still evolving. Nonetheless, we have posited the following definition to serve as a framework for our material in this document.

In its most basic sense, eCommerce is about doing business electronically. It involves accessing an electronic network, locating a business partner, completing an order transaction, securing payment and ultimately delivering goods or services.

It is important to note that eCommerce is not limited to physical goods, but also
In the traditional economy, a company operates in a value chain, whereby both its suppliers and customers operate within the same industry. eCommerce, on the other hand, transcends borders and cuts across industries. A company will find itself operating in a value web as an extended and virtual organisation.

Competition is no longer confined to the same industry but extends across industries. A company is no longer restricted to trading within a particular industry or geographical region. eCommerce thus presents a company with new opportunities to improve its profits. In the new economy, the business driver is growth derived by value creation, as opposed to improving efficiency in the old economy.

In the traditional economy, the dominance and competitive advantage of a company is measured by its market share and stability. The new economy redefines the concept of dominance, whereby a company does not focus only on gaining market share but strives to be a market maker. This involves gaining

**Broadly speaking, eCommerce emphasises the generation and exploitation of new business opportunities in a bid to generate business value. It acts as an enabler that enhances the business capabilities of a company, empowers the market participants and creates future business opportunities for a company.**

eCommerce should not be perceived merely as a technology investment or a productivity tool but a business tool that generates new business opportunities.

SETTING THE ECOMMERCE LANDSCAPE

In the new economy, the rules in the operating environment are different from that of a traditional business environment. eCommerce radically alters the way a company interacts with its customers and suppliers. Hence, a company must change the way it thinks and conducts its business.

**Change of business rules**

In the new economy, the business rules that function well in the traditional economy break down. New business rules are created to drive the growth of eCommerce in this dynamic environment.
Table 2.1: Comparison of business rules in the new & old economy

<table>
<thead>
<tr>
<th>PHASES</th>
<th>Old Economy</th>
<th>New Economy</th>
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<tbody>
<tr>
<td>Processes</td>
<td>Value Chain</td>
<td>Value Web</td>
</tr>
<tr>
<td>Objective</td>
<td>Streamline business processes</td>
<td>Create new opportunities &amp; businesses</td>
</tr>
<tr>
<td>Business Driver</td>
<td>Efficiency</td>
<td>Growth</td>
</tr>
<tr>
<td>Source of Value</td>
<td>Value Fulfillment</td>
<td>Value Creation</td>
</tr>
<tr>
<td>Dominance</td>
<td>Market Share</td>
<td>Market Space</td>
</tr>
<tr>
<td>Business Rule</td>
<td>Stability / Static Time</td>
<td>Mobility / Real Time</td>
</tr>
<tr>
<td>Focus</td>
<td>Tangible</td>
<td>Intangible</td>
</tr>
<tr>
<td>Marketing Strategy</td>
<td>Mass marketing</td>
<td>One-to-one marketing</td>
</tr>
</tbody>
</table>

In the new economy, the business driver is growth derived by value creation, as opposed to improving efficiency in the old economy.

Source: Cap Gemini Ernst & Young

the ‘mindshare’ of customers and penetrating new marketspace to develop new business opportunities.

With rapid competition, the companies in the new economy need to focus on building intangible assets such as customer relationships and knowledge management, rather than tangible assets to enhance their competitiveness. New value is created with these assets, that allows the companies to exploit business opportunities more readily in the dynamic environment of eCommerce.

The concept of value creation through eCommerce is relatively new. Hence, one of the objectives of this document is to explain this concept in Chapter 5 to guide a company in the process of prioritising eCommerce opportunities.
Electronic Business Value (EBV) Framework - Process 1: Determine the eCommerce Positioning
Before a company identifies its potential eCommerce opportunities, it is important that it determines its current (if any) and desired eCommerce positioning. This is achieved by Process 1 of the EBV framework. The determination of a company’s eCommerce positioning is a process of defining the eCommerce environment that it is keen to operate in and the level of change it has to undergo with eCommerce.

This initial step is critical as it establishes a company’s willingness to undergo changes for its new initiatives and the scope of change.

**OBJECTIVES OF CHAPTER 3**

This chapter seeks to provide a holistic approach to determine the eCommerce positioning of a company using the eTransformation evolution cycle and eSpace concept. The eTransformation evolution cycle defines the different stages of development that a company is at, in terms of eCommerce. eSpace defines the electronic marketspace that a company operates in. A company’s eCommerce positioning is determined by the selected eSpace level.

The deliverable of this chapter is a table summarising the various eCommerce positioning alternatives by matching the eTransformation evolution cycle to the corresponding eSpace levels. Using this table, a company can determine its desired eCommerce positioning by selecting the stage of development that it intends to be at and the corresponding eSpace that defines the electronic marketspace that it will operate in.

**PROCESS 1: DETERMINE THE ELECTRONIC MARKETSPLACE**

In the new economy, eCommerce presents unlimited marketspace and different business opportunities for companies. Each opportunity exhibits different characteristics in terms of its future benefits, risk profiles and
changes required to be undertaken by a company. The eTransformation evolution cycle shown in Diagram 3.1 is used to ascertain firstly, the extent to which eCommerce has already been embraced within the company, and secondly, to determine the stage where the company desires to be within the eTransformation evolution cycle.

To determine its current and future eCommerce positioning, a company needs to critically evaluate its ability to change its business processes, its people and its technology within the entire organisation. This self-evaluation is required as it will influence the business model of a company in its adoption of eCommerce at the various stages of the eTransformation evolution cycle.

According to Diagram 3.1, there are four phases in the eTransformation evolution cycle, namely:

- Phase 1: Promoting the business
- Phase 2: Facilitating the business
- Phase 3: Reengineering the business
- Phase 4: Reinventing the business

Diagram 3.1: eTransformation Evolution Cycle

The level of potential gain desired and the level of complexity encountered would determine which phase within the eTransformation evolution cycle a company is in. Each phase thus represents a varying degree of change a company is willing to embrace in undertaking its eCommerce initiatives. The eCommerce opportunities and their potential benefits increase as we move up the levels, but the level of complexity increases correspondingly.
Phase 2 of the eTransformation evolution cycle aims at facilitating businesses with the intent to renew a company’s core business. eCommerce applications at this phase do not require a company to reinvent its business model or transform it drastically. Business process change is minimal and the initiative is usually driven at divisional level and not on a firm-wide basis. The benefits of eCommerce are limited and not fully exploited.

Companies at this phase are usually those that are not ready to change their business models and processes, but are keen to embrace eCommerce to facilitate their core business.

Example: Standard Chartered Bank

Standard Chartered Bank (http://www.standardchartered.com.sg) is at the second phase of the eTransformation evolution cycle. It recently tied up with PacFusion (http://www.pacfusion.com) to offer a range of online banking services to maximize opportunities. PacFusion’s eMoney portal will provide online personal banking and investment services for both the bank’s and PacFusion’s customers. This is a bid by Standard Chartered to facilitate its core business and reach out to its customers through strategic partnerships.
**Phase 3: Reengineering the business**  
*Value Proposition: Extend the Core*

When companies adopt a medium strategic approach, whereby they utilise eCommerce to improve and reengineer their businesses, they are at Phase 3 of the eTransformation evolution cycle. At this phase, the emphasis is on extending the core business of a company, with business integration as one of the key objectives. The complexity of eCommerce applications at this phase is high and involves business integration to achieve *profitability* and the streamlining of business processes.

Companies who are ready to transform their business processes and models are at Phase 3 of the eTransformation cycle. This phase involves a substantial change of the entire organisation and will change the way the traditional business is conducted.

**Examples: Walmart / Advanced Manufacturing Online (AMO)**

The retail giants like Walmart (http://www.walmart.com) and The Gap (http://www.thegap.com) have extended their businesses by integrating secured back-end processes to their existing websites. This model provides an avenue for the companies to provide value added services to their customers.

AMO (http://www.ecnet.com) has recently launched ECpart, which is a secure 24 hours a day, 7 days a week and anonymous Internet-based trading platform designed to facilitate global inventory management, component trading and logistics. By launching this initiative, it is extending its core business of delivering Internet-based supply chain solutions for high tech manufacturers, as well as providing Internet-based EDI to meet global supply chain demands.

**Phase 4: Reinventing the business**  
*Value Proposition: Renew the Core*

At this evolving stage, the rules of the game change completely. Companies have to rethink their business strategies, create and develop new business processes and models. It is at this phase that new value is created with the focus on improving profitability and new business opportunities. Currently, most companies are just beginning to enter this phase of development.

Very few companies are at this stage of development as it involves high risks and a high degree of change for the entire organisation. Most companies are still unsure of how they can exploit eCommerce to maximise future opportunities and are uncomfortable to reinvent new business models. This stage is usually for companies that are ready to create new businesses and move out of the core business by reinventing their business models.

**Phase 4 of the eTransformation evolution cycle aims at extending the core business of a company, with business integration as one of the key objectives.**

**Phase 4: Reinventing the business - At this evolving stage, the rules of the game change completely. Companies have to rethink their business strategies, create and develop new business processes and models.**
A company needs to determine the appropriate phase of the eTransformation evolution cycle that it is keen to be in for its desired stage of development for eCommerce.

### Examples: Deutsche Bank / Xpress Print/ America Online

Deutsche Bank (http://www.moneyself.com) has recently announced that it would concentrate on the Internet as its key distribution channel. It has sold off its retail brick and mortar business, and rebranded the retail arm as Bank24. It launched a financial portal called Moneyself.com, where it will sell competitors’ products alongside its own. This is a bold step taken by Deutsche Bank to reshape Europe’s retail banking. This clearly demonstrates a company that is at Phase 4 of the eTransformation evolution cycle.

Xpress Print, a local printer of timesensitive financial reports has diversified from its traditional printing business to create a new core business in eCommerce. i-One.Net International (http://www.i-one.net), the holding company of Xpress Print has wired up Singapore with 12,000 Electronic Commerce kiosks. The creation of a new business model by Xpress Print shows that it is at Phase 4 of the eTransformation cycle.

AOL (http://www.aol.com) has partnered with PurchasePro.com to build business exchanges for the millions of business users across the AOL proprietary services; AOL.com, Compuserve and Netscape Netcenter. The companies plan to create an interactive marketplace where people can bid, negotiate, buy and sell their products and services across multiple business markets. By this, AOL has successfully reinvented their business in order to exploit eCommerce and maximize the opportunities available.

In summary, the eTransformation evolution cycle exhibits the four phases of development in eCommerce. A company needs to determine the appropriate phase of the eTransformation evolution cycle that it is keen to be in for its desired stage of development for eCommerce.

