



DOI 10.2478/sbe-2019-0007

SBE no. 14(1) 2019

ELECTRONIC COMMERCE TOWARD DIGITAL BANGLADESH: BUSINESS EXPANSION MODEL BASED ON VALUE CHAIN IN THE NETWORK ECONOMY

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Abstract:

The purpose of this research paper is to study the present status of e-commerce industry in Bangladesh and finding out comprehensive model based solution for the expansion of the sector spreading e-commerce all over the country. SWOT analysis has been conducted and business expansion model has been developed from the data generated from surveying to the reputed e-commerce business organizations and customers of e-commerce. Primary data has been collected from the top level management of e-commerce business organizations and e-commerce customers as interviewees while secondary data have been collected from Bangladesh Telecommunication Regulatory Commission reports, relevant literature etc. This study identifies that e-commerce intermediation and channel conflict are the great problems in case of e-commerce business expansion that increases the price level of the products and services but can not reach mass people outside the mega cities as Dhaka. That is why a value chain based business expansion model has been proposed to reach the mass people of Bangladesh for inclusive e-commerce through e-commerce agent. The study will provide insights to the policy makers to work with e-commerce business expansion in the process of digitization of Bangladesh.

Key words: Debit card, Credit card, B2B, C2C, Agent banking

1. Introduction

Electronic commerce refers to buying, selling or transmitting data of goods and services over electronic network. It has become popular over the years due to getting the services from home or office with comfort to shop (Andam et al., 2003; Nanekaran, 2003). As Bangladesh is in the process of digitization some selected segments of the Bangladeshi

business community has embraced technology with reasonable success in spite of having a developing country (Hossain, et al., 2013; Hossain, 2000). These positive indicators are favorable for the prospects of e-commerce in Bangladesh.

E-commerce industry generates revenue from products selling commission, delivery charge, product selling profit, restaurant commission, etc. (UNCTAD, 2015) Both supervisor as manpower and software are used as monitoring system. Generally, own vehicle, own manpower, third party involvement etc. are required to maintain delivery channel. Delivering goods all over Bangladesh has not been possible yet for most of the e-commerce business organizations although e-commerce is an internet based business. E-commerce business organizations are mainly dependent on getting feedback regarding customer satisfaction through website rating and facebook review. Popular marketing strategies for e-commerce industry in Bangladesh include facebook, campaign, fest participation, attractive offers, print media, offline campaign etc.(Almeida, 2007). Although e-commerce industry in Bangladesh has huge potential but this industry is facing some core problems such as differences between real products and displayed products at e-commerce site, delay on delivery to customers, lack of reliabilities and relevance, inconvenient return policies, payment options are still limited, limited cash on delivery option etc.(Chavan, 2013).

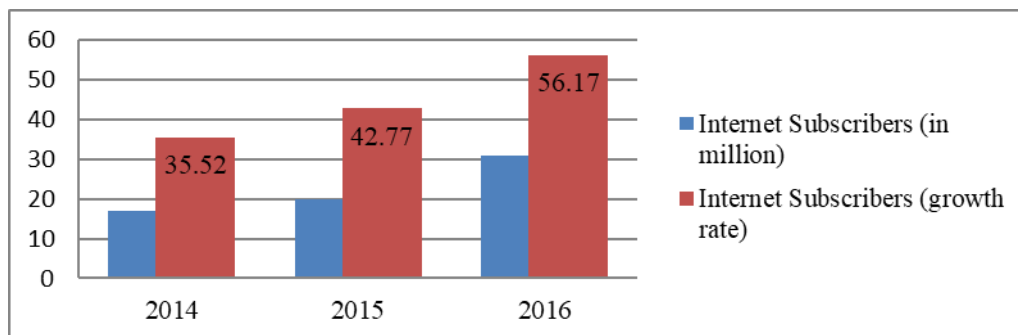


Figure 1: Internet subscribers and internet subscribers' growth rate

According to monthly BTRC reports on internet subscribers in Bangladesh (February 2012-January 2016), internet subscribers were 30.48 million, 35.52 million, 42.77 million and 56.17 million in 2013, 2014, 2015 and 2016 respectively. Internet subscription growth rates were 17%, 20% and 31% in 2014, 2015 and 2016 respectively. Besides, currently annualized volume of e-commerce is estimated at USD 50 million with seasonality peaks during yearly religious festivals according to IBIS World. Above mentioned statistics shows that e-commerce has huge potential in Bangladesh if it can reach to the mass people with proper delivery channel.

