Evaluation of software industry in bangladesh

Chapter-1: Introduction 1. Origin of the Study The MBA program of DU requires that each student complete an internship attachment period of at least 10 to 12 weeks with an organization and submit a report on the basis of it. Considering the fast pace of the software industry today, I am working one of the youngest and brightest organization in the industry, Hello Dacca, as my place of internship.

There is a lot of speculation regarding the future of the software industry, in general. With the little bit of healthy competition that the industry had been lacking till now, it is no doubt that the consumers would soon begin feel its affect in the form of lower prices and more packages to choose from. However, it remains a doubt as to which companies would just survive and which companies would thrive and prosper. Hence, I chose to carry out a comparative analysis of the prospects and challenges of software companies in Bangladesh, with particular emphasis on the future prospects of Hello Dacca Pvt. Ltd. 1.

1 Watershed of the Software Industry In 1955, the world's first software company was formed in the United States. Now, more than half a century later the software market has entered a period of drastic change. Many information processing functions found in packaged software has been transferred to the Web, and the use of open source software (OSS) has become widespread. There are also strong signs that " Software as a Service" (SaaS) will assume a greater prominence.

These developments go beyond a mere discussion of whether to charge fees or to choose between packaged software or contracted development, or to

use open source or proprietary software; they have shaken the software industry to its very foundation. Will the software industry continue to develop as a high-tech industry, or will creative destruction occur and a new industry grows from the ashes? Perhaps the industry will disappear altogether and become just another business service like embedded software? Tim O'Reilly describes three long-term trends in the evolution of software: (1) commoditization, (2) network collaboration, and (3) SaaS . History & Definition of the Software Industry Software Industry consists of that part of computer programming activity that is traded between software-producing organizations and corporate or individual software consumers. Traded software represents only a fraction of domestic software activity, whose extent cannot be reliably estimated, since much computer programming takes place within firms and its value is not captured by the industrial census or software industry analysts. According to the industry analyst INPUT, in 2000 the U. S.

arket for traded software was $138 billion (Table 1). The U. S. software industry is a major exporter, and the total revenues of the top 500 U.

S. software firms in the year 2000 were $259 billion, according to the trade publication Software Magazine. The traded software industry consists of three main sectors: programming services, enterprise software products, and shrink-wrapped software products. These three sectors became established in the mid-1950s, the mid-1960s, and the late 1970s, respectively, in response to the technological opportunities and the business environment of the time.

The most successful firms developed specialized capabilities that enabled them to prosper within their sector; however, this specialization made it difficult to move into other sectors, and very few firms have been successful in more than one software sector. It should be noted that the software industry is not confined to independent software vendors, but also includes computer manufacturers such as IBM, Unisys, and NCR who supply programming services and software products alongside their hardware offerings and are among the largest software suppliers. These are sometimes referred to as " captive" markets because computer users have relatively little choice in the supplier of basic operating software for corporate systems. 2. 1 Programming Service The first commercial electronic computers—usually known as " mainframes"—were sold in the early 1950s. They were very expensive, typically renting for $100, 000 a year.

Most computer-owning corporations undertook their own program development and operations, for which they maintained a staff of up to thirty or forty individuals. This was not a disproportionate expense in relation to the overall costs of running a computer. By the mid-1950s, however, mainframe prices had fallen significantly, and computer use diffused rapidly —the national computer stock rising from 240 mainframes in 1955 to over four thousand by 1960. Owners of these more moderately priced computers were often unwilling to recruit a permanent programming staff, preferring instead to commission programs from software contractors. Many of the early programming services firms were established by programming entrepreneurs to satisfy this demand.

The first such firm, the Computer Usage Corporation (CUC), was incorporated in New York in 1955 by two former IBM programming employees, and the firm initially specialized in developing technical applications for the oil and engineering industries. The capital barriers to software contracting were (and remain) very low, and it was often said that all one needed was " a coding pad and a pencil. " The most important capability was the technical knowledge of the principals, usually acquired through working with a computer user or manufacturer. Several dozen firms entered the programming services industry in the second half of the 1950s. In a majority of cases, the firms specialized in particular technical applications, or within a vertical market such as financial services, retail, or manufacturing. A very different type of entrant came into programming services in the mid-1950s, specializing in the construction of very large programs that were beyond the technical capability of even the largest and most sophisticated users.

The first firm of this kind was the Systems Development Corporation (SDC), a subsidiary of the RAND Corporation, Santa Monica. SDC was incorporated in 1956 to develop the programs for the giant SAGE air-defense system. The programs SDC developed for SAGE were unprecedented in size, consisting of more than a million computer instructions. SDC employed several hundred programmers, estimated at the time to be perhaps halfof the nation's programming manpower. SDC also trained hundreds of individuals to become programmers. There was, however, a rapid turnover of staff, as experienced programmers left for more remunerative employment in the private sector.

At the time, SDC was hailed as the " university for programmers" and it was said that in the 1960s, SDC alumni were to be found in almost every major software firm in the country. SAGE was a " real-time" system, in which the computer lay at the heart of an information system that responded instantaneously to external events. As the U. S.

government deployed more and more real-time defense systems in the late 1950s and 1960s, systems integrators such as TRW, MITRE, General Electric, Wasting house, Hughes Dynamics, and Lockheed began to develop expertise in software construction. Real-time technologies were hugely expensive to innovate but once established by the military, they quickly diffused into the civilian sector in applications such as airline reservations and on-line banking. When Europe and the rest of the world began to catch up in the 1960s, American independent software firms and the programming services operations of computer manufacturers had a strong first-mover advantage. By the late 1960s, the most successful of the start-up software contractors had become significant firms. For example, by 1967 CUC had 700 employees, offices in twelve U.

S. cities, and annual sales of$13 million. CUC, and firms like it, now offered a broad range of computer services that went well beyond program writing. Another firm, the Computer Sciences Corporation of El Segundo, California, established in 1959 by five programmers to write software for computer manufacturers, grew to become one of the largest computer services firms in the world (which it remains, with revenues in 2000 of$9. 4 billion, and sixty-eight thousand employees worldwide). Nonetheless, giant firms are the

exception and the programming services industry is remarkably lacking in concentration.

