



**INTERNET AS A NEW BUSINESS TOOL:  
CHALLENGES AND RESPONSES**

**BY**

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*A thesis submitted in partial fulfillment of the  
requirement for the degree of  
Master of Economics*

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## ABSTRACT

The Internet has become a household necessity of the age. Internet business or e-commerce is getting the edge over traditional marketing. This study examines and analyzes the research theme of the Internet as a new business tool, and its challenges and responses in three essays. They are *Issues and Challenges of e-commerce*, *Company Case Analysis of the Dell Computer Corporation*, and *The Internet Use and e-commerce in Malaysia* based on two survey questionnaires, one for the users and the other for the companies in Malaysia.

The data for this thesis firstly came from two survey questionnaires. Sources of non-survey data, namely the press reports and standard publications of books and articles on Internet and e-commerce have also been used. Web sites have been used to get the readily available updated data. E-journals and electronic books have been used as well. E-mail was the main media of communication between the researcher and the sources of data.

The study found a positive trend as the usage of the Internet is increasing remarkably in Malaysia. It was also compatible with International Data Corporation's estimate that e-commerce in Malaysia accounted for just US\$4 million of sales in 1997, but that figure will grow to US\$20 million in 1998, and US\$95 million in 1999, hitting US\$1 billion in 2001. Online advertising has a great potential to be an effective way to reach thousands of customers in Malaysia. Customers do not have enough trust yet to purchase expensive products online. 95% of people surveyed agreed that Internet is useful. Most of the people were optimistic about the usefulness of the Internet and are accepting e-commerce. Users were very much concerned about privacy and security over the net. 74% supported some sort of censorship on the Internet either by government or parents and guardians.

On an average, a momentous executive awareness and commitment to e-commerce exist among the senior management of the companies in Malaysia. Yet, the companies' current e-commerce activities are still moderate. However, from the overwhelming positive responses, we can conclude that companies in Malaysia are very much optimistic and willing to adopt e-commerce activities in the future, especially in business-to-consumer and business-to-business e-commerce.

## موجز البحث

لقد غدت شبكة الاتصالات الإلكترونية Internet من الضرورات اليومية في هذا العصر. كما بدأ التسويق عن طريق الشبكة، أو ما يسمى بالتجارة الإلكترونية يأخذ مكان التسويق التقليدي. تتناول هذه الدراسة بالفحص والتحليل موضوع البحث في الشبكة، بوصفها أداة تخطيط للتسويق المباشر، وما تؤدي إليه من تحديات واستجابات، وذلك في ثلاثة فصول هي: تجارة البريد الإلكتروني: القضايا والتحديات؛ شركة ديل للكمبيوتر: دراسة وضعية الشركة؛ استخدام الشبكة وتجارة البريد الإلكتروني في ماليزيا. وقد جرى ذلك بالاعتماد على استبيانين اثنين، يستعرض الأول أوضاع مستخدمي هذين الأسلوبين في التجارة، كما يستعرض الثاني أوضاع الشركات التي تستخدمهما في ماليزيا.

وقد تكونت مادة هذه الرسالة أول الأمر من استبيانين اثنين شاملين، كما جرى الاعتماد كذلك على مواد من خارج الاستبيان، مثل التقارير الصحفية والمطبوعات الرسمية مثل الكتب والمقالات حول الشبكة الإلكترونية والتجارة الإلكترونية. وقد جرى كذلك استخدام مواقع الشبكات Web sites للوصول إلى آخر المستجدات من المعلومات الجاهزة، هذا بالإضافة إلى الدوريات والكتب الإلكترونية. وكان البريد الإلكتروني الوسيلة الأساس في الاتصال بين الباحث ومصادر المعلومات.

