Exploring the Smartphone Application Development Sector of Bangladesh

A. T. M. Jakaria Khan*
Institute of Business Administration (IBA)
University of Dhaka

Sutapa Bhattacharjee†
Institute of Business Administration (IBA)
University of Dhaka

Exploring the Smartphone Application Development Sector of Bangladesh

Abstract

As the Smartphone becomes popular throughout the whole world, the demand for Smartphone applications is growing. Bangladesh, a new entrant, has got the potential to do well in this sector. By serving this growing and hugely demanding industry Smartphone application development sector of Bangladesh can play a major role in the export of Bangladesh. Having the necessary resources and the entrepreneurs to address the rising demand for Smartphone applications, what Bangladesh needs is integration of these. This study aimed at identifying the factors that are hampering that fine tuning, and came up with some recommendations regarding the prospective advancement of this sector. This study mostly relied on Qualitative methods such as FGD and KII. It was revealed that adequate workforce is the most important factor for the growth of this sector, and we need more skilled workers in this industry.

Key Words: Smart Phone, Application, Challenges, Development Sector, Apps, IT Service.

1.   Introduction

The smart phone application development industry in Bangladesh is yet to bloom fully but it is dealing with the key smart phone producers like Apple and Google. In this sector, India and China are our main competitors but they cannot afford to work with the price our engineers do. For last couple of years' demand for smart phones is on the rise, and so is the requirement for newer applications.

Smartphone Application Development or "Apps" are software products built for Apple iPhone, Android, BlackBerry and others and have grown in popularity since the recent growth of Smart phones due to amazing success in mobile app development domain. Resourceful apps like iPhone business applications are popular due to the ubiquity of web browsers, and the convenience of using a web browser as a client. The ability to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for the massive popularity of the apps, as is the inherent support for cross-platform compatibility. This opens up a new marketing and brand-building channel for marketers and organizations looking to interact with mobile users on a one-to-one basis. Downloaded directly to the phone, mobile apps leverage and interact with the unique features of the operating system to give consumers a richer experience thereby adding more value to the field of Smartphone application development. Plus, the ability to include Location Based Services (LBS) and user preference settings ensures a more personal experience (What Makes a Smartphone, 2010).

A developing country like Bangladesh has to have diverse portfolio of thrust sectors as competition in the global market is fierce. We cannot simply rely on RMG or Shrimp to keep our economy fat rather it is time for exploring new terrain and smart phone application is one worthy to look for. In the overall IT sector, it is the most promising one, and with nurturing it can become the money-making machine for Bangladesh.

The broad objective of this paper is to identify the prospect of smart phones application development firms on Bangladesh economy. Specifically, this paper will try to find out the problems and future opportunities of this sector.

47

This paper is based on both primary and secondary data. Secondary data was collected from journals, magazines, newspapers, internet etc. for the purpose of qualitative study. Primary data was collected through separate Focus Group Discussions (FGD) with current students of CSE background and employees who are currently working in this sector and Key Informant Interview (KII) with top level officials and policy makers.

This paper first looks at the scenario of the IT sector of Bangladesh. It then looks into the present scenario of the Smartphone application development industry of Bangladesh. The current policies that there are for regulating this sector and whether skilled knowledgeable and labor forces are available for this sector are also taken into consideration.

2.   Review of the Existing Literatures

2.1.   Smartphone and Smartphone App

A Smartphone is a phone with features of a cell phone, a personal digital assistant (PDA) and a personal computer. Generally, a Smartphone[1] is now a phone with basic facilities for making a call, text messaging, calendar, address book, personal information manager (PIM) including organizer, notes, to do list etc., web browser and special features like information storage and processing, email, document reader, data processor, program/software installation, handheld computing, data synchronization, Wi-Fi capability and many more (How Stuff works, 2010).

Apps[2], which is short for Applications, is one of the features that make the Smartphone "Smart". An application is software designed to help the user perform a specific task originally unrelated to any phone function. Apps are designed to make a phone more like a computer. From surfing the net or blogging or twitting to a playing a simple or complex game, everything is the gift of apps. Smartphone apps can be divided into three

---

[1] Some popular examples of Smartphone are Apple iPhone, HP iPAQ, Blackberry Nokia E series, Samsung OMNIA etc. (Webopedia, 2010).

[2] Popular apps providers are Apple's App Store, Android Market, BlackBerry App World, Ovi Store, Palm App Catalog, Windows Marketplace, Windows Phone Marketplace, Samsung Apps and Amazon Appstore (Go test go, 2010).

broad categories: management apps, entertainment apps and other miscellaneous apps[i].