This research paper has identified that E-commerce channel conflict arises when manufacturers sell products at lower price than wholesalers or retailers. In this regard, customers are purchasing products with higher price charged by retailers and wholesalers. Manufacturers are not been able to sell products directly at reasonable price as they are dependent on wholesalers and retailers as delivery channel. That is why, manufacturers have to be stronger enough to sell products directly to the customers at reasonable price.

In this research paper, e-commerce agent has been proposed which will support the manufacturers to sell products all over the country at reasonable price with direct involvement of manufacturers through e-commerce agent booth. Due to minimum barriers to entry many individuals are just opening webpage and starting e-commerce businesses that stimulate fraudulent activities threatening trust and confidence in e-commerce customers. E-commerce agents will be reliable business platform that will build trust and confidence in e-commerce customers with physical existence (Bhattacharjee, 2002). The revenue source of e-commerce agents will be the commission generated from selling products of multiple manufacturers through a common e-commerce agent.

Review of several relevant literatures show that most of the research papers are based on problems and prospects of e-commerce industry in Bangladesh but these rarely show the proposed solution. Mohiuddin (2014) in his study did not generate adequate data or model due to the limitation of unwillingness of e-commerce websites to provide information but this research paper has conducted SWOT analysis through interviewing to the e-commerce websites. Besides, an unique model based solution has been proposed in this research paper.

2. Rational of the Study

Bangladesh is in the process of digitization where it seems a big challenge to include the mass people in this process who are staying outside mega cities. E-commerce can play vital role in this regard through reaching to the mass people in remote areas and districts far from capital Dhaka. E-commerce seems concentrated in some specific crowded districts which is not adequate for acceleration of digitization of Bangladesh. That is why it is highly required to expand the e-commerce in both the urban and rural areas (Molla & Hecks, 2007). Besides, excessive dependence on facebook commerce seems vulnerable for e-commerce industry in long run. In this research paper, a business expansion model based on value chain has been developed so that e-commerce can reach to mass people in the network economy.

3. Objective of the Study

- To identify the strengths, weaknesses, opportunities and threats of e-commerce industry in Bangladesh.
- To identify core problems of e-commerce industry in Bangladesh
- To generate idea for ensuring availability of product at reasonable price minimizing channel conflict
- To develop a comprehensive business expansion model of e-commerce to reach the mass people
- To recommend some measures for the advancement of e-commerce toward establishing an inclusive digital Bangladesh

4. Research Methodology

The research is empirical in nature where both theoretical and numerical analyses have been used. Primary data have been collected from top level management of four e-commerce businesses named kaymu.com, daraz.com, hungrynaki.com and iferi.com. Besides, 200 customers of e-commerce surrounded in Dhaka city and outside Dhaka city have been surveyed. Secondary data have been collected from BTRC reports, internet browsing, books, journals and relevant research papers. Purposive sampling has been used to conduct the survey to e-commerce customers with structured questionnaire (Kothari, 2001). Data have been analyzed using Microsoft Excel and presented in logical and simple form (Saunders et al., 2009).

5. Limitation of the Study

As there are few popular e-commerce sites in Bangladesh, four e-commerce businesses have been visited to generate primary data. Besides, Ministry of Commerce and Industry and related regulatory bodies are reluctant to provide sufficient data of e-commerce. In this research paper, it was not possible to mention the amount of total revenue generated from e-commerce industry due to lack of information.

6. Literature Review

Ahammad et al. (2017) have identified that Bangladesh has to take drastic measure promptly to take active part in adopting e-commerce technology for the advancement of the nation. Bhowmik (2012) has concluded that B2C e-commerce can never be deployed properly if Credit Card Gateway and Electronic Fund Transfer Gateway have not been established to enhance the e-transactions and eliminate the security issues. Hossain et al. (2013) have proposed a solution that merchants require to ensure the platform for customer data retention and employing strong encryption of payment processing to overcome the problems of electronic payment issues and poor network connectivity. Mohiuddin (2014) has identified that reforming the country's commercial and financial procedures and liberalizing the information technology and telecom sectors are the prerequisites of successful implementation of e-commerce in Bangladesh. Khan (2016) has found that e-commerce will flourish easily making run out of traditional business when internet cost will be low.