By the late 1960s there were several hundred programming services firms, but less than fifty of them had as many as a hundred employees. Today, there are several thousand software contracting establishments, but their average size is less than a dozen staff. Of these only the smallest percentage will become global players. 2.

2 Enterprise Software Products The 1960s saw an explosion in computer usage in the and worldwide. Computer technology evolved dramatically— transistors replaced vacuum tubes, and then microelectronics superseded discrete transistors—with consequent improvements in speed, capacity, reliability, and price. In the United States the computer population grew from 4, 400 in 1960 to 46, 000 by the end of the decade (63, 000 worldwide). The concept of packaged software arose as a technological solution—almost an historical necessity—to the problem of supplying software for the expanding computer population, which by the id-1960s had begun to outstrip the programming manpower needed to write custom software for each individual installation. A software package was a pre-written program designed for a particular industry, or for a common application such as payroll processing or inventory management.

At first software packages were supplied at no cost by computer manufacturers, as part of the bundle of services needed to operate a computer, and which included customer training, field engineering, and so on. In the mid-to late 1960s a number of established programming services

firms began to sell software packages. The packages were usually derived from software assets developed in programming-services contracts, and were called " products" to distinguish them from computer manufacturers' software packages, in order to connote a degree of customer support and service that the manufacturers generally failed to provide with their free packages. Two early examples of software products were Auto flow and Mark IV. Auto flow, a program that assisted computer users with software documentation, was introduced in 1965 by Applied Data Research (ADR), which was founded in Princeton, New Jersey, in 1959. Mark IV was an early form of database launched in 1967 by Informatics (founded in Woodland Hills, California, in 1962).

Although Auto flow and Mark IV were perhaps the two best-known software products of the 1960s, they had each achieved only a few hundred sales by the end of the decade. The manufacturers' distribution of " free" software packages was a major restraint on the growth of the software products industry, because it was extremely difficult to compete against free packages by providing added value that justified a purchase price typically office thousand to fifty thousand dollars. As a result of antitrust pressure, and a private lawsuit from ADR, in 1970 IBM " unbundled" its software and services, converting many of its software packages into paid-for software products. Unbundling gave a major fillip to the industry; ADR and Informatics, for example, tripled their sales in as many years. During the 1970s, several hundred of the existing programming services firms and many new ventures entered the software products industry. New entrants

included firms such as Computer Associates and Oracle, later to become leading players in the enterprise software industry.

However, the 1970s was a somber decade for the software industry, with capital shortages following the stock market crash of the late 1960s, followed by the computer recession of 1970–1971. Hence growth in the 1970s was modest, and total industry sales did not exceed $1 billion until 1978 (a year in which IBM's revenues were $17 billion, for comparison). During the 1980s, the software products market finally matured and grew at a sustained annual compound rate of 30 percent—from aggregate sales of$2. billion in 1980 to over $30 billion by the end of the decade.

As with programming services, the software products industry was low in concentration. For example, a survey in 1982 showed that the top fifty or sixty firms accounted for only 50 percent of sales, leaving the remainder to approximately two thousand medium and small firms. (By contrast, in the mainframe computer industry, less than twenty firms accounted for virtually the entire industry, and one firm, IBM, for more than 50 percent. The software industry was (and is) sometimes characterized as being like " boulders, pebbles, and sand"; that is, a few tens of global players, a few hundred second-tier firms, and thousands of very small firms with a dozen or fewer employees.

By the 1990s, two major software genres accounted for perhaps a half of all corporate software sales: relational database software and enterprise resource planning (ERP) software. Relational database technology emerged in the early 1970s in the research environment of IBM's San Jose Research

Laboratory and the University of California, Berkeley. Relational technology was a major, though technically challenging, and advance over earlier database systems. The technology was first exploited by northern Californian software entrepreneurs, including Oracle, founded in Belmont, California, in 1977. The region still remains the world center of relational technology. Oracle has consolidated its early start advantage, out-maneuvering and out-growing all competitors, frequently vying with Computer Associates as the number-two software company.

ERP software emerged in the 1980s as a single-product solution to replace the aggregation of numerous application products that computer users typically had to use in the 1970s and 1980s. The leading vendor is SAP, a German firm, which invented the ERP concept in the early 1980s; although there are now several U. S. competitors, none has yet overcome SAP's first-mover advantage. SAP is the only non-U. S.

software-product firm in the top ten (and one of only a handful in the top 100). 2. 3 The Internet EraThe diffusion of the PC in the 1980s dramatically changed the working lives of office employees: senior managers began to type their own memoranda, while junior executives spent a disproportionate amount of their days tinkering with spreadsheets. The typewriter was consigned to the dustbin of history, while typists were promoted to being general administrators. Since the mid-1990s, the Internet has had an equally dramatic effect on the lives of office workers and increasingly the domestic computer user. Although the Internet had been in widespread use in technical communities since the early 1980s, it was the introduction of

the World Wide Web in the early 1990s that made the Internet accessible to ordinary users.

The enabling software technology of the World Wide Web was the Web browser used in a desktop computer, of which most users are conscious, and the invisible software in " servers" that made Web pages available to remote users on demand. The first and most important supplier of software for the Web was the Netscape Communications Corporation of Mountain View, California, founded in 1994. Run by a 24-year-old wunderkind, Netscape grew from nothing to a billion-dollar corporation in two years. In 1996, however, Microsoft introduced a competing product, Internet Explorer, which quickly achieved a dominant market share. Microsoft's hardball tactics in this achievement added weight to its antitrust prosecution.