### Diagram 3.2: Summary of eTransformation evolution cycle

<table>
<thead>
<tr>
<th>Phase</th>
<th>Value Propositions</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| Phase 1 (Promoting the business) | Protect the Core | - Information exchange  
- Division-driven  
- No change in business process  
- Minimal change required |
| Phase 2 (Facilitating the business) | Renew the Core | - Marketing Channel  
- Division-driven  
- No change in business process  
- Minimal change required |
| Phase 3 (Reengineering the business) | Extend the Core | - Business integration  
- Firm-wide initiatives  
- Change in business model  
- Substantial change required |
| Phase 4 (Reinventing the business) | Create New Core | - Create new business processes & models  
- High degree of change |

Source: Cap Gemini Ernst & Young
ECOMMERCE POSITIONING - E-SPACE CONCEPT

After a company determines its desired eCommerce stage of development, based on the eTransformation evolution cycle) the next step is to determine its eCommerce positioning. This is achieved by establishing the eSpace level that the company wishes to operate in (corresponding to the various phases of the eTransformation evolution cycle).

The eSpace is defined as the electronic marketspace that a company operates in to implement its eCommerce initiatives. There are six eSpace levels that represent the level of commitment of companies in embracing eCommerce within their organisations. Each level reflects the magnitude and scope of change a company has to adopt when implementing eCommerce. The magnitude of business opportunities increases as we progress up the eSpace and the scope of change intensifies.

These six levels take a company from using the Internet merely as an information channel to a full-fledged electronic marketplace. They are not discrete stages from a company or industry perspective and the speed of transition varies widely across companies, industries and by geography. Moreover, the mastery of one phase is not attained merely by attempting the subsequent one. Each level presents new challenges and business issues to companies.

Diagram 3.3: eSpace - eCommerce Positioning

Unlimited Space to Grow

Source: Cap Gemini Ernst & Young Analysis
**eInformation**

The **eInformation** level is the most basic eCommerce positioning of a company as it merely focuses on the delivery and accessing of information through an electronic channel. The eCommerce initiatives at this level provide only one-way communication and serve as a channel to provide information to the users. Users are not able to interact with the content and the company. This level allows a company to begin to understand the dynamics of eCommerce prior to addressing more difficult questions such as channel conflicts and eSecurity.

The eCommerce opportunities at this level do not involve any business partners and the initiatives are usually spearheaded by one department - the public relations and marketing department. This level corresponds to the first phase of the eTransformation evolution cycle.

**Examples: Trademart Singapore / Jurong Engineering Limited**

Trademart Singapore (http://www.trademart.com.sg) and Jurong Engineering Limited (http://www.jel.com.sg) are excellent examples of companies operating in the eInformation marketspace. They provide basic corporate information, act as a news center and display an array of products and services available to customers. This is in a bid to increase awareness of the company and to promote its products, and thus provide an edge over non Internet savvy competitors.

Pepsico (http://www.pepsico.com) is another website that provides an eInformation web site complete with corporate information, press releases, shareholder information and annual reports.

**eInteraction**

Unlike the eInformation level, eInteraction allows two-way communication between a single company and its users. At this level, the objective of eCommerce is aimed at supporting collaboration and the interactive exchange of information through an electronic channel. However, there is no involvement of any business partners and minimal involvement of all the staff from the company. Like the eInformation level, this initiative is usually led by one department - the sales and marketing and/or public relation department, and is not company-wide. The eInteraction level is at the first phase of the eTransformation evolution cycle - Protect the Core.

**Examples: Hong Leong Finance Group**

The Hong Leong Finance Group (http://www.hongleong.com.sg) enables eInteraction between the company and its customers with services such as instant loan calculation and approval, and interest rate inquiries. At this level, eCommerce acts as a channel that enables the interactive exchange of
information to facilitate the business by providing customers with extra services.

**eTransaction**

Apart from the interactive exchange of information, the eTransaction level enables the purchase of products and services through an electronic channel. At the eTransaction level, the electronic transactions are not integrated to the business processes of companies. Usually, companies at this level do not have a clear eCommerce strategy for the entire company and the initiatives are spearheaded at the divisional level. The eTransaction level corresponds to the Phase 2 of the eTransformation evolution cycle - Facilitate the Business.

**Examples: Econ-minimart / Cold Storage**

Econ-minimart (http://www.Econ-minimart.com.sg) is an example of a company operating in the eTransaction marketspace. The website serves as an interactive exchange of information and an electronic channel for its customers to purchase groceries on-line. Features on the website include monthly offers, shopping cart, feedback and enquiries to Econ-minimart.

Cold Storage (http://www.coldstorage.com) has established a website that allows its customers to purchase groceries online. The company lies at the eTransaction level of the eSpace, and provides an efficient procurement and delivery system for connected consumers.

**eCompany**

As a company progresses to the eCompany level, the magnitude and scope of change for the company intensifies. At this level, the commitment of the entire company is required with a corporate eCommerce strategy. The opportunities at the eCompany level involve the implementation of business strategies that integrate the company’s people, processes and technology, as well as its content capabilities (i.e. full integration).

However, at this level, the scope of implementation is still restricted to a single company, within a single industry. The key differentiators of eCompany from the previous three levels are the virtualisation of a company’s business processes with eCommerce applications, and the requirement for a corporate eCommerce strategy. This level corresponds to Phase 3 of the eTransformation evolution cycle - Extend the Core.

**Examples: US West / Nokia**

US West, the Internet and data powerhouse (http://www.uswest.com) has successfully developed an internal web site known as the Global Village which connects employees in 14 states. The employees can meet in online chat rooms to exchange documents and discuss ongoing projects via the Global Village. Within the organisation, the business processes and technology are fully integrated.
Nokia’s website (http://www.nokia.com) is an excellent example of a fully integrated company that incorporates eCommerce into its business processes, technology, research and development, content and people. Via the Nokia.com web site, it is apparent that the company is justifiably a virtual organisation that delves into advanced technology research and implementation.

**eMarket**

At the advanced level of the eSpace, the eMarket represents an extended enterprise that is not only fully integrated within a company but also conducts eCommerce with multiple business partners of the company within the same industry. This layer involves industry transformation with multi-company participation from the same industry.

The scope of change involves the transformation of an industry with eCommerce. Examples of applications includes redefined value network roles, collaboration between trading partners, virtual, seamless value networks, sharing infrastructure with competitors, virtual enterprises and restructuring of the supply chain. The eMarket level corresponds to the third stage of the eTransformation evolution cycle- Extend the Core.

To date, most companies have not reached this stage as it involves sharing of knowledge and infrastructure with external parties, which most companies are not prepared to do.

**Example: General Electric**

General Electric (http://tpn.geis.com) facilitates its business by providing up-to-date information for consumers as well as enabling a degree of interaction via the answer center. Loan options, product selector, home project library and online registration are among some of the services offered. Besides providing this range of services, GE’s Trading Process Network boasts an Internet-based trading network that enables buyers and sellers to do business-to-business eCommerce, including transactions. By enabling eCommerce amongst companies within the industry, GE clearly lies in the eMarket position of the eSpace.

**eEconomy**

eEconomy is the most advanced level of an eCommerce positioning as it involves the restructuring of the economy. At this level, it requires the creation of a new economic system whereby business is conducted electronically and each economic element (e.g. regulations, market structures, capitalization) is adapted to support eCommerce. Characteristics of this stage include economic restructuring, and multi-company/multi-industry applications of eCommerce. The eEconomy level corresponds to the final phase of the eTransformation cycle.
Examples: Amazon / dollarDex

Amazon (http://www.amazon.com) is clearly a worthy eEconomy example. It has created a new core business, breaking away from being a fundamental online bookseller, with the launch of zShops, which taps into the electronics, food and beverage and movie industries. A wide range of home improvement tools and equipment, houseware and painting supplies are also currently available for purchase at the site. Such restructuring allows Amazon to maximise revenue by extending its original business model into new channels and portfolios.

dollarDEX (http://www.dollardex.com.sg) is Asia’s pioneer online financial superstore, where consumers can shop and buy housing and car loans, general and life insurance, and other financial products. It also offers a unique reverse online auction in which the customers post their housing loan requirements on the company’s website and have the participating institutions bid for their business. This has totally changed the traditional loan financing business model by aggregating collective loan demand for better deals with banks. This is a good case study of a company at the eEconomy level as it has attempted to restructure the economy, and optimise the channels available for the participating institutions.

The eSpace framework presents unlimited marketspace of business opportunities and establishes a company’s eCommerce positioning that it is keen to pursue now and in the future. Although the benefits increase as we progress from the eInformation to eEconomy level, it does not necessarily mean that a company should move into the advanced stages to reap the benefits of eCommerce. Ultimately, a company’s eCommerce positioning depends on the willingness and readiness of a company to change and transform its business model in terms of the its processes, people and technology.

Using the eTransformation evolution cycle and eSpace concept, a company can identify its current stage of development and determine its desired stage of development. This will correspond to the electronic marketspace defined by the different eSpace levels that it will operate in to implement its eCommerce initiatives as illustrated in the diagram below.

Diagram 3.4 : Determination of the eCommerce Positioning

Ultimately, a company’s eCommerce positioning depends on the willingness and readiness of a company to change and transform its business model.

Source: Cap Gemini Ernst & Young
Based on the eTransformation evolution cycle, most companies are at the first two phases in the adoption of eCommerce. Only a small part of the business community has begun to extend their core business to leverage on the opportunities presented by eCommerce.

The level of adoption at Phase 4 of the eTransformation evolution cycle is relatively low, especially for brick and mortar companies. This is because this phase involves a drastic transformation of a company’s business strategies and model. Usually, start-ups are the ones that are at the final phase of the eTransformation evolution cycle, creating new core and innovative business models in the value web.

Summary of Chapter

This chapter focuses on Process 1 of the EBV framework, which is to determine the desired eCommerce positioning of a company.

The eCommerce positioning defines the eCommerce environment that a company operates in and the level of change it has to undergo with eCommerce.

Using the eTransformation evolution cycle, a company will firstly determine its current and future stage of development in eCommerce. Next, the company will determine its desired eCommerce positioning in the eSpace framework, that corresponds to the selected eTransformation phase.
Electronic Business Value (EBV) Framework - Process 2: Identify eCommerce Opportunities
INTRODUCTION

In the previous chapter, we focused on establishing a company’s eCommerce positioning. To recall, the eSpace concept was used to establish the eCommerce positioning of a company based on the level of complexity and scope of change that it has to undergo. This initial step is crucial as it establishes the parameters and the amount of change that a company is willing to undergo for its new initiatives.

This chapter focuses on Process 2 of the EBV framework, which is to identify the available eCommerce opportunities for a company within the various eSpaces.

DEFINITION OF ECOMMERCE OPPORTUNITIES

Companies should be mindful that when we refer to eCommerce opportunities, we do not focus only on current opportunities but more importantly, the future opportunities presented by eCommerce. The new economy values business models built on market instability, speed of responsiveness to competition and changing business environment that forces companies to constantly innovate to keep ahead. Hence, the eCommerce opportunities identified should provide an avenue for a company to react to market instabilities.