لقد تبين من هذه الدراسة الشاملة وجود اتجاه إيجابي لاستخدام الشبكة الإلكترونية بتزايد ملحوظ في ماليزيا، وهو ما يتفق مع تقديرات شركة المعلومات الدولية، التي تبين أن التجارة الإلكترونية في ماليزيا بلغت ما قيمته ٤ ملايين دولار أميركي في المبيعات عام ١٩٩٧. ولكن ينتظر أن يرتفع هذا الرقم إلى ٢٠ مليون عام ١٩٩٨، وإلى ٩٥ مليون عام ١٩٩٩ حتى يبلغ البليون دولار أميركي عام ٢٠٠١. ويشكل الإعلان على الخط الجاهز Online فرصة كبرى مؤثرة للوصول إلى ألاف الزبائن في ماليزيا، وإن كان أولئك الزبائن ما يزالون قليلي الثقة بشراء متوجات غالية الثمن عن طريق الخط الجاهز. ولكن ٩٥٪ من الأشخاص الذين جرى استطلاع آرائهم ذكروا أن الشبكة مفيدة. كما عبّر كثيرون عن تفأؤهم حول فائدة الشبكة، وعن قبولهم فكرة التجارة الإلكترونية. كذلك عبّر مستخدمو هذا النظام عن قلق شديد حول قضايا السرية والأمن في استعمال الشبكة. وأعرب ٧٤٪ منهم عن رغبتهم في وجود نوع من الرقابة على الشبكة، إما من جانب الحكومة أو الوالدين أو الأوصياء.

ويتوافر، على وجه العموم، لدى الإدارات العليا في الشركات الماليزية وعي تنفيذي والتزام كبير بمسائل التجارة الإلكترونية، وإن كانت عمليات التجارة الإلكترونية ما تزال متواضعة في حجمها، ولكن وبناء على الردود الإيجابية الواسعة، يسعنا القول إن الشركات في ماليزيا لديها آمال ورغبات كبرى في تبني أنشطة التجارة الإلكترونية في المستقبل، وبخاصة بين الشركات والمستهلكين، وبين الشركات ونظرائها من الشركات الأخرى.

## APPROVAL PAGE

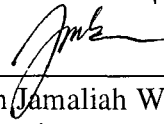
I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Economics.



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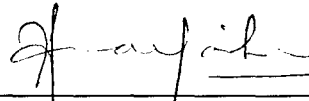
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## DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references and a bibliography is appended.

Name: **Md. Nazrul Islam**

Signature: 

Date: 15/7/99

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*To my beloved parents and newborn baby Saad*

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All praises to Allah (SWT), the most Gracious and Merciful, for the completion of this work. At this point I remember all those who have helped me in writing this thesis directly or indirectly. I can mention only some of them, but I am very much grateful to all. I wish to express my deep appreciation and gratitude to my learned supervisor Dr. Ahamed Kameel, who acted like a friend, for his sincere help, valuable suggestions, encouragement and scholarly advice given to me throughout the various stages of writing this dissertation. My heartfelt gratitude goes to my co-supervisor Dr. Wan Jamaliah Wan Jusoh, who always responded promptly, by sharing her ideas and guiding me towards the accomplishment of the study. I am heavily indebted to both of my supervisors. May Allah (SWT) reward them accordingly for their able supervision and assistance.

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# CHAPTER ONE

## INTRODUCTION

### 1.0 BACKGROUND

A new evolving medium of electronic transformation, the Internet, has impressed the globe at the eve of next millenium. Once a tool reserved for scientific and academic exchange, the Internet has emerged as an appliance of every day life, accessible from almost every point on the planet. Students across the world are discovering vast treasure troves of data via the World Wide Web. Doctors are using Tele-medicine to administer off-site diagnoses to patients in need. Peoples of many countries are finding additional channels for personal and political expression. The Internet is being used to reinvent government and reform our lives and our communities in the process.

The tremendous growth of the Internet, and particularly the World Wide Web, has led to a critical mass of consumers and businesses participating in a global online marketplace. The rapid adoption of the Internet as a commercial medium has caused firms to experiment with innovative ways of business to consumers in computer-mediated environments. These developments on the Internet are expanding beyond the utilization of the Internet as a communication medium. Today the Internet is viewed as **a new market.**

The Internet is a massive global network of interconnected packet- switched computer networks. Krol and Hoffman (1993) offer three mutually consistent definitions of the Internet: "1) a network of networks based on the **TCP/IP** protocols; 2) a **community of**

people who use and develop those networks; and 3) collection of resources that can be reached from those networks". Note that there is no agreed upon definition because the Internet is at once a set of common protocols, a physical collection of routers and circuits, distributed resources, and even a culture of connectivity and communications.