At first, the Web was a largely passive experience, but in the late 1990s it became increasingly interactive and participative, with the provision of financial services, travel information, entertainment including pornography, auctions and retail services, and information products of every kind. In a couple of years new brands became household names—Motley Fool, Ameritrade, Yahoo, Travelocity, Amazon, and many more. Some of these are new enterprises, while others are new initiatives from old established firms. Just as the Web is changing the old order of information services and retailing, it is even more profoundly changing the world of software. For example, the metaphor of " shrink-wrapped" software is breaking down as software products are increasingly supplied by electronic download.

Some industry observers predict that the concept of a software product or artifact will become obsolete, and programs will be supplied online, on demand, and metered according to use. Whether or not this comes to pass, the phrase software industry will continue to be the collective term for firms engaged in supplying programming goods and services, in whatever way the technology of the day demands. 2. 4 Bangladesh scenario Bangladesh already comes with the age of global technology. Now the industry is flourishing in Bangladesh day by day. Government has also taken some pragmatic steps to develop this sector and make it potential source of export earring.

3. Broad Objectives The broad objective of the study is: (i) To evaluate the overall performance of Software Industry in Bangladesh. 3. 1 Specific Objectives In order to fulfill the above broad objectives, the following specific objectives are achieved: (i) To analyze the comparative advantages of the industry leader.

(ii) Determine the growth rate and relative market share of the main competitors to ascertain their position in the market. iii) Find out the various product offerings in the marketplace (iv) Determine their attractiveness in terms of feature ; price 4. Methodology The study is a descriptive in nature. The study has been prepared based on both primary and secondary sources.

The primary source of data consists mainly of personal observation of the various clients. For this purpose of collecting primary data, I have followed the discussion and observation method. Face – to- face discussion was

conducted on the sample number of clients, marketing people and industry experts. All these 50 respondents have been selected wittingly.

Secondary information came mainly from websites, mainly the official websites of the software companies. A few articles on newspapers also helped in the collection of information. For analysis and interpretation I have use some statistical tools as required. 5. Scope The report analyzes the current market trend of the industry.

The study ignores information available to the author which are confidential and not for public dissemination. 6. Limitations of the StudySeveral information regarding on-going projects could not be used to analyze further the competitive positioning of Hello Dacca as they were considered confidential. Other obstacle is regarding time constrained. 7. Acronyms ; Definitions BASIS— Bangladesh Association of Software ; Information Services BBS— Bangladesh Bureau of Statistics BETELCO— Bengal Telecommunication ; Electric Corp.

(Pvt.) Ltd. BPO— Business Process Outsourcing BRAC— Bangladesh Rural Advancement Committee BTCL— Bangladesh Tele-Communication LimitedBTTB— Bangladesh Taar ; Telecommunication Board CCIP— Paris Chamber of Commerce and Industries COMSOL— Computer Solutions Limited DDN— Digital Data Network EDGE— Enhanced Data rate for GSM Evolution EPB— Export Promotion Bureau EU— European Union GOB— Government of Bangladesh IP— Internet Protocol IS— Information Systems ISP— Internet Service Provider ICT— Information ; Communication Technology ISACA— Information Systems Audit and Control Association IT— Information

Technology ITO— Information Technology OutsourcingKPO— Knowledge Process Outsourcing MA— Management Agent MOSICT— Ministry of Science and Information ; Communication Technology OI— Outsourcing Institute OTP — Office of Technology Policy SEA-ME-WE 4— South East Asia-Middle East-Western Europe 4 VAMS— Value Added Managed Services VoIP— Voice over Internet Protocol VSAT— Very Small Aperture Terminal Wi-Fi— Wireless Fidelity Chapter-2: Analysis ; Discussion 2. Overview of Software Industry of Bangladesh Software is one of the most talked about but unexploited industries in Bangladesh.

Last two decades have seen lot of initiatives, both in public and private sector, to stimulate growth in this sector. Although some successes have been achieved, Bangladesh lags far behind other South Asian countries like India and Sri Lanka in terms of employment and revenue generation in the software industry. 2. 1 Evaluation of the Industry in a Nutshell Software industry in Bangladesh has come a long way over the last few decades. The industry has become dynamic with a significant number of energetic entrepreneurs making their mark. Major milestones of the industry are highlighted below: * In 1984, BCC (Bangladesh Computer Council) was formed under the Ministry of Science and Technology followed by the formation of BCS (Bangladesh Computer Samity) in 1987.

Bangladesh Computer Samity is the voice of ICT industry of Bangladesh and currently has498 members. * In June 1997, the Government appointed a committee to look into the problems and prospects of export of software from Bangladesh and in the following year, Bangladesh Association of Software and Information Services (BASIS) was formed. In 1998, the

Government removed all import duties and VAT from computer hardware and software. * In 2000, draft of the ICT Policy was finalized and Intellectual Property Rights (IPR) law was enacted with the Copyright (Amendment) Bill 2004, which sought to safeguard the intellectual property of local as well as foreign companies. * In 2002, BASIS in association with BCC (Bangladesh Computer Council) and the Ministry of ICT established ICT Incubator at BSRS Bhaban.* In March 2003, VOIP (Voice over Internet Protocol) issues were put into legal framework.

In May 2003, Bangladesh opened its first ICT business center in Silicon Valley with the aim of helping Bangladeshi companies gain a firm footing in the US market. * The industry has been experiencing double digit growth for the last decade with exports going beyond the US $10 million mark in the 2004-2005 fiscal year. * A healthy chunk of US$32. 91 million export earnings of the industry in the last fiscal year (FY2008-09) came from

computer software developmental services, EPB data revealed. * Bangladesh fetched over US$19 million from export of software in the first six months of the current 2009-10 fiscal year. Bangladesh's Ministry of Commerce has set an export target of US$38 million for the current FY 2009-10.

2. 2 Current Scenario 2. 2. 1 Market Size Recent trends indicate that the industry has reached a take off stage and poised for high growth. Market size of the total ICT industry in the country is estimated to be approximately Tk 1, 100 core (excluding the telecom sector). Of the total ICT market, the size of software segment (mainly comprising customized and packaged software) is estimated to be around Tk.