APPROACH

When a company has established the eCommerce positioning that it is keen to operate in, the next step is to select the possible eCommerce opportunities that correspond to the identified eSpace.

The EBV framework identifies the eCommerce opportunities by using two parameters:

- Market participants;
- eCommerce applications.
Each company interacts and operates with different market participants in its value web.

Diagram 4.1 presents a paramonic view of defining the different market participants segments that a company can explore eCommerce opportunities with.

The various groups of market participants that form a company’s value web include:

- Customers; (Business-to-Consumer)
- Suppliers; (Business-to-Business)
- Business Partners; (Business-to-Partners)
- Employees; (Business-to-Employee)
- Other Stakeholders; (e.g. Government/Press/Investors)

To date, the majority of the eCommerce initiatives implemented by companies are targeted at customers, especially in the Business-to-Consumer (B2C) segment and suppliers in the Business-to-Business (B2B) segment. This only represents two segments of the market participants that a company interacts and conducts electronic business with.

Each market participants segment presents enormous business opportunities for eCommerce applications, but the level of readiness of each segment to embrace eCommerce varies. It is important for a company to review the various market participants segments and determine which segment has the most potential and demonstrates the most readiness to embark on eCommerce with the company.

### Selection Criteria

To identify and select the most appropriate market participants segment, a company should consider the following factors:

- Size of the market participants segment;
- Diversity of the market participants segment;
- Dependency on the market participants segment.
In Summary, a company should target the market participants segment with the following characteristics:

- **Critical mass to reap substantial benefits;**
- **Low market segmentation and diversity;**
- **More negotiating power and control over the market participants.**

Size of the Market Participants Segments

The size of the market participants segments will determine the complexity of the eCommerce projects. Generally, the larger the targeted market participants group, the more complex the eCommerce initiatives. However, a company should select and target the market participants segment with a critical mass to enjoy substantial benefits through economies of scale.

A company needs to evaluate the base of its market participants segments and determine their contribution to the company’s overall growth. Generally, a company should aim at the segment with a critical mass and of strategic importance to the company.

Diversity of the Market Participants Segments

Another factor to consider is the diversity within each market participants segment as this will affect the ease of implementation. A diverse group of market participants results in higher complexity in implementing eCommerce initiatives and requires the entire buy-in of the segment. It will be easier to work with a group of market participants that demonstrates similar characteristics, and require less coordination effort and buy-in.

For instance, it is easier for a company to implement eCommerce initiatives with its customers if the latter is a homogenous group. If the customer base is fragmented, it will be difficult to roll out eCommerce initiatives with this group of market participants.

Dependency

The level of dependency of a company on the market participants affects the negotiating power of a company when initiating eCommerce projects. For example, a company that is highly dependent on its business partners/suppliers (especially if it is dominated by a few major players) would find it difficult to implement eCommerce initiatives with its suppliers. On the other hand, if a company is the key client of its suppliers, it will be easier for the company to implement eCommerce initiatives with the suppliers.

A company needs to evaluate the various groups of market participants and determine which segment demonstrates the readiness and capability to implement eCommerce initiatives.
Diagram 4.2: General Guidelines to Identify the Target Market Participants Segment

In summary, a company should target the market participants segment with the following characteristics:

- Critical mass to reap substantial benefits;
- Low market segmentation and diversity;
- More negotiating power and control over the market participants.

After a company has identified its desired eCommerce positioning represented by the eSpace levels and the selected targeted market participants segment, the next step is to identify the eCommerce opportunities.
What are the potential eCommerce opportunities?

To identify eCommerce opportunities, the EBV framework integrates these two dimensions (eSpace and marketing participants) to define the cluster of eCommerce opportunities that are available to a company. The eCommerce opportunity grid serves as a starting point for a company to identify and evaluate the potential opportunities that are available to it. It should be noted that the list of eCommerce opportunities presented in the grid is not exhaustive and can be expanded, especially at the eEconomy level depending on the industries and innovativeness of a company. The grid only serves as a representation of a basket of eCommerce opportunities available to a company.

Each box represents a set of eCommerce opportunities that corresponds to the desired eSpace level and the respective market participants segment that has been selected.

Table 4.1: Cap Gemini Ernst & Young’s eCommerce Framework

<table>
<thead>
<tr>
<th>eSpace (eSpace)</th>
<th>eTransaction (eCompany)</th>
<th>eMarket (eMarket)</th>
<th>eEconomy (eEconomy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>On-line catalogs with search engine</td>
<td>Smart On-line Catalog</td>
<td>eCRM for market</td>
</tr>
<tr>
<td>Business Partners</td>
<td>On-line catalog configuration</td>
<td>Product configuration</td>
<td>Customers market place</td>
</tr>
<tr>
<td>Suppliers/Partners</td>
<td>On-line customer orders</td>
<td>Integrated Online order settlement</td>
<td>Market loyalty program</td>
</tr>
<tr>
<td>Employees</td>
<td>Basic On-line orders settlement</td>
<td>On-line Customer Service &amp; Technical Support</td>
<td>eMarket places</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Basic Loyalty program (e.g. Electronic coupons)</td>
<td>Online Customer Service Services</td>
<td>Vortal (Vertical portal)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Cap Gemini Ernst & Young
### Table 4.2: Illustration of the eCommerce Opportunities

#### eCommerce opportunities with Customers

<table>
<thead>
<tr>
<th>eSpace</th>
<th>Description</th>
<th>List of eCommerce opportunities (i.e. eApplications)</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>eInformation/eInteraction</td>
<td>The eCommerce opportunities involve the exchange of basic information between the company and its customers.</td>
<td>- <strong>Company/Product Information</strong> - provides static information about a company and its product lines on the website.  &lt;br&gt; - <strong>On-line Catalog</strong> - provides a listing of a company’s merchandise and price quotes on the website.  &lt;br&gt; - <strong>Frequently Asked Questions (FAQs)</strong> - provides the answers to common questions asked by customers. This includes product capabilities/features, troubleshooting tips for technical problems and feedback from customers on products and services.</td>
<td><a href="http://www.starcruises.com">www.starcruises.com</a>  &lt;br&gt; <a href="http://www.goldbell.com.sg">www.goldbell.com.sg</a>  &lt;br&gt; <a href="http://www.ntuc.hypermart.net">www.ntuc.hypermart.net</a></td>
</tr>
<tr>
<td>eTransactions</td>
<td>This category of eCommerce opportunities is skewed towards electronic order taking and settlement. In this aspect, eCommerce serves as a marketing channel for companies to reach out to their customers and secure orders.  &lt;br&gt; In terms of information provision, this level is more sophisticated than the eInformation level. For instance, the on-line catalogues may have search capabilities and the ability to configure different combinations of products that are offered by a company.</td>
<td>- <strong>Online Catalog with Search Engine</strong> - allows customers to search for their requirements on the website.  &lt;br&gt; - <strong>Online Product Configuration</strong> - allows customers to build more complex orders that are not standard offerings by a company.  &lt;br&gt; - <strong>Online Customer Orders</strong> - allows customers to purchase the products and place orders electronically. Common features include a shopping cart to select &amp; purchase products, online calculator and a wish list to purchase orders at a later date.  &lt;br&gt; - <strong>Basic Online Order Settlement</strong> - allows customers to pay for products electronically with a payment option. (e.g. credit card / eCash / Purchasing card)  &lt;br&gt; - <strong>Basic Loyalty Program</strong> (e.g. electronic coupons) - provides on-line customers with incentives such as discounts, on-line product launches and upcoming events.</td>
<td><a href="http://www.sears.com">www.sears.com</a> (has a product catalogue with search engine capabilities &amp; order status feature)  &lt;br&gt; <a href="http://www.dell.com">www.dell.com</a>  &lt;br&gt; <a href="http://www.cisco.com">www.cisco.com</a>  &lt;br&gt; <a href="http://www.airfares.com.sg">www.airfares.com.sg</a>  &lt;br&gt; <a href="http://www.netcentives.com">www.netcentives.com</a>  &lt;br&gt; <a href="http://www.coolsavings.com">www.coolsavings.com</a>  &lt;br&gt; <a href="http://www.coupon.com.sg">www.coupon.com.sg</a></td>
</tr>
<tr>
<td>eCompany</td>
<td>Companies at the eCompany level have integrated business processes. Hence, the eCommerce opportunities available will provide greater value to their customers. These opportunities usually involve the entire organisation.</td>
<td>- <strong>Personalisation of customers’ catalogs to customers’ preferences</strong> - allows a company to understand the buying behaviour and patterns of customers. This customisation of catalogs for customers, especially key accounts, would generate customer profiles that a company can embark on targeted marketing to increase sales.</td>
<td><a href="http://www.MyYahoo.com">www.MyYahoo.com</a>  &lt;br&gt; <a href="http://www.Dell">www.Dell</a> Premier Page.com  &lt;br&gt; <a href="http://www.sony.com">www.sony.com</a></td>
</tr>
<tr>
<td>eSpace</td>
<td>Description</td>
<td>List of eCommerce opportunities (i.e. eApplications)</td>
<td>Examples</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>-----------------------------------------------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| eMarket | At the eMarket level, the applications are at inter-company level within the same industry. This involves the integration of business processes with customers and suppliers within the value web. | • **Integrated Online Order Settlement** - Apart from the payment features, at the eCompany level, one main feature is order status. This application allows customers to check on the delivery schedule of their orders. By integrating the back-end processes to the front-end applications, customers can monitor their order delivery real-time.  
• **Customer Service & Support** - This feature can be applied throughout the entire sales process from pre-sale to post-sale support. At the pre-sale stage, a company can link its web-site to its back-end operation to access the customers’ database or assist them in the buying process. At the post-sale stage, the web-site allows customers to conduct self-diagnostic assessments on problems and provides on-line customer service & support.  
• **Smart on-line catalog** - This application has the ability to compare prices with other vendors and suggest complementary products. In other words, the feature allows the company to be involved in the customers’ decision and buying process and cross-sell related products offered by other companies to their customers. The technology deployed emulates the skills of its salespeople.  
• **Open Enterprise to Customers/Suppliers** - As companies’ back-end systems are connected to front-end applications, customers/suppliers are allowed to access the companies’ inventory systems to check the availability of stocks real-time. | www.fedex.com  
www.UPS.com  
www.Sportmartdirect.com  
www.dell.com  
www.travelocity.com |
| eEconomy | At the eEconomy level, eCommerce has created new business models for customers. It gives the buyers the power to negotiate better deals and discounts. | • **Customer Marketplace** - (i.e. Customer-To-Business model) Group buying sites that aggregate collective buyers and obtain better discounts from suppliers. Group buying has become a part of the business model and online offerings of various portal sites.  
• **Market Loyalty programs** - This is to increase the familiarity with customers and to lock in frequent buyers with business partners. Companies are seeking to improve cross channel lifetime value using traditional and technology enhanced marketing techniques. Loyalty programs include:  
  - Rewards programs with business partners  
  - Personalization | www.dollarDex.com  
www.mercata.com  
www.priceline.com  
www.cdnow.com  
www.i-one.com.sg |
## eCommerce opportunities with Business Partners/Suppliers