2.2. Bangladesh Software and IT Service Industry

Software and IT service industry in Bangladesh is relatively new in comparison to other business sectors. However, the unlimited potential of this sector has commended inquisitive interests from all concerned. In the last two decades, this industry has crossed a long road and has matured. Not only the industry is contributing significantly in the national income, but it has also been playing very crucial role in creating high quality employment for a sizable portion of young graduates of the country.

According to Bangladesh Association of Software and Information Services (BASIS) survey, there are over 1000 registered software and ITES (IT Enabled Service) companies in Bangladesh. There are another few hundred of unregistered small and home-based software and IT ventures doing business for both local and international markets.

The total industry size is estimated to be around US$ 400 million). Approximately 70,000 professionals, majority IT and other graduates, are employed in the industry. Though, compared to other traditional mainstream industry, the contribution for overall employment creation is not significantly high, but if considered in terms of creating high quality employment (average monthly compensation over Tk. 15,000 per month), software and IT service industry is surely one of the top graduate employment sectors in the country.

Apart from the formal corporate outsourcing/off-shoring initiatives, during the last decade there has been a new trend of individual/group based outsourcing (alternatively called as freelancing). These are informal initiatives taken by young IT professionals/entrepreneurs (some of them still students) who are acquiring clients through various online marketing channels that include online market-place for freelancers, SEO, social marketing etc. Typically, in such cases the overseas clients and also their jobs are small in size. Various types of jobs are outsourced. These include software, web design, mobile application, graphic design, search engine optimization, social media marketing, data processing etc. Although these informal initiatives by freelancers are small individually, their aggregated

49

contribution in employment generation and export earnings is not insignificant. Proper estimation is not possible as their income often is not recorded officially as earning from IT service export.
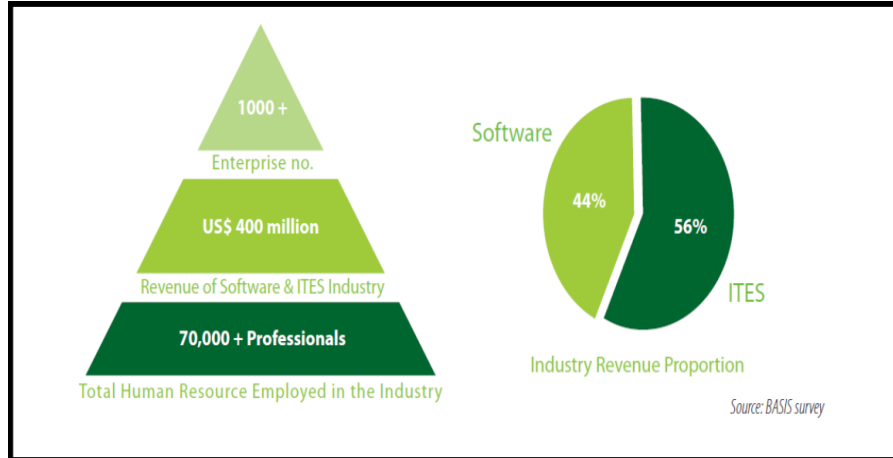

Figure 1: Bangladesh Software and ITES Industry

A recent survey by the BASIS shows that among the 1000 software and ITES firms 16.7% firms are specialized in developing Smartphone applications. Although they are not fully based on developing mobile phone applications but their main focus is the Smartphone application development. Other than these firms many individuals are working as freelance application developer of Smartphone applications for world famous companies like Apple, Google, and Samsung etc.

2.3.   Prospects of the Industry

ICT is yet to be a dominant part of the economy as it contributes less than 10% of the GDP and not to mention mobile application sector is even lesser in this regard. But after analyzing the market and other key players we can see that the opportunity is huge so as the potential. Government has already declared this sector as a thrust sector because it has the potential to generate employment for many people as well as money for the government (Bangladesh Computer Samity, n.d.).

According to BASIS officials smart phone application developing sector will be an integral part of the economy by 2021. They predicted that

by that time our infrastructure and workforce will be much more developed and competent. As a result, this industry will be able to contribute more in the total export amount. Moreover, identifying the growth of the software and ICT industry government has declared this sector as thrust sector for the export policy of Bangladesh. Several steps have already been taken to boost up the software industry. That means we can assume that by 2021 mobile phone application developing sector will have a significant contribution in the total amount of Bangladesh export.