10000 core (BASIS, 2009). Bangladesh's approximately Tk20 billion (about US$285. 1 million) software industry currently employs nearly 20, 000 skilled and semi-skilled professionals. Bangladesh's software industry marked an impressive 33 per cent growth in export in the last fiscal year (2008-09) — indicating towards a brighter future– as many western and European firms shifted focus on the South Asian country for low-cost IT services, sector insiders said. Fig-1: Domestic Software Market of Bangladesh.

Local software companies mainly cater to the customized software development and maintenance segment of the market. They share this segment with a number of international software vendors, who have significant market presence in specific client segments like banks, telecom, MNCs (Multinational Companies) and some large donor funded government projects. More than 300 registered software companies are operating in the country. The software developed in Bangladesh can be broadly divided into three categories – (1) customized software, (2) multimedia software and (3) web software. 2.

2. 2 Labor Force Around 20, 000 software professionals are employed in more than 500 registered software firms in the country. Total number of IT professionals in the country is estimated to be more than30, 000 a large portion of which are working in IT responsibilities at different government and non government organizations as well as hundreds of large and small private business enterprises. Diagram below shows the technical job distribution in software companies (BASIS, 2009).

Bangladesh's software industry will become a US$500 million export earning sector by 2013-2014 fiscal if the current trend of robust growth continues," the BASIS presidentclaimed. Fig-2: Job distribution in software IndustryAccording to the graph, a significant portion of technical professionals in the surveyed firms are involved in non code activiti es (e. g. project management, system analysis, system architecture, quality assurance etc.) which are very important components of project life-cycle for any software project.

This underlines the commitment of the local software firms in the process improvement initiatives. It is expected that as more and more large projects are available, the role of these important non code activities will increase further. The lifeline of a knowledge industry like software is the availability of qualified human resources in the market. The following table show s the academic background of the technical professionals employed in the software industry (BASIS, 2009) . Academic Qualifications of Technical Professionals Although more than 85% of the total technical recruits in the software firms have a minimum graduation degree, a large portion of them do not have institutional IT degrees.

For the software companies, unavailability of IT graduates often results in loss of productivity and costs the quality of software projects. Low numbers of computer science/engineering graduates as well as high rate of turnover and overseas migration of IT graduates have been main reasons behind this constraint. Table- skill matrix of loacal software industry 2. 3 Growth Trend In recent years, with the growth of the ICT training sector and increased

availability of skilled workers, software business houses are soliciting orders from outside.

At present, more than fifty (50) software and IT service companies are exporting services to 30 countries in the world including USA, Canada, Europe, Middle East, Japan, Australia, South Africa and some of the South East Asian countries. The country has earned 32. 91 million US dollar by exporting software accessories, a 5. 91 million more than the last year. The president expected the volume would be The Commerce Ministry fixed the export target of 38 million US dollars for 2010. The president would be expected that the volume wouldb be increased by 30/40 percents in this fiscal year.

| 2004-2005| 2005-2006| 2006-2007| 2007-2008| 2008-2009| Eport (US$)Yearly Growth | 11. 4| 15. 6537. 28%| 2027. 80%| 2735%| 32. 9121.

88%| Growth of Software Export during last 4 yearsSoftware and IT service export, though started from a very low base, have been growing rapidly during recent years. The export stood at 7. 2 million US dollar in FY 2003/4, a growth rate of more than 70% over the previous year. In FY 04/05, the growth rate has been more than 60% and crossed US $10 million mark for the first time.

After 04/05 the is steadily increasing and the last year during the economic recession it was 21. 88%. Some of the larger software companies have opened up marketing offices in North America and Europe. Local companies with aim of exporting software are focusing on process/quality improvements in line with international requirements (such as CMM certificates).

These initiatives are expected to yield positive results in next few years. Chapter-3: Software Outsourcing in Bangladesh 3. 1 Definition of out sourcing Now-a-days outsourcing is the buzzing word of modern business arena. Some definitions of outsourcing are as follows: Outsourcing is subcontracting a process, such as product design or manufacturing, to a third-party company. Outsourcing is a business practice commonly used by companies that implies hiring an external service provider & transferring some of the company's internal operations/ jobs to this third party entity. Outsourcing is the subcontracting of activities (production processes or services) that are not regarded as part of a company's core business.

Outsourcing is delegating specific work to a third party for a specified length of time, at specified cost, and at a specified level of service. Outsourcing is subcontracting work to contractors outside the firm. Outsourcing is the delegation of non-core operations from internal production to an external entity specializing in the management of the operation. Form the definitions above the characteristics of outsourcing is as follows- Outsourcing means subcontracting: Subcontracting to a third party company outside the business Implies hiring an external service provider for a specified length of time, at specified cost, and at a specified level of service. 3. 2 Type of Outsourcing Two dominant types of outsourcing are- 1.

BPO (Business Process Outsourcing) and 2. ITO (Information Technology Outsourcing) In another way– ITO, BPO, Software R&D and KPO (Knowledge Process Outsourcing) — these four are treated as the four basic types of offshore outsourcing. But, in another are way general outsourcing and BPO is

the same thing and ITO is a part of BPO. Both used here. So, classifying '
outsourcing' is not an easy task.

ITO is the most booming one among all types of outsourcing. If we split ITO
and BPO by total market value, this can be easily seen how dominant the ITO
is. Here, ITO poses 74. 42% where BPO poses only25. 8%. The BPO market is
the single fastest growing area of the IT services sector.

Growing 8% annually, spending on BPO services is expected to grow
from$112. 1 billion in 2005 to $144 billion in 2008, an increase of 40%. 3. 3
Outsourced services ITO or Information Technology Outsourcing is the most
promising & booming type of outsourcing. Some of the popular and rapidly
practiced outsourced services under ITO are as follows- * Web Development
* Software Development * Call Center Outsourcing * Data Processing *
Application Maintenance Software Testing * Search Engine Services * IT
Consulting & Outsourcing Services * E-Commerce Outsourcing 3. 4 Current
scenario of outsourcing The size of the worldwide outsourcing industry was
estimated by research organization Dataquest to be more than $US100
billion in 2001 and growing at 20% per annum.