<table>
<thead>
<tr>
<th>eSpace</th>
<th>Description</th>
<th>List of eCommerce opportunities</th>
<th>Examples</th>
</tr>
</thead>
</table>
| eInformation/ eInteraction | At this basic stage, the opportunities with business partners and suppliers are mainly confined to data sharing. | • Pull Suppliers’ information - focuses on providing information product availability, pricing and demand. Pull suppliers’ information is the information that the suppliers receive from companies about consumers’ buying patterns. On-line information on forecasted demand and actual sales figures are available on the suppliers network. The focus is shifting visibility to the supply chain.  
• Data Sharing with suppliers - is the sharing of information to help speed processes, cut costs and reduce errors. This involves a website that posts products and services information for use by the suppliers. | www.eTrade.com  
www.verisign.com  
www.asiasources.com  
www.plasticscommerce.com |
| eTransactions           | At the eTransaction level, the eCommerce opportunities involve electronic transaction with the business partners/suppliers but do not involve the entire organisation. | • On-line Tenders - is the process of calling for quotes and tenders from suppliers and business partners. At this level, it is merely a platform to inform business partners of the available opportunities.  
• On-line Orders - is the process of promising orders over the web. The process involves placing an order on the web to purchase products. | www.necx.com  
www.grainger.com |
| eCompany                | At the eCompany level, the eCommerce opportunities are more sophisticated and involves the entire organisation. | • eProcurement - refers to an Internet based procurement application that provides support for redesigning activities surrounding the acquisition of goods and services. The current state investments predominantly focus on “non-production” purchases like office supplies, capital equipment, MRO (Maintenance, Repair and Operations). It provides accurate and real-time data leading to improved supplier/buyer management.  
• With eProcurement, purchasers have the data to evaluate buyers within their organisations to ensure partiality and compliance to the organisations’ requirements.  
• On-line Commitments - is the process of promising orders (due dates/quotes) over the web. The process involves placing the order, distributor checking inventory, manufacturer checking material availability and capacity in real-time, performing necessary financial transactions and returning back to the customer with order due date/quote. | www.autovia.com  
www.oracle.com  
(These companies have transferred almost all their purchasing activities onto the web)  
www.cisco.com  
www.intel.com  
www.FedEx.com |
<table>
<thead>
<tr>
<th>eSpace</th>
<th>Description</th>
<th>List of eCommerce Opportunities</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **eMarket** | At this level, it involves the sharing of databases and knowledge with business partners with integrated business processes within the same industry. | • **“Direct”Fulfillment** - This involves working with logistics or fulfillment partners to leverage their infrastructure for order fulfillment.  
  • **Integrated Distribution** - is a distribution infrastructure that enables members of an electronic supply chain to offer services throughout the channel by exchanging information in real time via the Internet to better serve customers, business partners and suppliers. The industry trend is that companies are trying to understand and link their products and services more directly to customers’ internal processes. Information about distribution will be shared among the trading partners’ systems. | www.anx.com  
(Automotive Network Exchange is an extranet used to exchange product engineering data, EDI information among GM, Ford, Chrysler and tier-one suppliers)  
www.Chemdex.com (a B2B market maker specialising in the life sciences space)  
www.pcorder.com |
| **eEconomy**| The eEconomy level involves different companies and multiple industries      | • **eMarketplace** - These marketplaces are targeted at building communities and vertical portals - industry specific portals. | www.GlobalNetXchange.com  
www.MktXchange.com  
www.VerticalNet.com |
### eCommerce Opportunities with Employees

<table>
<thead>
<tr>
<th>eSpace</th>
<th>Description</th>
<th>List of eCommerce opportunities</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **eInformation/ eInteraction** | The eCommerce opportunities at this basic level involve the sharing of company’s information with employees to reduce paper and printing costs and for quick updates on information. Today, most companies have already implemented some form of basic eCommerce with its employees. | - **On-line manuals/directories** - list of information and manuals that reside on a network. These include training, IT and human resources manuals, staff telephone directories and databases.  
- **On-line communications** - this serves as an efficient distribution channel to share information throughout an organisation quickly. Applications include on-line databases, an intranet that offers basic employees’ information regarding policies, procedures and benefits.  
- **On-line recruitment** - is one of the most common applications that companies have implemented. Both internal and external job postings decrease administrative recruitment tasks and extend the reach to qualified personnel. | www.ehow.com  
www.edb.gov.sg  
www.ida.gov.sg |
| **eTransactions** | The eCommerce opportunities at this level are mainly initiated by the Human Resource (HR) department. The eCommerce strategy is not driven at firm-level and is skewed towards productivity and cost reduction. | - **On-line Expenses** - is an eCommerce application that replaces the manual, paper-based system of recording and tracking expenses. The features include expense submission, management approval, support tools and employee support systems (i.e. automating the process between on-line expenses for travel, submission of claims and indirect procurement).  
- **On-line Training Registration** - is an application that allows employees to access on-line training courses, search for classes by course title, subject category. With an on-line register system, employees can register and seek approval from managers with a seamless process.  
- **On-line benefits selection** - allows employees to select their benefits on a paperless, on-line system. Leading systems provide employees with a customized presentation of their benefits options based on employer established eligibility rules, available benefit plans and benefit providers. | www.pg.com  
www.spower.com.sg  
www.timezone.com  
www.polaroid.com |
<table>
<thead>
<tr>
<th>eSpace</th>
<th>Description</th>
<th>List of eCommerce opportunities</th>
<th>Examples</th>
</tr>
</thead>
</table>
| eCompany     | The eCommerce opportunities at the eMarket level are implemented throughout the entire organisation, and support all job functions.                                                                                                                                                                                                 | - *On-line Knowledge Dissemination* - sharing of information quickly across the organisation to employees at different divisions and external parties like customers and suppliers regardless of their physical locations. This varies from intranets, internet and extra-nets. | www.xerox.com  
   www.cisco.com  
   (cisco E-learning)                                                                                                                                     |
**SUMMARY OF CHAPTER**

To identify the potential eCommerce opportunities, a company has to first select the market participants segment that it is ready to embrace eCommerce with. This selection criteria is based on the size, diversity and dependency on each market segment. Generally, a company should target the market participants segment that is of strategic importance to the company and has a critical mass to enjoy substantial benefits.

However, the market participants segment should not be too diverse as it would make it difficult to implement an eCommerce initiative, and would also require buy-in at every level. Finally, a company should select the group that it has substantial negotiating power and control to ensure the ease of implementation. One of the major barriers of eCommerce is the reluctance of people to change. Hence, the selection of the market participants group that is ready to embrace eCommerce is critical for success.

After identifying the market participants segment, a company should evaluate the list of eCommerce opportunities available within the eSpace. The eCommerce opportunity grid illustrates the different eCommerce opportunities that are available with the corresponding eSpace and the various market participants.
Electronic Business Value (EBV) Framework - Process 3: Prioritise eCommerce Opportunities
Each company needs to prioritise the list of opportunities and select the relevant initiatives that fit its budget and resources.

INTRODUCTION

Given the list of potential eCommerce opportunities represented in Chapter 4, the next step is to prioritise and narrow down the business opportunities that are applicable to a company. Chapter 5 describes Process 3 of the EBV framework - to prioritise the eCommerce opportunities that have been identified based on the eCommerce opportunity grid.

The selection criteria used to prioritise the eCommerce opportunities are the eReadiness of a company and the Electronic Business Value (EBV) created by the opportunities. The eReadiness of a company is defined as the level of readiness of a company to change and adapt to a new business model in terms of its processes, people and technology.

EReadiness of a Company

All eCommerce opportunities are not alike and differ in the business motivation and benefits they provide to a company. The complexity, benefits and risks involved in each opportunity vary. Hence, there is not a one-size-fits-all business model for every company. Each company needs to prioritise the list of eCommerce opportunities and select the relevant initiatives that fit its budget and resources. The eReadiness criteria aims to help CEOs review the prospective initiatives and create a balanced portfolio of initiatives that brings the highest value to the company, is easy to implement and can be successfully driven based on management, talent and resources available within the organisation.

The eReadiness of a company is determined by the following factors:

- strategic relevance;
- magnitude of investment;
- degree of risk;
- ability to execute.

The aggregate of these factors will determine the eCommerce opportunities that match the level of readiness of a company to embrace the new initiatives.
**Strategic Relevance**

Firstly, a company should identify the business drivers of each eCommerce opportunity and select the initiatives that are aligned to the company’s business goals. Focus on eCommerce opportunities that are driven by key business strategies rather than external pressures.

**Magnitude of Investment**

Determine the total investment cost that is required for the various eCommerce opportunities and rank the magnitude of investment required for the eCommerce opportunities vis-à-vis the benefits that the opportunities present to the company. Focus on initiatives that generate long term benefits and contribute to the overall strategic direction of the company. The benefits should not be confined to cost reduction but more importantly, should extend to include the building up of intangible assets like customer loyalty, knowledge management and eBranding.

**Degree of Risk**

The degree of risk is determined by the amount of change that is required by the organisation to realise the benefits of the opportunity. Factors affecting the risk element include the length of time required to execute the project, the ability of the market participants to adapt to the new business model, and channel conflicts if the initiatives involve the replacement of traditional business partners. The complexity of the eCommerce initiatives will increase the risks involved for a company. Another risk consideration is whether a company has ever pursued a similar opportunity. In general, a company should focus on business opportunities with manageable risks, whereby it is prepared to accept some short-term uncertainties for long-term benefits.

**Ability to Execute**

Finally, the ability to execute the various eCommerce opportunities is a critical factor in determining the eReadiness of a company. This can be measured by the following metrics:

- commitment and level of support from the selected market participants;
- the availability of talent to implement;
- the complexity in terms of change of business processes;
- the availability of technology.

These factors will affect the ability of a company to execute the eCommerce initiatives. The change capabilities of the company are extremely important in accelerating the implementation plan. Hence, a company should select eCommerce opportunities that it possesses the ability to execute and thereby reap the benefits.

As a rule of thumb, a company should focus on eCommerce opportunities that score high in eReadiness (i.e. of strategic relevance, easy to execute and has manageable risk) to ensure the success of the eCommerce project.

The eReadiness of a company is determined by the following factors:

- strategic relevance
- magnitude of investment
- degree of risk
- ability to execute
In the Internet economy, the source of value creation is characterised by the capacity of a company to innovate rapidly and its flexibility to execute new business opportunities accurately and effectively.

The next step is to analyse the value creation potential of the eCommerce opportunities and select those that offer high Electronic Business Value (EBV) to a company and generate future opportunities.