The most exciting commercial developments are occurring on that portion of the Internet known as the World Wide Web (WWW). The WWW is a distributed hypermedia environment within the Internet. Global hypermedia allows multimedia information to be located on a network of servers around the world which are interconnected allowing one to travel through the information by clicking on hyperlinks. Any hyperlink (text, icon or image in a document) can point to any document anywhere on the Internet. The user-friendly consumer-oriented homepages of the WWW utilize the system of hyperlinks to simplify the task of navigating among the offerings on the Internet. The present popularity of the WWW as a commercial medium is due to its ability to facilitate global sharing of information and resources, and its potential to provide an efficient channel for advertising, marketing, and even direct distribution of certain goods and information services.

The Internet is changing classic business and economic paradigms. New models of commercial interaction are developing as businesses and consumers participate in the electronic marketplace and reap the resultant benefits. Entrepreneurs are able to start new businesses more easily, with smaller up-front investment requirements, by accessing the Internet's worldwide network of customers.

The Internet technology is having a profound effect on the global trade in services. World trade involving computer software, entertainment products (motion pictures, videos, games, sound recordings), information services (databases, online newspapers), technical information, product licenses, financial services, and professional services (businesses and technical consulting, accounting, architectural design, legal advice, travel services, etc.) has grown rapidly in the past decade, now accounting for well over \$40 billion of U.S. exports alone.<sup>1</sup>

An increasing share of these transactions occurs online. The Internet has the potential to revolutionize commerce by dramatically lowering transaction costs and facilitating new types of commercial transactions.

The Internet has also the potential to revolutionize retail and direct marketing. Consumers will be able to shop in their homes for a wide variety of products from manufacturers and retailers all over the world. They will be able to view these products on their computers or televisions, access information about the products, visualize the way the products may fit, and order and pay for their choice, all from their living rooms. Commerce on the Internet could total tens of billions of dollars by the turn of the century.<sup>2</sup>

Many businesses and consumers are still cautious of conducting extensive business over the Internet because of the lack of information on opportunities and challenges of the Internet as a new business tool.

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<sup>1</sup> Global electronic commerce policy announcement by the United States, <http://www.iitf.nist.gov> (23-Apr-98).

First, the thesis will focus on pros and cons of using the Internet for businesses highlighting issues and challenges on the Internet marketing. Second, it will analyze a case on Dell Computer Corporation to find out how the company efficiently used the Internet to formulate a successful direct marketing in computer business. Finally, it will study Malaysia's Internet presence and e-commerce that includes a survey on Malaysian companies and the Internet Users. The objectives of the survey was to analyze responses from consumers side as well as companies side, which gave us a better picture of Malaysia's e-commerce market.

### **1.1 OBJECTIVES OF THE STUDY**

1. To identify and compile issues and challenges that we must consider before engaging in Internet businesses. The existing literatures have been screened to compile and classify all the issues.
2. To examine the Dell Computer Corporation, which has already been successfully using the Internet as a direct business tool.
3. To analyze how the Dell Computer Corporation reduced cost and increase profit using the Internet.
4. To analyze Malaysia's Internet presence and e-commerce.
5. To put forward some recommendations useful for businesses.

### **1.2 METHODOLOGY**

The methodology used in this study has both descriptive and empirical investigation. This study uses data from both primary and secondary sources.

Footnotes continued from the previous page

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<sup>2</sup> *ibid.*

Three main essays have covered the title theme, *the Internet as a New Business Tool: Challenges and Responses*. They are the followings:

1. Issues and Challenges of e-Commerce
2. Company Case Analysis: Dell Computer Corporation
3. The Internet Use and Electronic Commerce in Malaysia

*First*, the issues and challenges of e-commerce are mainly based on secondary sources. We have extracted all the issues related to e-commerce and Internet businesses from in-depth literature review. The existing literatures have been screened to compile and classify all the issues.