According to Gartner Inc. , outsourcing generated $298 billion worldwide in
2003. Despite the praise of the impressive local IT talents and young
successful software outsourcing organizations, nation's software
development market is quite small. At present scenario, the nation has only
a 12 million American dollar of stake in offshore software outsourcing.

The total international market size for software outsourcing in year2005 was
estimated at 40 billion dollar and it is being expected to multiply by triple up

to year 2009. IT has the biggest share of global outsourcing market 3. 5 Software Outsourcing development in Bangladesh As per the Danish Information Technology experts, who visited Bangladesh, as far as the software outsourcing is concerned it's a sleeping giant. The sleeping giant could wake up with the launch of the submarine cable.

At present time, software outsourcing development industry can not take off on big scale, simply due to bandwidth is quite expensive. So the submarine cable is perfect answer for problem like this. However, with the big bang investments in IT development that ran high in Bangladesh follows the visit. Many of international organizations are now showing interest for investing multi-million of money into nascent high technical sector of Bangladesh'. The world's biggest software company, Microsoft is getting annual sales evenues around 40 billion dollar. With already handed over of proposal by Intel to the Science and Information & Communications Technology Ministry in last year as affiliated government partner.

The real thing was the Gates' visit; it paved the way of outsourcing as Bill Gates wanted for exploiting the potential of local Information Technology professionals. The Microsoft had unveiled big plan for imparting the training for 10, 000 Bangladeshi teachers & nearly 0. 2 million students in IT over the next 3 years. With this announcement a local non-government company has been given one million American dollars as Gates- Melinda Award for the training purpose. Last year for a small period of time, Bill Gates accompanied by Melinda, her wife visited Bangladesh. The visit by chief of worlds biggest Software Development Company gave a positive signal to the other nations

that Bangladesh was becoming an emerging destination for software outsourcing investment.

During that visit, Bill Gates signed numerous agreements with the Bangladesh government and some of the private sector organizations. He assured the local leaders of business to reducing the price on original software so it would help to stop pirated copy uses in Bangladesh. Gates was very optimistic about the software outsourcing development and human resources by skilled people for the Bangladesh IT industry. He added in one of speech that India has been creating such a big number of Information Technology talents due to establishing a lot of institutes for the training and teaching for IT subject, so he thinks that Bangladesh should do the same things.

For setting up such institutes Microsoft might not be able to help Bangladesh, but its organization can absorb the IT-professionals of Bangladesh to be trained in such Software Outsourcing institutes. 3. 6 Major Countries where Software and ITES companies export Bangladesh has become a large ground of potential human resources with bright aptitude, quality and natural ability in software development. Bangladesh can be a huge arena of skilled human resource with its cultural adoption capability, foreign language skill, analytical capability and huge number of educated and energetic youths.

Software export has achieved the highest growth in recent years, as more than 100 software and IT service companies are exporting their services to around 30 countries in the world. Although a majority of the companies are

exporting in the North American Market (mainlyUSA), recently there have been encouraging performance by a good number of companies in European and East Asian (mainly Japan) market. Among the hundred export focused companies, at least 30 companies have been set up either as joint venture (between foreign and local entrepreneur) or as ODC (Offshore Development Centre) with hundred percent foreign investment. Most of these joint ventures/ODCs have actually been set up during last couple of years. A number of software companies are following standards (ISO and CMMi) sternly at a hale and hearty pace. It has grown to be a custom and competition among the companies when it comes to quality and software processes.

To meet the high quality standard of offshore jobs and to comply with the expectation of overseas clients, the companies in Bangladesh are rightly focusing on putting in place global standard practices and processes. Over twenty companies have already got ISO certification. A number of companies are in the process of acquiring CMMi certification and by 2008 at least six companies are going to get to Level 3 in CMMi. A number of software companies are following standards (ISO and CMMi) sternly at a hale and hearty pace.

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3. 7 Future of Software Outsourcing in Banladesh Despite the praise of the impressive local IT talents and young successful software outsourcing organizations, nation's software development market is quite small. At present scenario, the nation has only a 12 million American dollar of stake in offshore software outsourcing. The total international market size for software outsourcing in year 2005 was estimated at 40 billion dollar and it is being expected to multiply by triple up to year 2009. After the much-waited arrival of submarine cable, it should expand nation's present market size of Offshore Outsourcing development with market of cell phone being boosted. In Crain's New York Business, a front page article titled " Outsourcing Moves to Bangladesh" discusses how Bangladesh is a rising star in the international economy with industrial analysts from Goldman Sachs to Cisco Systems predicting that it has high potential to follow in the successful economic steps of the giant next door – India.

Government provides financial support (60% of the salary/allowance cost) for recruiting interns (fresh graduates) by any software companies. For this program which started in 2005, Government has allocated budget for 1, 000 interns for every year. Language for instruction for engineering, computer science and business studies in the undergraduate and graduate level is English, making the country a very suitable harbor for outsourcing software projects. European Union has already ranked Bangladesh as one of the top 20 outsourcing destinations in the world Bangladesh Association of Software and Information Services (BASIS) is the national trade association representing software & IT services companies of Bangladesh.

Formed in 1997, the association has been working with the vision of developing efficient and vibrant software & IT services industry in the country as well as turning Bangladesh into a pioneer destination for outsourcing. Currently BASIS has over 260 members including leading software and ITES companies who account for the lion's share of the total software & IT services revenue of the country. Some of the important regular activities and programs organized by BASIS include organizing yearly IT mega exposition ' BASIS SoftExpo', facilitating participation of BASIS members in different international IT shows and events, arranging business linkage programs for members with foreign clients/partners, policy advocacy in different related areas like taxation, infrastructure, financing facilities for the industry etc. BASIS has gained strategic and logistic supports from different international bodies such as DFSME, Paris Chamber of Commerce and Industries (CCIP), JETRO, JICA, IT-Branchen, UK Trade & Investment, Greater Manchester Chamber of Commerce, T&E Finland etc. Chapter-4 :

Software Marketing of Bangladesh 4. 1 Marketing Local software companies mainly cater to the customized software development and maintenance segment of the market.