The dynamic eCommerce business environment makes estimating risk profiles difficult. If the traditional definition of value is no longer applicable in the new economy, how do we define value in the new connected economy and how do we capture it?

**ELECTRONIC BUSINESS VALUE (EBV)**

**Old Definition of Value**

In a traditional brick-and-mortar business model, value is measured based on the accumulation of assets and resources using financial models, like Return on Investments (ROIs) and the Economic Value Added (EVA). Value is perceived as stand alone assets that are tangible and quantifiable. A company makes its business investment decisions using these financial models.

In the new economy, these tools break down with the speed of change and the development of eCommerce. The ROI model is no longer appropriate and is inadequate in determining values, which are no longer static assets. Traditional methods of capturing values are obsolete and not comprehensive as the value created by eCommerce corresponds to speed, knowledge and adaptability - assets that are not easily quantifiable.

**Concept of Value Creation**

**Metcalf’s Law**: Connecting the dots drives exponential value creation

Early adopters of eCommerce have used the Internet as a human substitute to reduce cost and improve productivity. Many companies justify the cost of investing in eCommerce based on the magnitude of cost savings. In other words, the value of eCommerce was solely based on efficiency gains. This only constitutes the direct benefits and ignores the concept of value created, resulting from the adoption of eCommerce.

The indirect benefits derived from eCommerce are the areas where value is created and is often lost when the portfolio of growth platforms to which it is attached is broken up or liquidated. The parochial view of eCommerce value has its usefulness but it undermines the full business value offered by eCommerce, as it neglects the future opportunities presented by eCommerce and focuses only on the current opportunities - reflected by cost savings. Most companies fail to realise the overall relationship between
eCommerce adoption and the future opportunities made possible by the eCommerce initiatives.

In the Internet economy, the source of value creation is characterised by the capacity of a company to innovate rapidly and its flexibility to execute new business opportunities accurately and effectively. This represents a change in management practice, focusing on the value creation derived from indirect value created by eCommerce in generating future opportunities. It is the creation of value at a speed faster than your competitors which is critical in order to stay ahead of the competition.

Diagram 5.1: The Full Potential Value Created by eCommerce

Source: Cap Gemini Ernst & Young Analysis
The value driver is based on growth targeted at generating future business opportunities.

DEFINITION OF ELECTRONIC BUSINESS VALUE (EBV)

“What’s my ROI on e-commerce? Are you crazy? This is Columbus in the New World. What was his ROI?”
- Andy Grove, Intel, 5/98

In line with this principle, the concept of Electronic Business Value (EBV) is defined as the strategic value created by eCommerce to drive the overall growth of companies by improving their business capabilities in terms of innovation, flexibility to seize new business opportunities and ability to execute the best ones. It seeks to improve a company’s business capabilities which, in turn, generates profitability and growth, thus capturing the full benefits of the entire supply chain.

Unlike the value derived from traditional businesses, EBV:

- focuses on future opportunities & growth potential;
- focuses on value creation;
- focuses on intangibles assets (e.g. customer relationships and knowledge management);
- helps to change the market positioning of a company; (i.e. eSpace)

Although the value drivers of eCommerce are based on growth, effectiveness and efficiency as demonstrated in Diagram 5.2. EBV explains the concept of strategic value created by a company based on only a key eCommerce value driver:

- **Growth** through entering new marketspaces;
Diagram 5.2: eCommerce Value Drivers

**Sources of Electronic Business Value (EBV)**

Unlike the commonly understood concept of value that is measured by the traditional financial instruments, EBV is the strategic value that arises from an improvement in a company’s business capabilities, and from the creation of new market and future opportunities from the adoption of eCommerce.

The ability of a company to create EBV is essential to generate future business opportunities for long term growth potential. The three sources to capture EBV are as follows:

- **Innovation** - The ability to innovate new products and services;
- **Flexibility** - The flexibility to change investment decisions and business models to adapt to market conditions;
- **Execution** - The ability to efficiently and effectively execute a business plan.
Innovation

Innovation is defined as the ability of a company to develop new products and service offerings. As competition becomes intense and extends across industries, a company must strive to be innovative to differentiate itself from its competitors. This is one of the key sources of EBV that drives a company’s growth potential by creating new marketspace and long term benefits. Innovation is measured by a company’s R&D spending, intellectual property portfolio and product cycles.

Sony is an example of a company that is constantly creating EBV through its innovativeness, allowing it to compete in the new economy effectively. Sony recently developed a corporate eStrategy and announced a series of new deals to bring more online services to Japanese consumers as part of an ongoing attempt to metamorphose into an “Internet” company.

The changes are intended to help Sony expand its offerings of digital content that can be piped into customers’ homes through high-speed Internet connections to Sony hardware. It has lined up plans to make all its products “Net applicable”.

Flexibility

Besides being innovative, it is crucial that a company has the flexibility to change its organisation and business model to adapt to market demands. Flexibility can be demonstrated by a company’s capability to withstand changes and adapt market conditions to create new opportunities. This is another method to determine the ability of a company to create EBV.

---

**The three sources of EBV are:**

- Innovation
- Flexibility
- Execution

**Diagram 5.3: Sources of Electronic Business Values (EBV)**

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Flexibility</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Research &amp; Development</td>
<td>- Capability to withstand and exploit change</td>
<td>- Effectiveness of execution of business plan</td>
</tr>
<tr>
<td>- Technological awareness</td>
<td>- Ability to redeploy resources</td>
<td></td>
</tr>
<tr>
<td>- Ability to develop new products and services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Cap Gemini Ernst & Young

**Innovation**

Innovation is defined as the ability of a company to develop new products and service offerings. As competition becomes intense and extends across industries, a company must strive to be innovative to differentiate itself from its competitors. This is one of the key sources of EBV that drives a company’s growth potential by creating new marketspace and long term benefits. Innovation is measured by a company’s R&D spending, intellectual property portfolio and product cycles.

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**Flexibility**

Besides being innovative, it is crucial that a company has the flexibility to change its organisation and business model to adapt to market demands. Flexibility can be demonstrated by a company’s capability to withstand changes and adapt market conditions to create new opportunities. This is another method to determine the ability of a company to create EBV.
Ability to execute

Finally, the ability to execute refers to the capability of a company to bring the products and services to market (i.e. the go-to-market strategy). As the new economy is moving at Internet speed, speed to market is critical to gain mindshare and customer base.

The success of Dell was attributed to its ability to execute its direct sales business model, rather than the existence of the model itself. In early 1999, Dell turned its inventory over every 6 days compared to Compaq’s 36 days. Moreover, Dell was more flexible allowing it to switch to new business platforms when necessary.

To compete in the new economy and stay ahead of competition, a company has to constantly create EBV for its organisation by implementing appropriate eCommerce initiatives. A successful eCompany is one that is able to effectively select and implement the eCommerce applications that have high EBV.

Key Challenges:

- What is the enterprise value of your company today?
- What are the 3-4 key components driving your value today?
- What elements of your business are slowing down the value?
- How fast are you creating value in relation to your competitors?

Diagram 5.4: Electronic Business Value (EBV) ScoreCard

The selection matrix using both criteria serves as a good guide to companies in prioritising and selecting eCommerce opportunities.

Source: Cap Gemini Ernst & Young
To assist a company in prioritising its eCommerce opportunities, the EBV scorecard aims to rank EBV created by the alternative eCommerce opportunities.

With this scorecard, a company can identify and rank eCommerce opportunities based on the Electronic Business Value (EBV) that they present. Ideally, a company should focus on initiatives that generate high Electronic Business Value (EBV) as it guarantees the future growth of a company and enhances its competitive advantage.

**eCOMMERCE OPPORTUNITIES PRIORITISATION MATRIX**

Finally, the prioritisation of eCommerce opportunities is determined by considering two factors, the eReadiness of a company and the Electronic Business Value (EBV) created by the eCommerce opportunities.

Based on the selection criteria, the eCommerce opportunities can be segmented into four quadrants. A company should prioritise and select the eCommerce opportunities that score high in eReadiness and create high EBV.

**“Avoid”**

The eCommerce opportunities that fall in this quadrant should be avoided by a company as they have low Electronic Business Value (EBV) and are difficult to implement (i.e. low eReadiness). The selection of eCommerce opportunities represents a poor allocation of resources.

**“Select”**

The eCommerce opportunities that fall in this quadrant are ready for implementation but provide low EBV for a company. The allocation of resources to these opportunities would not produce high growth for a company. These opportunities tend to facilitate a company’s business but will not contribute much growth. A company that is not willing to take too much risk but is keen to embrace eCommerce, can implement eCommerce opportunities that fall in this quadrant in the short term.

**“Tackle”**

The eCommerce opportunities that fall in this quadrant provide high EBV but also involve high risk due to the difficulty in implementation for a company. However, in the long run, the eCommerce initiatives under this category present great growth potential for a company to grow and penetrate new marketspace. A company that is keen to select these opportunities should work on addressing the difficulties, so as to speed up the process of implementation in the medium term.

**“Showcase”**

The eCommerce opportunities that fit into this quadrant would be the ideal choice for implementation. Under this category, the eCommerce initiatives generate high growth potential and are ready for implementation in the short
term. A company should select and implement these eCommerce opportunities due to the ease of implementation and the value created for the entire organisation.

As a rule of thumb, a company should select the eCommerce opportunities that create medium to high EBV, and that are ready to implement. Hence, the eCommerce opportunities that fall under the “showcase” category would be the first choice for a company, followed by the “select” and “tackle” categories. But, for the latter, it is important that the company works on its ability to execute the new initiatives, so as to enjoy the benefits of the new business opportunities.

**CONCLUSION**

Given the Electronic Business Value (EBV) framework, a company that is keen to embrace eCommerce should re-evaluate its business strategies and market positioning to identify the most relevant eCommerce opportunities. This is to spearhead the future growth of the company.

Given the Electronic Business Value (EBV) framework, a company who is keen to embrace eCommerce should re-evaluate its business strategies and market positioning to identify the most relevant eCommerce opportunities. This is to spearhead the future growth of the company.
EBV Application - Case Study: Computer Electronics Industry
**INTRODUCTION**

This chapter describes an example of how to apply the EBV framework using the Computer Electronics sector, in particular the Personal Computer (PC) industry as a case study. It examines the adoption of eCommerce in the industry. It analyses the emerging trends, business drivers and the success of the industry in adopting eCommerce. To conclude, a point of convergence will be drawn between the local Personal Computing Industry, and how the major international players are adopting eCommerce.

**COMPUTER ELECTRONICS SECTOR AS THE CASE STUDY**

The Computer Electronics sector consists of several industries that make up the products in various stages of completion. The broad categories that fall under this sector include electronic computers, printed circuit assemblies, computer storage devices and equipment, computer terminals, computer peripheral equipment, and parts and sub-assemblies for computer peripherals and input /output equipment.

The definition of each market segment is attached in Appendix A. The Computer Electronics industry was chosen as a case study for the EBV framework as it is an early adopter of eCommerce.