Bangladesh today is the third largest exporter of apparels and this industry will continue to dominate our export basket for the foreseeable future. However, as our literacy rate, secondary education rate and most importantly our tertiary education rate improves, our capacity for knowledge-based industries also increases. These will help us to build strong smart phone application developing sector in Bangladesh which will earn foreign currency through exporting different applications software (The Daily Star, 2010).
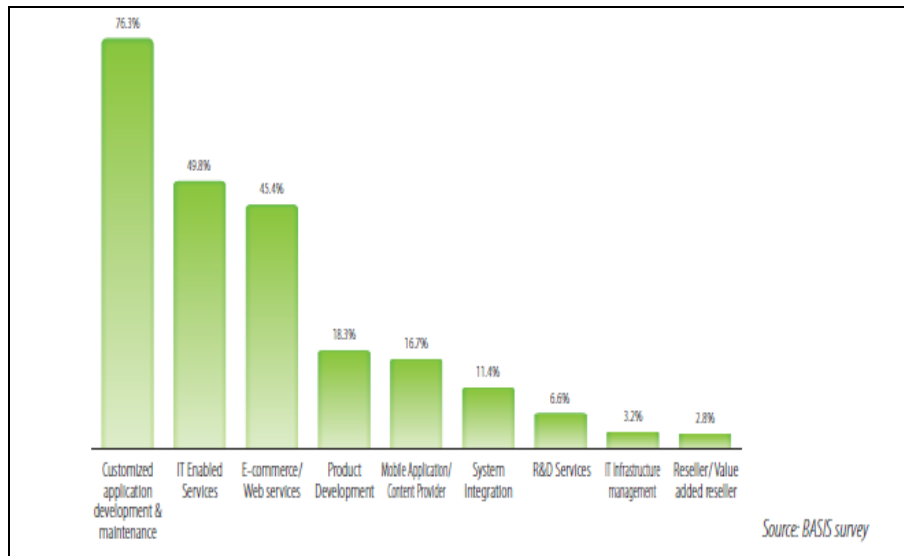

Figure 2: Specialization in ICT Sector

2.4. SWOT Analysis

One of the most significant strengths of Bangladesh is the abundance of young trainable labor. Cheap labor has long been a key draw for industry doing business in and with Bangladesh; we have the lowest IT/ITES labor costs in comparison to India, China and Pakistan which gives cost value proposition. Convenient time gap between US and European countries and ours is a strong advantage for any IT enable sector. Also, Government Incentives in terms of Tax and other benefits are supportive for the industry as well.

Our weakness includes lack of skilled workforce, weak and uncoordinated industry promotion despite a generally positive country image and lack of visibility as a potential destination for the smart phone developers for outsourcing their application development works; weak, unreliable and inconsistent infrastructure, and untapped market in terms of supply perspective.

At this time, we have a glowing opportunity as global financial crisis means companies are looking for places to cut additional costs, a possible opportunity for Bangladesh, with low labor costs, to enter the market. Also, government has taken up plans to set up IT Park which will lead to solve the larger issues of infrastructure, policy and image more successfully (Sustainable Development Networking Program Bangladesh, n.d.).

The threats faced by this industry includes rise of neighbor nations in the IT field leading to their IT industry achieving a higher international market share of the outsourced services, resource crunch as skilled labor is taken by other business sectors, declining number of enrollments in IT courses due to which size of future workforce is decreasing, insufficient English proficiency which leads to facing problems in every steps for specially the entrepreneurs depended on outsourcing/freelancing.

3.   Findings and Recommendations

3.1.   Problems Faced by the Smartphone Application Developing Sector of Bangladesh

After conducting the FGD, KII and the secondary data analysis, this study identified the following key problems that exist in the smart phone application developing sector in Bangladesh:

Lack of Adequate Workforce to Ensure Growth of the Sector

Although Bangladesh is new in this sector but it has got the potential to do well. To meet the ever-increasing demand of the smart phone applications Bangladesh software industry needs more and more workforce. Information gathered from KII and FGD supports the fact that the main problem of this sector is lack of adequate workforce which is one of the main requirements of this sector to grow. Currently some freelancers are doing it for fun and some IT firms are doing some work in this sector. Philippines, Vietnam, India these countries have a huge workforce who are only developing smart phone application. To compete with them we need more people to work in this field.

Lack of Skilled Worker

Bangladesh lack skilled workforce to meet up the fast-growing world demand for smart phone applications. Every year around 1000 CSE graduates complete their graduation from prominent universities like Dhaka University, Bangladesh University of Engineering and Technology, Shahjalal University of Science and Technology, Islamic University of Technology, North South University, BRAC University, Khulna University of Engineering and Technology, Chittagong University of Engineering and Technology and Rajshahi University of Engineering and Technology. Other government and private universities also produce around 2000 Computer Science/Computer Engineering graduates. These 2000 graduates have poor programming skill. Of the top 1000 graduates mentioned above, about 80% have high to moderate programming skill. Moreover, all the CSE graduates do not join the software industry. A big number of students of CSE background usually go abroad for higher studies right after graduation or after working in the development sector a year or two, and most of them never come back. The few that do comeback work mainly in the academic or research field. Working in application development or doing research related to application development is certainly not one of their priorities and due to this our application development firms have to rely on a handful of programmers. That puts our skilled workforce at a small number, whereas our competitors like India, Vietnam produce two to three times more skilled workers with similar background.