Its customers include banks, telecom operators, MNCs and government projects. In order to ensure that the consumers' needs are satisfied, local firms use certain market research techniques and employ a specific marketing mix. 4. 1. 1 Marketing Mix * Product Software industry provides intangible services rather than tangible goods. Since the industry mainly tends to the customized software market, its services are organizational products.

Being an organizational product, the industry's services are judged based on performance, support services, cost of ownership, total cost of buying and owning the product. Firms in the industry achieve product differentiation through the quality of the product and the technology used. With the industry reaching the take-off stage knowledge – experience, service record and the level of customization are the unique selling propositions used by most of the firms in the industry. Despite the attempts of firms to differentiate their services, no prominent brand has developed in the industry. * Price Pricing decisions are influenced by a variety of internal and external factors.

Companies prefer to compete by attracting customers with their products features rather than by waging pricing war. However, software industry is an industry where price competition is intense. Firms regularly attempt to

outbid each other by offering the lowest prices. The actual prices of products can vary from tens of thousands to millions of Taka.

* Place Software firms use a direct producer-consumer distribution channel (direct sales) and exclusive distribution. Customers buy services directly from the software firms and product is only available in one outlet in each market area. Such exclusive distribution is essential to reduce costs and to maintain maximum control during distribution process to limit risk of copyright infringement. Promotion Promotion involves wide variety of persuasive techniques used by companies to communicate with their target markets and general public. Firms in the industry use below the line promotion techniques that include exhibitions and trade fairs, personal selling and public relations. The promotional mix of firms in the software industry mainly consists of personal selling with a few of the large firms using public relations in their mix.

Personal selling involves direct, person-to-person communication, either face-to-face or by phone. Bangladeshi software firms regularly take part in international computer fairs such as COMDEX and CeBIT, as well as the domestic SoftExpo. 4. 2 Porter's five Forces in the Software Industry A means of providing corporations with an analysis of their competition and determining strategy, Porter's five forces model (Porter, 1980) looks at the strength of five distinct competitive forces, which, when taken together, determine long-term profitability and competition.

Diagram below illustrates the five forces in the Bangladesh software industry. The Competitive Force of Potential Entry Barriers to entry are

related to: * Learning and experience curve effects. In the software industry there are significant experience curve effects. However, new firms entering the market have hired experience programmers to negate such effects. * Brand preference and customer loyalty. Software firms work toward maintaining consumer goodwill.

However, very few of the corporate clients that the Bangladeshi software industry serves have any brand preferences and continually seek the best services on offer. Government actions and policies. Government policies to assist the development of the sector as well as the renewed desire of public enterprises for automation have led to increased demand for software attracting new firms into the market. The Competitive Force of Substitute Products A large number of firms in the industry offer similar software products and services.

Large number of substitutes of a particular firm's products or services means that firms are continuously looking to upgrade quality, reduce prices, and differentiate their products. Otherwise they risk a low growth rate in sales and profits. The Economic Power of Suppliers Software is a labor based industry and only input required by the industry is the human effort. IT schools are supplier to the industry, providing it with the only essential input.

Suppliers have no bargaining power in the industry. However, the efficiency of schools in turning out IT specialists has significant influence on the success and future growth of the industry. The Economic Power of CustomersBargaining power of customers in the software industry is high because: * Customers of the software industry comprise mainly of large

scale manufacturers, financial institutions, and the government, all of whom have significant buying power. * Customers can find alternative sellers and switch at virtually zero cost.

Software runs on standardized hardware which means that customers can use any company's Software to run on their hardware. Only cost involved in switching suppliers is the cost of the new software. It is economically feasible for customers to purchase the input from several suppliers rather than one. Many firms in the country have used different companies' software to automate processes in different departments. The Competitive Force of Rivalry * Rivalry in the software industry is intense. There is no clear market leader with all the characteristics of a perfectly competitive market with a large number of firms and intense competition.

Even though demand for customized software is growing competition rapidly, continues to be fierce as more firms enter the market. Products and services of competitors are so weakly differentiated that customers incur low costs in switching from one brand to another resulting in increased competition among firms. 4. 3 Product Types and Target Customers The following table shows market percentage share occupied by various products and services offered by local software companies-.

The table shows that demand for the back office automation (accounting/finance, HR, inventory and billing) by organizational IT users is working as the main driving force for software industry. At the same time, a lot of companies have been involved in the development of high value customized applications. This demonstrates the maturing process of the

software companies, as well as higher level of customer awareness of the potential value that can be generated through Table – Range of Products/Services of Local Software Industry system automation in business organizations. The considerable demand for front end business applications (web applications, e-governance application, e-commerce, POS) demonstrates high level of co relation between increasing network access and use of software applications. The following graph (Fig.

3) shows the business focus of the software companies by client industry the economy segments. The biggest buyers of software services are the two dominant sectors in garments/textile and pharmaceutical. Service sector enterprises are also becoming more interested in process automation. The financial service sector constitutes a significant market for the software companies. Almost all of the banks have implemented or are in the process of implementing online banking systems. A number of software companies are also developing specialized software billing and SMS based applications for the booming telecom sector.

(Percentage of companies having clients in particular sector/industry) Fig-Client Industry Focus of Software Industry A large number of software companies (57% of surveyed companies) are working on public sector IT projects. Since government is the potential biggest client for software industry, this represents a positive sign for the long term domestic industry. Furthermore, the National IT policy has set up a specific guideline for a minimum allocation of 2% of ADP (Annual Development Program) in IT which is more than Tk. 350 crore.

Increased Government procurements has happened recently including a number of e-governance projects for different ministries with an approved allocation of more than Tk. 60 crore. The SICT (Support to ICT Task Force) has so far floated 17 e-governance projects. Chapter-5: Hello Dacca's operation in the Software Industry in Bangladesh 5.