7. Analysis and Findings

As generating data of total e-commerce transactions in amount is difficult in Bangladesh, only secondary data of e-commerce transactions through banking channel has been found from authentic sources (Al-Amin & Rahman, 2010). Besides, to have a through idea regarding e-commerce industry in Bangladesh both the e-commerce customers (200 respondents) and e-commerce businesses (four major e-commerce websites) have been surveyed.

7.1 E-commerce Transactions through Banking Channel

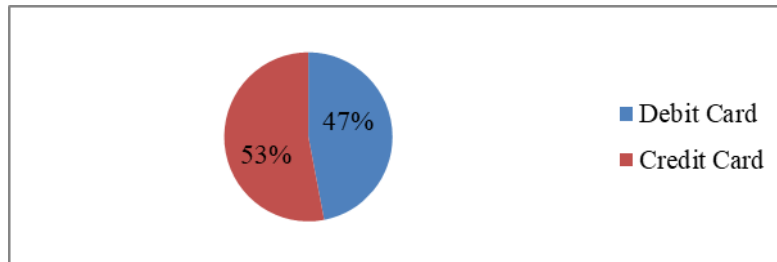


Figure 2: Local transaction of e-commerce through banking channel

Above mentioned figure (Figure 2) has been depicted from the local transaction data of e-commerce generated from Bangladesh Bank Statistics. It has been found that total amount of local transaction was Tk. 89.6 crore through debit card and credit card in from January to march 2017. No transactions of e-commerce was conducted through State Owned Commercial Bank and Specialized Bank. E-commerce transactions amounting 38.9 crore and 31.5 crore have been made through debit card and credit card respectively under Private Commercial Banks. Besides, e-commerce transactions amounting 3.2 crore and 16 crore have been made through debit card and credit card respectively under Foreign Commercial Banks.

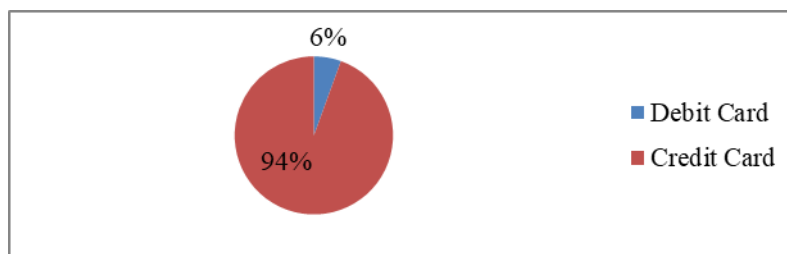


Figure 3: Abroad transaction of e-commerce through banking channel

Figure 3 of above has been depicted from the abroad transaction data of e-commerce generated from Bangladesh Bank Statistics. It has been found that total amount of abroad transaction was Tk. 91.7 crore through debit card and credit card in from January to march 2017. No transactions of e-commerce was conducted through State Owned Commercial Bank and Specialized Bank. E-commerce transactions amounting Tk. 1.1 crore and Tk. 81.3 crore have been made through debit card and credit card respectively under Private Commercial Banks. Besides, e-commerce transactions amounting Tk. 4 crore and Tk. 5.3 crore have been made through debit card and credit card respectively under Foreign Commercial Banks.

7.2 Perceptions of the E-commerce Customers

Around 200 customers of e-commerce have been surveyed with structured questionnaire. From the survey, it has been found that age limit of frequent buyers through

e-commerce is from 22 years to 30 years. Most of them are students. Main problem faced during shopping through e-commerce is quality problem and dissimilarities with the picture in the website. Expectation as user friendly approach is mainly cash on delivery. bikroy.com seems the most popular e-commerce business in Bangladesh according to the respondents. Generally, the users of e-commerce purchases products through e-commerce once a month.