53

Moreover, the employees who are working as a developer of smart phone application for IT firms' lacks adequate knowledge and training. Most of these people work on trial and error basis. Because of lack of skilled workforce IT firms of Bangladesh are unable to do high skilled works in this sector.

Lack of Training

In terms of training Bangladesh is at a very poor stage. Almost none of the universities have any course in their curriculum regarding Smartphone Application Development. Lately in the University of Liberal Arts (ULAB) smart phone application development related course has been introduced. BASIS offers three different training courses on Mobile Application, iPhone application and OAP.net development for smart phones. But there is no advertising for those training. As a result, most people do not know about the training programs. Some other IT training institutes also offer training on this subject but those are not up to the standard.

In India, Philippines and Vietnam they offer specialized courses to students of programming background. India offers application developers opportunity to go thorough 10-15 types of training related to Smartphone application development. But in Bangladesh, most of workforce is developed by on the job training, which is time consuming, costly and in many cases inadequate.

Problems in Transferring the Earning

Bangladeshi IT firms are facing problems regarding the transfer of their earnings. Because of the absence of international online payment systems like Pay Pal, E-Gold, firms are facing huge problems regarding receiving their earnings from the buyers. Moreover, due to Bangladesh Bank's anti money-laundering law, firms cannot receive more than $10,000 in a month. As a result, firms cannot take as much orders as they are capable of handling. Recently Pay Pal has signed an agreement ensuring that they will start operating in Bangladesh, which could lead to partial solution to the problems regarding transfer of earning.

Increasing Cost

Bangladesh is going through a phase of increasing rate of inflation. As a result, in last couple of year's cost of living has been increasing so as the salary and other expenses of application developers. Rent, internet, power and other costs are increasing as well. Salary of developers has increased by 30% to 70% while the expenses have increased by 20% to 50%. But the revenue stream is not increasing with the same pace as the expenses. In some cases, individual projects are generating less revenue as the competition is increasing. It is causing a reduced profit for developer firms, and is becoming a major obstacle.

Lack of Direct Representation

Unlike firms of other countries, most Bangladeshi firms cannot take orders directly from the clients rather they have to go through a third party who generally negotiates the deal, or outsources the work at a cheaper rate which they got at a much expensive rate. This hampers Bangladesh's attempt to convey its potential in this sector to the original clients. If we can remove this barrier of third party and approach the customers directly, we can introduce ourselves and better our position in the global market and generate better revenue.

3.2. Existing Policies for the Sector

The Government initiatives in the information and Communication technology (ICT) sector are very significant in the development of Bangladeshi ICT industry in the coming years. IT (Information Technology) has already been declared a thrust sector in the Bangladesh export policy. Smart mobile phone application development is a very promising sector in the field of software development. Although Bangladesh government has not yet taken any specific steps only for the smart phone application development sector but some important steps has been taken to promote the overall software industry. Government has taken the following course of action to boost up the sector.

These steps include:

- ➢ Government speedily implementing the 45 recommendations of JRC (European Commission Joint Research center-a high powered committee for software export) high powered committee for IT industry. Already one fourth of the recommendations have been implemented.
- ➢ Waiver of all taxes and duties from import of computer hardware and software thus increasing affordability and proliferation of PC use in general, a prerequisite for the IT powerhouse that Bangladesh of 140 million people with more than 30 million Science graduates wishes to become.
- ➢ For the development of human resources in the software information of computer science, courses in all universities including BIT (Bangladesh Institute of Technology) and Polytechnic Institute and selected colleges shall be considered similarly for having a pool of skilled and trained instructors' basic computer scheme at graduation level may be introduced.

- ➢ Bangladesh Hi-tech Park Authority (BHTPA) is currently in process of setting up Kaliakoir Hi-tech Park in Gazipur District and Jessore Software Technology Park, with plans to set up three more in Rajshahi, Sylhet and Dhaka.

Government has already started a project to develop Computer Programmers, and plans to set up computer training centre in each district headquarters of Bangladesh. Our unemployed educated persons can take this opportunity to build their career as mobile content developer. After taking basic training on software development any educated person can develop applications for smart phones.