1 Company Overview Hello Dacca Dot Com Pvt. Ltd. s a full spectrum web site design and development company with its corporate head office located at Mirpur, Dhaka. It has been formed on 6th February, 2007 under the provision of private limited company Act abiding the constitutional laws of The People's Republic of Bangladesh. Our services include custom interface design, ICT solution, online branding, IT training and other IT enabled services.

Our company might be new but our 2-8 years experiences and talented programmers, graphic artists, Flash designers and animators produce compelling websites, Software's and Flash presentations to your specifications. In addition, we also offer backend web development, data entry and database integrations with full CMS support. We stand committed and we have helped clients build their online brands or extend their offline brands into the digital realm. How can the web complement your offline marketing efforts for your business? How can the offline brand experience of a company's products and services be interpreted in an online environment? Our team has the experience to help your organization successfully address these ever- challenging questions.

Since its inception in 2007, Hello Dacca has benefited from rapid growth and has gained numerous clients among large public and private sector organizations, small and medium-sized businesses, and self-employed professionals in country and abroad. Amongst these are Flash based development for Shamanta group, one of the biggest distributors of sanitary and tiles products, ERP Solution for Noman Group, a leading Textile industry having 14 sister concern organizations running under its umbrella, Hydrographic software for Bangladesh Navy, Website for Aster Apparels, Progemini, Japan Bangladesh Retalease Co. Ltd and numerous outsourced websites and software's for foreign buyers. Hello Dacca Pvt. Ltd.

is also specialized in developing and maintaining E-commerce and Semi-Ecommerce Portals. Hello Dacca has already launched several portals relating Telecom jobs, Foods, Matrimonial Services, Real estate services and the biggest Project, which is yet to be launched, is the Semi-Ecommerce Online shopping mall which would include more than 5000 Shops featuring app. Lac products for sales and delivery. We are also undertaking some even bigger projects of Building online interactive Virtual city project for Cox's Bazaar and Online Real time security solution for Public and private Organizations. 5.

2 Hello Dacca at a glance Authorized Capital BDT 1, 00, 00, 000 Co? Founder Mr. Md Fahad (CEO) Mr. Tofael Ahmed Khan Mr. Azizul Haque Gross Earning BDT 2, 53, 37, 600 excluding Tax and expenditure (As up to Date 30th June, 2009) Mission Statement: Fulfilling corporate and personal needs by introducing revolutionary IT enabled services and life changing trainings, which would create awareness, dependency and endless opportunity to the

direct and indirect users of the latest medium of communication, the internet Vision: To gain leadership in creating a new buzz in internet usage in Bangladesh and abroad, by providing the correct information to the correct people, facilitating mass sales and promoting, branding and empowering all kinds of businesses, shops and services by providing Latent IT enabled services. Current Slogan: The new Buzz in Town Core Values: • Innovation in the service • Employee (root level marketing people – the blood of the organization) • Corporate clients • Web visitors Core competence: • Service Innovation • Dexterous IT team • Adequately sufficient field executives • Ultra? friendly environment • Young, professional, enthusiastic and highly motivated execution team • Foreigner? trained and experienced trainers • Outpaced trainings 5. 3 Hello Dacca's Approach We have a pragmatic approach with a strong emphasis on providing value to our customers with solutions that solve real business challenges.

We develop enduring relationships with our clients and act as their resource in navigating the rapid pace of technological change. We try to deliver more than we promise, as a result we find a happy customer at the end of the day. 5. 4 Hello Dacca's services Though Hello Dacca is one of the emerging software company of Bangladesh, but it has wide variety of service rage. These are divided into two categories.

These are- 1. Web Design Services • Complete web site design, development and setup • Database backend design • E? commerce solutions • Content management systems (CMS) • Usability engineering, interface design, interaction design Site maintenance, updates and redesign • Interactive Flash banners & intros • Domain name search, registration and transfer •

XHTML compliant pages • Web Application Development • Graphics Design Services • Search Engine Optimization (SEO) Services 2. Software Development Services • Database Design and Maintenance • Data Entry • ICT Solution • ERP Solution 3. Proposed Services • Online Real? time Security System • Online Interactive Virtual city Projects • Semi? Ecommerce Online Shopping Mall • Interactive E? Learning Courses • Training Workshops at various venues 5. 5 Capabilities Matrix Hello Dacca Pvt. Ltd.

offers a wide range of capabilities in delivering mission? critical, client? server, web? commerce, data warehouse, and on? line transaction processing systems to large, small and medium? sized companies. We are able to implement these solutions using the latest, most flexible and scalable applications, platforms and languages available in the market. The below list is by no means complete, new skills are added regularly 5. 5. 1 Capabilities Matrix Some of the best and most costly Production of Hello Dacca Pvt.

Ltd. is listed below Chapter-6: Limitations of Software Development in Bangladesh 6. 1 IntroductionAs computer technology offers efficient and high performance information processing; it has got popularity over the home, office users in the whole world. By the decade of 1990, in Bangladesh, it has also taken an important role. Since during this time PCs become more user friendly and attractive, the number of users had been increased.

Beside the general users, in Bangladesh, a number of Software Developers has been increased as well as. Many of Computer Science and Engineering graduates form Public and private universities as well as Computer diplomas from training institutions are getting employed to the local software

companies. As the time goes, the overall development of skill of software developers has been increased with respect to Bangladesh. Bangladesh is a country, where the only surplus property is the human resource. Considering the earning of foreign exchanges and removing of unemployment problem, software industry is a very prospective field. To make this field more profitable, several plans has been done by the government and private organizations form past several years.

Since software developers plays the key role to the software industry, so it is very important to care about their needs and problems, to boost up their skill. . 2. The figure of the problem By conversing with a number of Software Developers in Bangladesh, I tried to find out the figure of the problems which are faced by the local software developers. According to the opinions of novice and expert softwaredevelopers we can categorize their problems into three sections.