**FOCUS ON THE PERSONAL COMPUTER (PC) INDUSTRY**

To facilitate the exposition of the main issues, the working definition of Computer Electronics, adopted in this report will focus only on the Personal Computer (PC) industry. This refers to products like desktops, notebooks, and workstations.

Within the PC industry, we focus on the PC vendors - defined as players who are involved in the marketing & distribution of the products & services. (see Appendix A for the value chain of the PC industry).
For the purpose of our analysis, the PC vendors were divided into three tiers based on their aggressiveness in eCommerce adoption and market shares.

In the subsequent sections, we will apply the EBV framework to the three tiers of PC vendors. A section will also be included to analyse the local players to understand their stage of development in terms of eCommerce vis-à-vis the foreign players.

### OVERVIEW OF THE PC INDUSTRY

The PC industry is dominated by the top 5 players

The PC industry is dominated by the top 5 players that together constitute approximately 45% of the total market share. Compaq appears to be the market leader in terms of market share, followed by IBM and Dell. The PC industry is undergoing continual consolidation with the market share of the top ten players increasing significantly, while that of the rest of the players have fallen from 42.5% to 39.7%.

In terms of growth rate, Dell registered the highest growth rate among the Top 5 players. In 1999, Dell experienced a growth rate of 53%, positioning it well ahead of the rest of the industry.

---

**Table 6.1: Categories of PC Players**

<table>
<thead>
<tr>
<th>Categories of PC players</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 Direct Vendors</td>
<td>defined as those that sell directly to their customers and not through resellers</td>
<td>Dell, Gateway</td>
</tr>
<tr>
<td>Tier 2 Indirect Vendors (Top 5 players)</td>
<td>defined as those that sell to customers through indirect channels (e.g. resellers)</td>
<td>Compaq, HP, IBM, Fujitsu</td>
</tr>
<tr>
<td>Tier 3 Other vendors (Non top 5 players)</td>
<td>defined as the group of PC players that have significant market shares</td>
<td>Toshiba, Acer, Micron, Sharp, etc</td>
</tr>
</tbody>
</table>

*Source: Cap Gemini Ernst & Young*

**Figure 6.1 World-wide PC Market Shares & Growth Rates**

*Source: IDC, 1999*
Some of the notable trends includes a move towards Internet related products and services, acquisitions, partnerships and eCommerce services.

Global Trends in the PC Industry

As the PC market continues to flourish, the market leaders compete against each other in a bid to increase their market share. This is achieved by lowering the prices of their PCs and offering customised PCs. Other competitive services include extended support and a wide variety of services that ultimately benefit the customer. Some of the notable trends includes a move towards Internet related products and services, acquisitions, partnerships and eCommerce services.

Internet is the Key Driving force of the PC industry

The PC industry is a highly competitive industry, characterised by frequent product introductions, continual improvement in product price & performance. Coupled with the advent of the Internet and eCommerce, Personal Computers have adopted the characteristics of a commodity with Internet as the key driving force. Hence, the implication on the PC industry is one of increased competition and the continual pursuit of greater efficiency to stay afloat.

Enhanced Product Improvements

In order to meet the demand for information appliances and competitive dynamics, PC vendors have participated in accelerated product improvements. This includes the introduction of PCs with built in screens that connect to phone lines, EON (edge of the network) PCs which sport a 15-inch flat panel display, CD-ROM and instant Internet access with the push of a button. These products would be a complete offering aimed at helping customers connect to the Internet.

Diversification of Products & Services

In the face of stiff competition, many of the players are adopting a strategy of diversification. The major players have already entered into the workstation market to offer Intel/Windows NT-based alternatives to RISC/UNIX machines traditionally produced by companies such as Sun Microsystems. Most of the larger providers are also trying to penetrate the lucrative server market, principally by acquisition, in a bid to strengthen their mid-range offerings and gain a foothold in the enterprise market.

The PC vendors have also diversified into consumer electronics products such as home entertainment, smart hand held devices, web terminals, screen phones, and notebook computers with digital cameras onboard for desktop video publishing purposes.

Renew Business Model - shorten product cycle

In an effort to cut costs and win customers, many PC makers are adopting the formula popularised by Dell in building made-to-order systems. By entering into this direct marketing arena, users are able to customise and...
purchase PCs, portables, workstations, and servers in a bid to shorten the product retail and distribution cycle.

This pushes PC vendors to adopt eCommerce to boost revenues and margins as well as to pursue higher-margin and growth opportunities in areas such as PC servers, networking hardware and services, where the direct vendors are best positioned to fully exploit these new revenue opportunities. The bundling of additional services such as financing, trade-in programs and Internet access also enables the direct vendors to control the “point-of-sale”.

**Focus on Customer Services**

In an era where PC providers all have access to the same technology, the differentiation between one vendor and another is in the area of value added services and support. The main driver would be to satisfy customers’ growing needs, maintain brand loyalty and gain a first mover advantage. To date, a plethora of services ranging from eCommerce solutions, customer support, information systems security solutions, life cycle management to trade-in programs are available.

A number of major players have leveraged their commitment to customer service to catapult themselves into the upper echelon of PC sellers. Companies cater to their newfound clients by installing customised software, tracking customer inventories, and expediting PC deliveries as well as providing a complete set of application enabled devices, secure Internet connections and hosted applications, implementation and support services, unified messaging via web browsers and informational portals.

**Intensified Price Wars**

A recent shift in the marketplace has essentially divided the once-unified PC market into two, namely, the sub-$1,000 PC market and the “more than $1,000” PC market. For the most part, first-tier vendors have avoided the sub-$1,000 PC market due to low margins, however, the emergence of low-end PCs cannot be ignored. If the current trend persists, first-tier vendors must make a more concerted effort to exploit this emerging market.

With the proliferation of the Internet, an increasing number of consumers will desire the applications and services it provides. Current online users want access to services in more locations and situations. There is a growing demand to bundle low cost, easy-to-use, consumer focused PCs with Internet access.
eCOMMERCE STAGE OF DEVELOPMENT OF THE PC INDUSTRY

**PC industry is an early adopter of eCommerce**

The PC industry is one of the early adopters of eCommerce. This is because the industry is characterised by a relatively fragmented market, where information, convenience and prices are important variables in the decision making process undertaken by consumers. The Internet is an effective channel to provide consumers of personal computers with these variables that will affect their purchase decisions.

The PC industry has moved quickly beyond the experimenting stage and is shifting from conventional channels to eCommerce.

**Internet - A cost-effective channel to reach out to consumers**

With the unique cost structure of the Internet where the fixed costs involved with setting up the Web site and the infrastructure required for the conduct of eCommerce are high, and where the variable costs of producing information goods for the marginal user are low, the Internet has presented personal computer sellers with a cost-effective channel to sell their products and services.

**Internet-savvy customer base**

Another contributing factor to the early adoption of eCommerce by the PC industry is the consumer demographics in this industry. Typically, consumers in the personal computer industry are relatively more Internet-savvy and this...
gives them a greater propensity to purchasing products online.

APPLICATION OF THE EBV FRAMEWORK TO THE PC INDUSTRY

In this section, we will apply the EBV framework to the PC industry in the following stages:

- Determine the current eCommerce positioning of the PC industry;
- Understand the selection of market participants by the PC vendors at different stages;
- Identify eCommerce opportunities.

Current eCommerce Positioning of the PC industry

The first analysis is to determine the current stage of development of the PC players in terms of eCommerce. Using the eTransformation evolution cycle, it is noted that the stage of development of the different tiers of PC vendors in eCommerce varies. There is a distinct gap between the three tiers of PC vendors in terms of their eCommerce positioning.

Diagram 6.1: Distribution of PC Companies (eTransformation Evolution Cycle)

Source: Cap Gemini Ernst & Young

Tier 1 - Direct Vendors are more aggressive in adopting eCommerce

From the inception, the Tier 1 vendors, like Dell and Gateway, used eCommerce to renew their core business (i.e. Phase 2 of the eTransformation evolution cycle). The key business driver was to take advantage of eCommerce as a cost-effective channel to disseminate information as well as to improve customer satisfaction. This new channel of selling computers resulted in greater efficiency which allowed the direct vendors to capture market share and achieve greater profitability. Today, the Tier 1 vendors are generally at Phase 4 of the eTransformation evolution cycle.
**Dell emerged as the market leader - Phase 4 of the eTransformation cycle**

Dell is clearly the market leader in the industry and is at the most advanced stage - Phase 4 of the eTransformation evolution cycle. It is constantly leveraging on eCommerce to bring about future growth. For example, the Dell Auction, its latest eCommerce initiative, was created to offer dynamic pricing for online auction markets to generate new revenue.

**Tier 2 - Indirect Vendors are at Phase 3 of the eTransformation cycle**

On the other hand, the Tier 2 vendors such as HP, Compaq and IBM, initially adopted eCommerce to protect their core business of selling computers. These vendors faced increasing competition in selling personal computers from direct vendors. However, their heavy dependence on distributors and resellers to distribute their products hindered them from selling directly to customers over the Internet.

The adoption of eCommerce by the Tier 2 PC vendors began with the suppliers and business partners to improve the efficiency of their operations. Currently, most of the Tier 2 vendors are at Phase 3 of the eTransformation evolution cycle - Extend the Core.

**Tier 3 - Non-top five players are at Phase 2 of the eTransformation cycle**

Finally, the Tier 3 vendors are only at Phase 2 of the eTransformation cycle. For these players, the primary business driver is the competitive pressure that they are experiencing from the early adopters of eCommerce.

The application of eCommerce by these players is skewed towards promoting their core business and typically involves the use of the Internet as a marketing tool, as well as rudimentary forms of electronic transactions on a small scale. Due to their equivocal approach to the adoption of eCommerce, as well as their failure to promote their direct channels due to the fear of channel conflicts, most of the Tier 3 vendors eCommerce initiatives have been lackluster.
**eCommerce Positioning of the PC vendors - Using the eSpace Concept**

This section illustrates the eSpace that each PC vendor is operating in. It is interesting to note that a company may be at different eSpace levels for the adoption of eCommerce with the different market participants segments.

**The PC industry is at the eEconomy level for the “customers” segment and at the eMarket for the “suppliers” & “business partners” segments.**

Currently, the PC industry is at the eEconomy level in the “customers” segment. Dell is clearly the market leader in the customers segment. In the supply chain segment, (i.e. with suppliers and business partners), the PC industry is at the eMarket level with the eCommerce initiatives being developed across companies but within the same industry.

**The PC industry is at the eMarket level for the “employees” segment & at the eCompany level for the “stakeholders” segment**

In terms of the “employees” segment, the current stage of development of the PC industry is at the eMarket level. The companies have already developed applications that involve knowledge management across the entire organisation, and with their business partners. Finally, the eCommerce positioning of the PC industry in the “Stakeholders” segment is primarily at the eCompany level, providing real-time company information on the Internet.