3.3. Recommendations

Based on the study, the following recommendations can be made for the smart phone application developing sector of Bangladesh:

- ➢ Government should take specific steps to encourage global IT giants like Google, Microsoft etc. to come and invest in Bangladesh.

➢ There is huge number of students interested to work in this sector. These students should be properly communicated about the prospects of the mobile application development sector, while the authority must ensure providing adequate facility.

➢ Government, Universities, Professionals, Farms and Private sector should step ahead to create several institutes in major cities so that our programmers get in touch of cutting edge software and other issues which are imperative to rise up the ladder. For Bangladesh, it is even more important as the competitors are well-equipped with advanced trainings.

➢ Government must provide special tax benefits/ financial schemes to firms for application development.

➢ Bangladesh Bank and Government should come up with policies that ensure favorable transaction for firms and individual out sourcing agents at the same time uphold the value of law of the land.

➢ To represent the work of Bangladeshi IT firms in the world market it is very important to attend international fairs and seminars to show what type of works are done here. Attending these international events includes huge costs. Government can subsidize these costs to encourage the firms to attend the seminars and represent Bangladesh which will be a positive side for the image of the smart phone application sector of Bangladesh.

4.   Conclusion

In this era of technological advancement every nation is investing to get the most of it. RMG has been the engine of Bangladesh economy for ages and it is time to concentrate on something new. Considering the supply and demand, smart phone application development sector deserves to be the next thrust industry in the IT sector of Bangladesh. If government shows genuine interest, there are investors to pour money into this sector and assist it to be a driving force. Bangladesh has the workforce and infrastructure to sustain but not enough to excel and this has been one of the focal points of this report. International brands like Samsung, Nokia, and Microsoft are now

interested in opening R&D centers in Bangladesh. Samsung has already opened a R&D center which now employs around 300 IT personnel and plans to bring this number up to 500 by December 2018. Constructive and well-coordinated efforts are required in order to meet this type of growing demand and to achieve a supreme position in this industry. Government has already recognized this smart phone application development sector as the next thrust and has included it in the export policy. From all the information that has been received from the focus group discussion and interview of the employees it has been found that not only the sector has the potential to be the next thrust sector but also it will provide attractive job prospect for the workforce and will contribute highly to the economy.

References

Bangladesh Computer Samity. (n.d.), "Opportunities of ICT Business of Bangladesh.", http://www.bcs.org.bd/opportunities.htm, October 5, 2014.

Go test go. (2010), "Cell phone applications", http://www.gotestgo.com/cell_phone_applications.html, October 19, 2014.

How staff works. (2010), "Smartphone", http://electronics.howstuffsworks.com/smartphone.htm, October 1, 2014.

Sustainable Development Networking Program Bangladesh. (n.d.), "Prospect of IT in Bangladesh", http://www.sdnbd.org/sdi/issues/IT-computer/Prospect%20of%20IT%20in%20Bangladesh.htm, November 5, 2014.

The Daily Star. (2010)., "Bangladesh IT industry going global", January 6, 2010, http://www.thedailystar.net/newDesign/news-details.php?nid=120615, November 5, 2014.

Webopedia. (2010), "The Difference Between a Cell Phone, Smartphone and PDA", http://www.webopedia.com/DidYouKnow/Hardware_Software/2008/smartphone_cellphone_pda.asp, October 4, 2014.

What Makes a Smartphone Smart?. (2010), "What Makes a Smartphone Smart", http://cellphones.about.com/od/smartphonebasics/a/what_is_smart.htm, September 20, 2014.

Endnote

[i] *Business apps*: Business apps include apps used for our daily routine stuff management, like email agent, document viewer, document editor, personal organizer, different types of computing programs, presentation maker and apps used for different purposes of business, like financial manager apps, etc. These apps are created for and used by mainly business people, who need to work anywhere, anyplace.

Entertainment apps: Right now, the most popular aspect of mobile apps is in apps for entertainment. Different types of games, audio and video players and other entertainment applications are the most downloaded apps, because they offer enjoyment in remote places like waiting rooms, bus stops or during long trips, and they are very much user friendly. There are apps that allow you to download songs from online music stores, or to play networked games by synchronizing with other phones.

Miscellaneous apps: Outside the above-mentioned categories, there are various types of apps serving widely spread purposes. There are learning apps like SAT tutorial, vocabulary tools and such that help people in educational prospects. Again, there are apps that play a great role in the medical sector by helping people in monitoring their health. Apps can be helpful in keeping track of heartbeat and consulting doctors accordingly, or monitoring blood sugar level of diabetic patients.