– Problems Due To Employer – Problems Due To Client and – Problems Due To Developers Themselves 6. 2. 1 Problems Due To Employer A number of software manufacturer companies have been established in Bangladesh during past several years. Their ultimate goal is to meet the need of local and foreign market. Many of software developers those are employed in these companies, complained about some of their non professional attitude to them. 6.

2. 1. 1 Lack of Well Management To develop a well standard, high quality and effective software is not a silly task. In this case according to the user requirement, with some specific calculation and analysis worker should

proceed to make the software system, so that it can gain the ultimate satisfaction of the user perfectly. To build a software product it is required to have skillful and experienced contribution into the fields of project management, system analysis, software architecture, software engineering, coding, testing, debugging and documentation. But respect to many of software companies in Bangladesh, it has been seen that during the software development process either there is a lack of skilled person in proper field, or the employee who is employed as a `Programmer' has to do all the task that is necessary to develop the software.

In this case the developer suffers in a way that neither s/he can become experienced in proper way, nor can contain the satisfactory standard. 6. 2. 1. 2 Lack of Well Environment and Resources For a software developer, environment is a very important fact that should be cared.

Comparing with Conversional official tasks and the job of a software developer is not the same fact. To be deeply involved and concentrated on to his/her work, a developer desires a sound and peaceful environment. Unfortunately many of software companies are not concerned enough considering this fact. Due to the limitation of investment, they cannot provide proper accommodations to their employees. Beside this, due to same reason, the developer has to take the responsibility of local network and hardware management.

Some developers complained about their basic requirement as high speed internet, hardware accessories etc. which are not provided properly by their employer. 6. 2. 1. 3 Improper Salary Since Bangladesh is a developing

country, financial fact plays a very important impact over the developers those are working here.

The salary range of the developers depends on the financial condition, investment of the employer software company. Based on my survey onto several software manufacturer companies, a basic estimation about the salary of the employees those are related to the development process of a software system can be figured out as programmers with 2 years of experience get 5 thousand to 10 thousand taka monthly, where as 5 years of experienced programmers get 15 to 25 thousand. System analysts and software engineers get monthly 25 to 40 thousand and 25 to 60 thousand taka respectively. Most of the developers are not satisfied enough with their salary. They desire more salary according to their service.

To earn more money some of the developers get them employed onto several companies, which results lack of proper concentration to a specific project. 6. 2. 2 Problems Due To Client 6.

2. 2. 1 Requirement Education Maximum Software's that are built for the local market of Bangladesh is customized software. To produce this type of software, an important part is to elicit and analyze the requirement of the user. Stake-holders (including paying clients, users and developers) together form a large number and can be distributed.

Form the point of view of the positions of different types of stakeholders, their goals may vary and conflict, depending on their perspectives of the environment in which they work and tasks they wish to complete. Their goals may not be explicit or may be difficult to articulate. To develop a software

system that can satisfy the overall requirement of all the stakeholders, the conflicts and contradictions those can be arise, should be carefully removed. One of the most important goals of requirement elicitation is to find out what problem needs to be solved and hence identify the system boundaries. At the high level, these boundaries define where the final delivered system will fit into the current operational system. As a matter of fact, a high degree of coordination among the user is required. With respect to Bangladesh, considering the development of a new software system, developers have to suffer to elicit the need as well as the expectation of the corresponding client. So the corresponding developer find it difficult to determine what the facilities should have in the new system, or what should not. As matter of fact, they have to proceed through a misty way. After an interval of time, when the developers comes near to the finishing point of the production, then if the product doesn't meet the client's satisfaction, the developers has to further go through a lengthy and complicated process. 6. 2. 2. 2 Money and Time Another fact that generally arises by the local software client is money and time. To build well engineered and efficient business software solution, a considerable amount of time and money and time is needed, on which the local software clients are less interested. In this case, although the corresponding software developer may have proper eligibility and wishes to build a good product but he cannot proceed to do that. Lack of proper awareness of the local software clients about the efficiency that is offered by information technology, results this type of problem. 6. 2. 3 Problems Due To Developers Themselves To be productive and skilled enough, a software developer should contain some sort of efficacy. The problems that arise during the development of a software system in Bangladesh cause not only

for employer manufacturer and customers, but also for the programmer him/herself. To be successful enough, a developer must have to be devoted enough to his/her technical education and professional field. Many student of computer related education and training and professional in Bangladesh has a comprehension that, learning one or two programming language somehow will make him/her a software developer, which is a wrong idea at all, according to the opinion of experts. Focusing on this type of comprehension of student, experienced project managers say, this is due to not to think the software development as a long term profession. We can categorize the causes that make developers themselves low skilled is focused below: 6. 2. 3. 1 Lack of In-depth Knowledge and Up-to-date Information Considering software development as a long term profession, one should go through a process by being up to date enough with respect to the current trend of information technology as well as by implementing several techniques of programming languages and development platforms with respect to real business and information world. Since a large number of students in Bangladesh is weak in English and contains a fear to study, which arises from conventional study of Bangladesh, very few number of developers get them interested to be informative enough. 6. 2. 3. 2 Lack of Specialization Specialization is one of the key factors to be highly skilled professional. To get more jobs, many students related to computer education and training goes for several courses, which ultimately makes a barrier for him/her to be specialized enough in any particular field. If anybody wants to be a network administrator, system administrator, web designer, graphics designer, as well as a software developer, then obviously he/she has to be frustrated enough after an interval of time! 6. 2. 3. 3 Lack of Community Very few

developers in Bangladesh contain their own professional community. Forming an own professional community and sharing ideas among them, is very effective way, to be skilled quickly, in a particular field. Developers that face lots of problems during project development may easily benefited by this idea. 6. 3. CONCLUSIONIt's a very hopeful fact that, many of government and private organizations in Bangladesh starting to make their organizations computerized, which results expansion of local software market here. As well as, many working field is going to be created in software development arena through software outsourcing and export to the foreign countries. As Bangladesh suf