In summary, the PC industry is at a mature eCommerce positioning in the adoption of eCommerce. This is especially so in the way it works with the customers and business partners. Most of the initiatives with the various market participants segments are already at the eMarket and eEconomy levels.

To determine the eSpace that a company should be at, it is important to consider the eReadiness of the company. The company should not simply move to the eSpace that is at the most advanced level. This is best illustrated by the example of Compaq, which experienced a series of failed channel initiatives with its reseller programmes. It has finally managed to sever most of its ties with the reseller community and has made a strong public commitment to direct sales and fulfillment. It has maximised its Electronic Business Value (EBV), given its state of eReadiness, while not necessarily aiming to be at the forefront along the eSpace dimension.

**Table 6.2: eCommerce Positioning of PC Players in the eSpace Framework**

```
<table>
<thead>
<tr>
<th>Customers</th>
<th>Suppliers/ Business Partners</th>
<th>Employees</th>
<th>Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>IBM</td>
<td>HP</td>
<td>HP</td>
</tr>
<tr>
<td>DELL</td>
<td>SHARP</td>
<td>DELL</td>
<td>DELL</td>
</tr>
<tr>
<td>TOSHIBA</td>
<td>TOSHIBA</td>
<td>TOSHIBA</td>
<td>TOSHIBA</td>
</tr>
<tr>
<td>HITACHI</td>
<td>HITACHI</td>
<td>HITACHI</td>
<td>HITACHI</td>
</tr>
</tbody>
</table>
```

*Source: Cap Gemini Ernst & Young*
Diagram 6.2: Selection of market participants by the various Tiers of PC vendors

Selection Of Market Participants

This section focuses on examining how the PC vendors select the appropriate market participants to embrace eCommerce at the different stages of development. This is explained using the selection criteria described in Chapter 5.

“Stakeholders” were initially targeted for eCommerce initiatives

Diagram 6.2 clearly shows that all the three tiers of PC vendors targeted the “Stakeholders” as the initial market participants segment for the adoption of eCommerce. The reason for this is that the benefits of using the Internet to disseminate information to the Stakeholders are obvious while there are few costs involved. Due to the high fixed costs and low marginal costs of producing information, once the information is produced, the cost of disseminating it, is effectively zero, while the benefits, in terms of greater understanding of the firm’s policies, are substantial.
Apart from the Stakeholders which were chosen as the initial market group for all three tiers, the diagram shows that the selection of market participants differed for each group for subsequent stages. The Tier 1 vendors selected the “Customers” as the targeted market participants at the early stage of their eCommerce adoption, while the Tier 2 vendors implemented eCommerce initiatives with their suppliers as the targeted group. These differences in the selection of market participants by the various tiers occur because of the variation in the diversity, dependency and size of the market participants for each tier.

**Dependence on market participants**

*Tier 1 vendors focused on Customers as the targeted market participants segment at the initial stage*

A key factor for consideration in the selection of the market participants is the dependence on the various market segments. The Tier 1 vendors aimed at their customers (as the initial market participants) as they were not dependent on channel partners (e.g. resellers) to distribute their products and services to their customers. Hence, the eCommerce initiatives at the initial stage were focused mainly on the customer segment.

*Tier 2 vendors suffered hiccups in their attempts to deal directly with their customers through eCommerce*

Subsequently, the indirect vendors adopted different approaches in selling online. Both Compaq and IBM ignored the potential channel conflict issue, and went ahead to make their products available to online resellers, as well as selling their products directly through their own portals. HP, on the other hand, made it a point to work with its traditional channel partners by directing the orders taken online via its HP Commerce Centre to its distributors and resellers to fulfill the orders. The eCommerce initiatives of Compaq and IBM resulted in a backlash from the distributor and reseller community.

Thus, the experience of the indirect vendors shows that it is important for a company to consider the degree of its dependence on its various market participants.
Size of market segment

Companies should also consider the size of the market participants segments when deciding which group to aim at for their eCommerce initiatives. Most of the vendors adopted eCommerce initiatives with their largest customer segment, as it allowed them to reap economies of scale, resulting in lower average production costs and higher profit margins.

For example, Dell started by selling to individual consumers and small- and medium-sized enterprises (SMEs), instead of its Corporate Accounts. This was due in part to the ingrained “legacy-type” purchasing systems of these large accounts. Dell eventually overcome this reluctance on the part of its larger Corporate Accounts to purchase online, by setting up customised Extranets called Dell Premier Pages, as well as by educating these major accounts on the benefits of purchasing online.

Diversity

Finally, the degree of diversity is also a key factor for consideration in determining the appropriate market participants for a company’s eCommerce initiatives. The PC industry is characterised by a supplier community that is diverse and fragmented. eCommerce presented the vendors with a channel to reach out to existing, as well as to new suppliers. By doing so, eCommerce allowed the vendors to strengthen their bargaining or monopsony power, thus allowing the vendors to procure supplies at more competitive prices.
Selection of eCommerce Opportunities

After identifying the appropriate market participants for the company’s initial eCommerce initiatives, the next process is to identify suitable eCommerce opportunities. Using the eCommerce opportunity grid, Table 6.3 illustrates the different opportunities that have been adopted by the PC industry as a whole.

### Table 6.3: eCommerce Opportunities Adopted by the PC Industry

#### eCommerce Opportunity Grid

<table>
<thead>
<tr>
<th>Customers</th>
<th>eTransaction</th>
<th>eCompany</th>
<th>eMarket</th>
<th>eEconomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Products/Service Information</td>
<td>- Online catalog with search engine</td>
<td>- Personalisation</td>
<td>- Smart On-line Catalog</td>
<td>- eCRM for markets</td>
</tr>
<tr>
<td>- Online catalogue</td>
<td>- Product configuration</td>
<td>- Open enterprise to customers / suppliers</td>
<td>- Open Source</td>
<td>- Market loyalty program</td>
</tr>
<tr>
<td>- [product code]</td>
<td>- On-line customer orders</td>
<td>- Integrated Online order</td>
<td>- Open Source</td>
<td>- Value on-line</td>
</tr>
<tr>
<td>- FAQs</td>
<td>- Shop Management</td>
<td>- HP Enterprise</td>
<td>- Community</td>
<td>- PC Online</td>
</tr>
<tr>
<td>- [FAQ code]</td>
<td>- Basic Loyalty Program</td>
<td>- Online Customer Service</td>
<td>- Online Team Support</td>
<td>- NC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Partners (Supply Chain)</th>
<th>eTransaction</th>
<th>eCompany</th>
<th>eMarket</th>
<th>eEconomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- &quot;Push pull&quot; supplier information</td>
<td>- On-line orders</td>
<td>- eProcurement</td>
<td>- Integrated supply chain</td>
<td>- Market exchanges</td>
</tr>
<tr>
<td>- On-line orders</td>
<td>- On-line ordering</td>
<td>- [Procurement code]</td>
<td>- Price Comparison</td>
<td>- [Procurement code]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employee</th>
<th>eTransaction</th>
<th>eCompany</th>
<th>eMarket</th>
<th>eEconomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- On-line manuals</td>
<td>- On-line Training registration</td>
<td>- Online Trans Port</td>
<td>- Online Training registration</td>
<td>- [Training code]</td>
</tr>
<tr>
<td>- On-line communication</td>
<td>- On-line Knowledge dissemination</td>
<td>- On-line Training</td>
<td>- On-line Training registration</td>
<td>- [Training code]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>eTransaction</th>
<th>eCompany</th>
<th>eMarket</th>
<th>eEconomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- On-line Tenders</td>
<td>- On-line dialogue</td>
<td>- On-line dialogue</td>
<td>- N/A</td>
<td>- N/A</td>
</tr>
<tr>
<td>- [Tender code]</td>
<td>- [Tender code]</td>
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</tr>
</tbody>
</table>

**Source:** Cap Gemini Ernst & Young
Prioritisation of eCommerce Opportunities by the PC Vendors

In this section, the analysis focuses on Process 3 of the EBV framework - to prioritise the eCommerce opportunities. The general basis for prioritising eCommerce initiatives, is to maximise the Electronic Business Value (EBV), while taking into account the constraints of the eReadiness of the company.

The diagram below shows the classification of the eCommerce opportunities ranked by the EBV generated by the various opportunities undertaken by the PC vendors. In this case, we did not use eReadiness as a criteria as it varied among the various groups. Instead, we classified the eCommerce opportunities based on their internal and external connectivity (i.e. those that focused on connecting the internal groups versus those that focused on connecting the external groups).

Generally, the eCommerce opportunities in the lower quadrants have relatively low EBV. The business drivers for the implementation of these eCommerce initiatives are aimed at cost reduction and improved efficiency. The growth potential to be gained by a company in implementing these eCommerce initiatives is limited.

On the other hand, the eCommerce opportunities in the top quadrants have high EBV. However, they are more difficult to implement due to the complexity of the initiatives, and the involvement of the business community. The eCommerce opportunities in the top right quadrant generate the most growth potential, as they connect the entire organisation with the business partners.

Currently, the eCommerce initiatives adopted by the top five PC vendors are driven by growth. Thus, their priorities are focused on developing new business models that result in higher future growth. The recent initiatives include the Dell Auction, DellZone and DellNet from Dell, Gateway.net from Gateway, eServices solution from HP and eBusiness from IBM. These initiatives allow the vendors to move into new areas and adopt new business models such as online auction and the provision of Internet Services.
ECOMMERCE ADOPTION IN THE LOCAL PC INDUSTRY

This final section is to establish the stage of development of the PC industry in terms of eCommerce using the EBV framework. The observations are based on a series of interviews with a few local PC companies.

Current State of eCommerce Adoption in the Local PC Industry

From Diagram 6.4, it can be seen that the local PC industry is only at an early stage in the development of eCommerce. Most of the PC companies are either at Phase 1 or Phase 2 of the eTransformation evolution cycle. The main business driver behind the eCommerce initiatives of these companies at this early stage of adoption is external pressure from their competitors.

Digiland.com is the only company that is at Phase 3 of the eTransformation cycle. To date, it has integrated itself with its suppliers in its manufacturing process and in the exchange of information. It is also working closely with its reseller community to develop loyalty programs to encourage customers to purchase from Digiland.com.
Table 6.4: eCommerce Positioning of the Local PC Players - eSpace Levels

<table>
<thead>
<tr>
<th></th>
<th>eInformation</th>
<th>eTransaction</th>
<th>eCompany</th>
<th>eMarket</th>
<th>eEconomy</th>
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<tbody>
<tr>
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<td>Ave \Box</td>
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<tr>
<td>Suppliers/Business Partners</td>
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<td>Ave \Box</td>
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<td>Employee</td>
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<td>Ave \Box</td>
<td>Ave \Box</td>
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<td>Stakeholders</td>
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<td>Ave \Box</td>
<td>Ave \Box</td>
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</tbody>
</table>

Source: Cap Gemini Ernst & Young

CONCLUSION

The application of the EBV framework shows that the foreign PC industry is at an advanced stage of development in eCommerce. A majority of them are at the eCompany and eMarket levels and are striving to develop new business models to drive growth in their companies. However, on the local scene, the PC industry is still at an early stage of development in eCommerce.