*Second*, a Company case analysis has been done on Dell Computer Corporation. We have conducted queries with executives and managerial staff of the Internet business section of the Company through e-mail. We also intensively reviewed the literature on Dell in articles, newspapers, web sites etc. We mainly concentrated the official web site of the Dell Computer Corporation to get in-depth information about the company. We utilized tables, graphs, charts and figures that are available on the secondary sources. We have chosen Dell Computer Corporation for the case analysis because of its success in e-commerce. As of July 1998, the company on an average was selling about US\$6 million per business day through the Internet. A tremendous increase was reported recently. For the first time, sales transacted over the Internet topped US\$10 million a day, putting it on track for a run rate of US\$3.7 billion a year out, or 20 per cent of total revenue.<sup>3</sup>

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<sup>3</sup> Reported by Reuters and published in *Computimes*, *The New Straits Times*, on November 16, 1998, page 20.

*Finally*, a survey has been carried out to study the Internet use and electronic commerce in Malaysia. The survey was conducted during July-October 1998. This field study includes interviews of 100 randomly selected Internet users and 50 companies in Malaysia. We considered a sample size of 100 for users and 50 for companies is reasonable.

To analyze Malaysia's e-commerce market, it is important to get the feedback from both companies and users. This is why the survey questionnaire is divided into two parts. First, a set of questionnaire for companies in Malaysia and the other set is for the consumers in Malaysia.

The 50 companies were selected randomly from around the Klang Valley. They are diversified industry groups such as Agriculture, Education, Manufacturing, Wholesale/retailing, Finance, Consumer Services and Government etc. Questions asked were in three different categories. They are Executive Awareness and Commitment; Company's Current E-commerce Activities; and Company's Planned E-commerce Activities.

The sample size for the survey on Internet users in Malaysia is 100 selected randomly from Klang Valley. The questions asked were on demographics, Internet access, online banking, online shopping, general attitudes etc.

Both the surveys were conducted using available convenient media e.g. e-mail and hard copies. Both qualitative and quantitative procedures were used to analyze data.

The main focus will be on World Wide Web (WWW) and not the whole of the Internet. The word Internet will be used synonymously with WWW.

### **1.3 SOURCES OF DATA**

The data from both primary and secondary sources were used for this study. The survey included two questionnaires, one for the Internet users and the other for the companies in Malaysia.

The Internet was used intensively for this study, which is a gold mine for information. Information on the net is most updated and can be referred very fast.

To obtain insights into the e-commerce, data from secondary sources such as books, articles published in various journals on relevant topics, periodicals, newspaper-cuttings, seminar and workshop papers were collected. Newspaper was closely screened with regard to the issue of direct business model through the Internet.

### **1.4 PURPOSE OF STUDY**

Internet business is a very new concept of direct business model. We cannot find much literature on Internet business even up to the 1980's. E-commerce is a new phenomenon of the 90s. Writings are increasing as cyber marketing gradually

flourishes. Since the mid 90s the Internet started to evolve globally. Many companies are taking Internet marketing as a direct sale strategy besides the traditional marketing via dealers. With the evolving of the Internet, some, like Dell Computer Corporation, have started to utilize the Internet aggressively as a direct business channel.

First, there are some relevant books published, but most of them are geared towards the positive potentials of the Internet for business. Recently, few articles have been found on e-commerce. Attempts of most of the writings are market driven and commercially motivated. It would be very useful to screen those literatures and compile all importance issues and challenges of Internet business. Our first essay, "*Issues and Challenges of e-commerce*" will give a better resource for the cyber community.

Second, to date, Dell Computer Corporations is one of the most successful companies in Internet Marketing. As of June 1997, Dell already sold more than US\$1 million worth of PCs a day from its Web site.<sup>4</sup> Over the passage of time, Dell's web sale is increasing and as of February 1998 it had started selling about US\$4 million a day through the Internet and as of July 98 its web sale rose to US\$6 million a day.<sup>5</sup> Recently, it has reported a tremendous increase to US\$10 million in November 98.<sup>6</sup>

It is important to analyze this company in detail to find out the reasons for its success in e-commerce. Our second article "*Case Analysis on Dell Computer Corporation*" is very timely and beneficial for the global Internet community.

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<sup>4</sup> Figure published on New York Times on 27 June 1997 and repeated on Computimes on 30 June 1997.

<sup>5</sup> Quoted in Dell Web Site ([www.dell.com](http://www.dell.com)).