Digiland is also the only company that is currently selling online directly to its customers. Most of the other companies avoid direct online sales of their products to customers due to channel conflicts. Hence, the eCommerce opportunities to customers are skewed towards providing technical support and information provision. This is similar to the top five personal computer vendors who are reluctant to adopt Business-to-Consumer eCommerce due to this strong reliance on resellers to distribute their products.
A Final Note
A FINAL NOTE

eCommerce is quickly changing the way we conduct business. At the speed that the new economy is changing, the key challenge confronting every company is no longer whether to embrace eCommerce, but how to implement it. eCommerce is and will be the way to do business. In the new economy, the ability of a company to grow its business will largely depend on how quickly and effectively it can identify new business opportunities to achieve improvements in economic performance.

To achieve that, it is important that a company constantly creates Electronic Business Value (EBV) that drives the overall growth of the organization, allowing itself to move along the eSpace positions to new marketspace. We hope that the EBV framework presented in this document will be a starting point for companies to begin identifying and implementing potential eCommerce opportunities, transforming themselves into .companies.
Glossary of Terms
eCommerce
It is about doing business electronically. It involves accessing the network, locating a trading partner, completing the order transaction, securing payment and ultimately delivering goods or services.

Electronic Business Value (EBV)
EBV is defined as the strategic value created by eCommerce to drive the overall growth of a company by improving its business capabilities, in terms of innovation and flexibility to seize new business opportunities.

eTransformation
This refers to the different stages of development that a company adopting eCommerce will go through. There are six different stages of eTransformation which include the eInformation, eInteraction, eTransaction, eCompany, eMarket, and eEconomy.

eSpace
The electronic marketspace that a company operates in to implement its eCommerce initiatives.

Market Participants
These are the various players that a company interacts with in its entire value chain. This include Suppliers, Employees, Partners, Stakeholders, and Customers.

Value Creation
Source of value creation is characterised by the capacity of a company to innovate rapidly and its flexibility to execute new business opportunities accurately & effectively.

eProcurement
The business-to-business purchase and sale of supplies and services over the Internet. An important part of many Business-to-Business sites, e-procurement is also sometimes referred to by other terms, such as supplier exchange. Typically, e-procurement Web sites allow qualified and registered users to look for buyers or sellers of goods and services.

eReadiness
The level of readiness of a company to change and adapt to a new business model in terms of its processes, people, and technology. It shows how ready the company is to adopt the eCommerce
initiatives or applications it has identified.

**Return on Investments (ROI)**
Net Income divided by Investment. This is the most widely used measure of divisional profit performance. It is intended to be used in two ways: to direct top management’s attention to segments that persistently earn less than the target return on investment.

**Economic Value Added (EVA)**
A financial measurement tool indicating the creation or destruction of economic profit. It represents economic earnings incorporating the income statement, balance sheet and cost of capital that excludes one-time/non-economic items. Economic value added is a useful management tool for setting strategic direction, allocating capital, evaluating performance, determining bonuses and communicating financial performance to shareholders.
The Computer Electronics industry comprises the following market segments:

**Computer Peripheral Equipment**
These include keying equipment, mouse devices, digitisers and light pentables, manual input devices, optical scanning, monitors and computer printers.

**Computer Terminals**
Those that fall in this category include remote batch terminals, display terminals, computer terminal parts and sub-assemblies.

**Computer Storage Devices and Equipment**
This includes rigid magnetic disk drives, disk subsystems and disk arrays for multi-user computer systems, flexible magnetic disk drives, optical disk drives, including CD-ROM, magneto-optical equipment and auxiliary storage.

**Printed Circuit Assemblies**
This would incorporate computer and computer peripherals printed circuit board assemblies, communications printed circuit board assemblies, industrial process control board assemblies and instrumentation printed circuit board assemblies.

**Electronic Computers (OEM manufacturers)**
This refers to the contract manufacturers of workstations, laptops, notebooks, sub-notebooks, desktops and personal computers.

**Traditional Value Chain of the Personal Computer Industry**
The traditional value chain of the PC Industry begins with the procurement stage and progresses to the retailing stage as depicted in the Diagram below. The procurement and manufacturing processes are fragmented and extend over a wide variety of players.
## Critical Success Factors

- **Technological leadership**
- **Technological differentiation**
- **Market share/brand recognition**
- **Manufacturing**
- **Efficiency and capacity**
- **Market share/brand recognition**
- **Time to market**
- **Product reliability/performance**
- **Technological leadership/differentiation**
- **Distribution**
- **Efficiency and effectiveness**
- **Satisfied customers**

## Procurement

- Components Suppliers
- Manufacturers
- Vendors
- Distributors
- Retailers/Resellers

### Main Players

**Components Suppliers**
- Gul Technologies Singapore Ltd
- KCE Singapore Pte Ltd
- OMNI Electronics Pte Ltd
- Pentex-Schweizer Circuits Ltd
- Standard Technologies (MFG) Pte Ltd
- Transtech Electronics Pte Ltd

**Manufacturers**
- Adaptec Manufacturing Pte Ltd
- ADEX Electronics Pte Ltd
- Ace Marketing Pte Ltd
- Cheah Electronics Industries Pte Ltd
- Bosh Electronics Limited
- Elme Manufacturing Pte Ltd
- Rajden Pte Ltd
- Global Electronics Pte Ltd
- UDN Electronics Pte Ltd
- Vent Electronics Pte Ltd
- Tung Electronics Pte Ltd
- SCI Manufacturing Singapore Pte Ltd
- Tri All Technologies Limited
- Warm Manufacturing Ltd

**Vendors**
- Hewlett Packard
- Apple Computer Ltd
- Compaq
- IBM
- IPC
- Digitek
- Compro
- Aser

**Distributors**
- RFC Distribution
- AJVW Distribution
- Pluto Technology
- Fairland Technology
- Mitac International
- Mitac Technologies
- Challenger Technologies Pte Ltd
- AST Singapore
- Landmark Technologies

**Retailers/Resellers**
- Ban Leong Technologies
- PrimeField
- GES Singapore Pte Ltd
Appendix B
The following Appendices are placed into this framework according to the business functions they satisfy.

**eCommerce Framework**

<table>
<thead>
<tr>
<th>Business Functions</th>
<th>eInformation/ eInteraction</th>
<th>eTransaction</th>
<th>eCompany</th>
<th>eMarket</th>
<th>eEconomy</th>
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<td>Online Customer Orders</td>
<td>Personalization of Catalogues to Customer's preferences</td>
<td>Smart Online Catalogues</td>
<td>eCRM for Market</td>
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<td>- Integrated Order Settlements</td>
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<td>- DellZone</td>
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<td>- ShopIBM</td>
<td>- Active Answers (Compaq)</td>
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<td>- Online Order Settlement</td>
<td>- Compaq BuyDirect</td>
<td>- HPDirect (HP Shopping Village)</td>
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<td>- Dell (Toshiba)</td>
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<td>- Gateway Partners</td>
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</tbody>
</table>
Appendix B.1 - Acer Online Product Catalog

Online product catalog featuring Acer’s range of PCs and related peripherals. This enables customers to peruse through the products, features and specifications, thus facilitating the procurement process.

Appendix B.2 - Sharp Mobilemall.com

Sharp’s Mobilemall facilitates online customer orders and at the same time offers special discounts, loyalty programs and provides basic online settlements.
Appendix B.3 - Compaq’s Buy Direct

Compaq offers customers the opportunity to purchase its products online and it has targeted marketing effort and offers to the different customer segments that it serves. At the same time, the site allows customers that wish to purchase Compaq products offline to locate the nearest reseller near the customers.

Appendix B.4 - Compaq’s Active Answers Site

ActiveAnswers allows Compaq to sell its products and services to customers together with its business partners. This Web site allows users to key in their needs and the Solution Sizer will recommend solutions that fit their needs.
Appendix B.5 - Dell Online Technical Support

Allows customers to locate technical support help in the location that the customer is in.

Appendix B.6 - Dell Auction

DellAuction makes use of online dynamic pricing to form an online marketplace where buyers can bid for computer-related products that they desire, and where sellers can sell products at prices they deem fit. It offers an avenue where a host of computers and computer-related products may be efficiently exchanged between buyers and sellers.
Appendix B.7 - HP E-services

Users can have access to a huge amount of information about HP’s eServices by accessing the FAQ, News and Events, Brochures & Presentations, and the White Papers available online.

Appendix B.8 - Sharp Dealer Location

Call: 1-800-BE-SHARP for the dealer or retail outlet nearest you.

Only for products purchased within the United States, its territories and possessions.

Information regarding dealer locations are as highlighted above. This is a form of pushing supplier information.
Appendix B.9 - Toshiba Service Partner Program

Via the Partner-Reseller Extranet, authorized users are able to log in as a Toshiba Partner, where information is customized and provided promptly upon entering a password and user name.

Appendix B.10 - HP e-Procurement

HP's e-Procurement is an Internet-based procurement system that helps automate the purchase of operating resources. This is highly effective in reducing costs, improve internal controls and enhance service quality by automating the purchase of capital equipment, office supplies and other operating resources.
Appendix B.11 - Gateway@Work

ESource allows customers to purchase Gateway products more easily by having customised features and configurations. It also offers security features that allows the sensitive information to be transferred between Gateway and the customer.

Appendix B.12 - IBM Partner World

Working closely with Business Partners in a broad spectrum of areas. Provides assistance and information on Technical Support, Financing and Incentive Programs for Partners.

Allows Business Partners to customise the portal to suit their individual needs.

Providing users with solutions and services related to E-Commerce and the Internet. Showcasing successful case studies and library containing a host of information on the expertise of IBM in the area of eBusiness.
Appendix B.13 - HP Online Recruitment

Job seekers from all over the world can apply for vacancies at HP in different regions of the world where HP has a presence. They can submit their personal particulars or resume online which will be stored in databases for easy reference.

Appendix B.14 - IBM Knowledge Management

With IBM Knowledge Management, knowledge is created, captured, personalized, shared and acted upon, for the purpose of driving responsiveness, innovation, competency and efficiency across the organization.
Appendix B.15 - Compaq Company News

Allows stakeholders to access a myriad of information on Compaq's management team, financial performance, press releases, history and future plans. Job seekers can also access a host of information about vacancies at Compaq as well as what it is like working for Compaq.

Appendix B.16 - Dell's Investor Relations

Provides stakeholders with information on Dell's vision, history, financial performance, and new initiatives which gives users a total understanding of Dell's business and operations. It also offers job seekers the opportunity to apply online for a chance to join Dell's ranks.