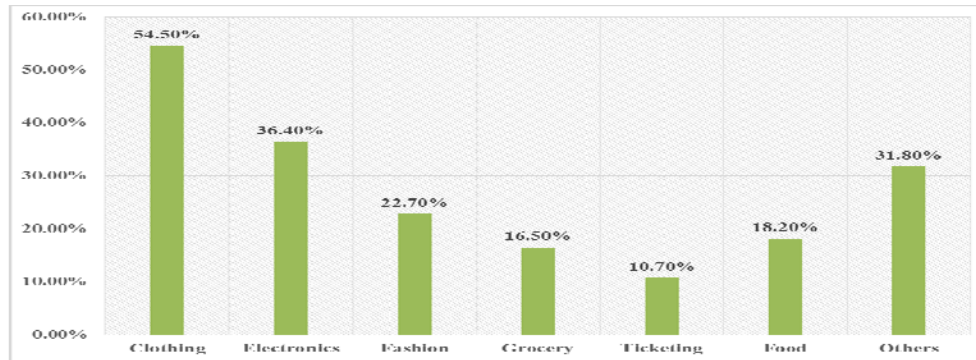


Figure 4: Preferred types of products through e-commerce

From the survey, it been found that most preferred types of products through e-commerce are Clothing (54.5%) and Electronics (36.4%) as majority of the respondents purchases these types of products through e-commerce. Least portion of the respondent purchases tickets through e-commerce whoever e-ticketing in drastically increasing in recent years.

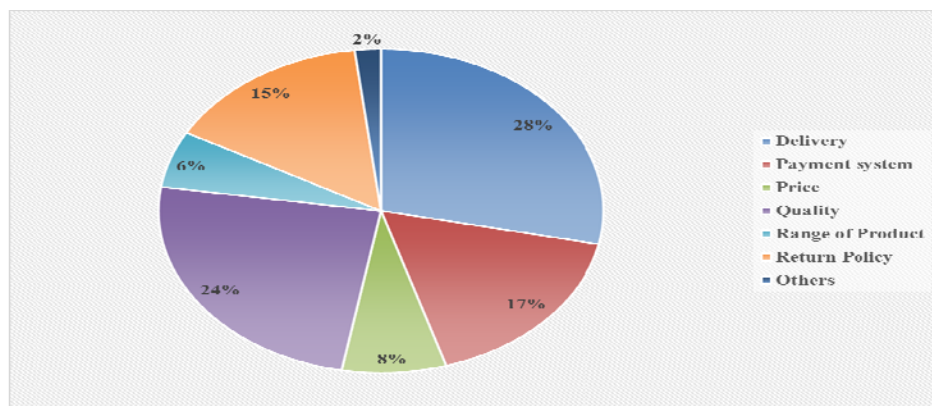


Figure 5: Factors Affecting Customer Convenience

Customer inconvenience is mainly being generated from delivery issues (28%) and quality issues (24%). Besides, return policy and payment issues are also significant to ensure customer convenience. Price issue gets preference of 8 percent customers only because they can compromise price against quality product and prompt product delivery.

7.3 Perceptions of the E-commerce Business Organization

From the feedback of the management generated from interview in four popular e-commerce business organizations named kaymu.com, daraz.com, hungrynaki.com and iferi.com following SWOT analysis can be conducted regarding e-commerce industry in Bangladesh:

Table 1: SWOT Analysis

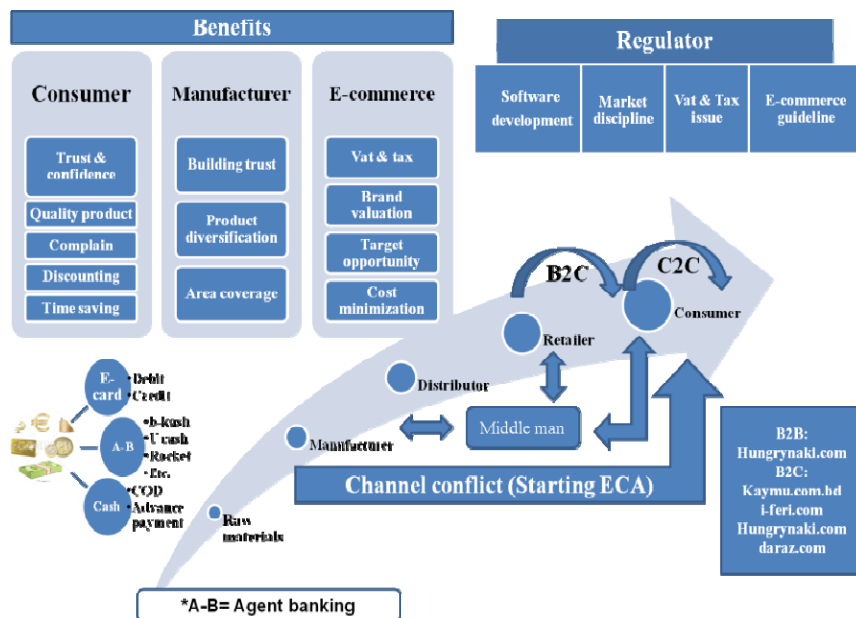
Strength High quality products (iferi.com) Maintaining words (iferi.com) 100% indigenous capital (Hungrynaki.com) Recognition: ICT Award for e-commerce (Hungrynaki.com) Free return policy(daraz.com) User friendly approach: own application (daraz.com) Global reputation (kaymu.com) Business model: Rocket Internet (kaymu.com)	Weakness Insufficient marketing activities (iferi.com) Small customer size (Hungrynaki.com) Problem of maintaining huge management (daraz.com) Time management problem (kaymu.com)
Opportunities Lots of areas to work yet for business development (iferi.com) Smaller domain of competitors(hungrynaki.com) Strong dominance in e-commerce industry to be the market leader (daraz.com) Potential for exploring new fields with diversification of products (kaymu.com)	Threats Bad image for e-commerce due to fraud Seller of similar products (iferi.com) Low Entry barrier (iferi.com) Sudden closing of restaurants (hungrynaki.com) Insufficient internet access (daraz.com) New international e-commerce site entrance (kaymu.com)

7.4. Proposed Vibrant E-commerce Development Model

Following business expansion model has been developed considering the impediments of e-commerce business expansion generated from interviewing e-commerce business organizations and e-commerce customers.

1. Middle man or e-commerce intermediary is a problem for both the manufacturer and e-commerce customers. It creates problem for both the parties increasing price level outside mega cities (Ohidujjaman, 2013). But physical existence of any booth can build trust and confidence in the mind of e-commerce customers (Ohidujjaman, 2013). That is why proposed model suggests introducing E-commerce Agents in stead of Middle man. Middle man will not be abolished in the model rather they will be encouraged to be converted into e-commerce agents.
2. Due to channel conflict in e-commerce retailers or wholesalers will not sell the goods of the manufacturers if they can not make profit charging higher price than manufacturer. In the proposed model price of product will remain same whether it will be purchased from manufacturer or e-commerce agent.

3. If E-commerce agents have booth all over Bangladesh and manufacturers directly supply products according to orders through e-commerce agents it will minimize the cost of establishing and maintaining showroom in remote places in all the districts for both the branded and non branded goods where establishing and maintaining showrooms seems costly.
4. If E-commerce agents are introduced than manufacturers will not require establishing costly showroom outside crowded districts like Dhaka. Rather they will be able to sell products through the agents directly according to the order received from secured webpage. In every booth there will be facility of viewing different products through big projectors and touch screens so that customers can review and select suitable products and services through physical visit to make order. There may be three menus called story, technology and buzz for each products. From story menu customers will know about the background of the product. From technology customers can be informed about the technology that has been used to produce the product. Customers can view the comments of the users of the product from social networking with the option of buzz. There may have the option to e-mail several designs of products to friends and relatives to get more order and selection of products. Besides, some popular sample products can be displayed at the booth of e-commerce agent. Agents will collect the ordered products from the manufacturers and supply to the customers as soon as possible. Besides, manufacturers will supply the ordered products and services generated from their own secured webpage through e-commerce agents to the remote areas or outside crowded mega districts where showrooms are not available but there is demand



for the product or service. E-commerce agent will get some commission and solve the issues of courier, return policy, customer service etc. as per instruction and support of the manufacturer (Almeida, 2007).

5. In Bangladesh, e-commerce business does not require to pay tax to the government. That is why; both the manufacturer and the e-commerce agent will sell goods at same price according to the proposed model. It will be possible maintaining adequate profit because manufacturer will not require to pay tax to the government on sales to customers. Manufacturer will be able to give some commission against sales as it will be able to cut down the cost of selling the product through their own showroom or intermediary as retailer or wholesaler. As commission of e-commerce agent will depend on the quantity sold only it will minimize huge fixed cost of maintaining showroom by the manufacturer to cover whole country.
6. As manufacturer will be directly related with e-commerce agent to ensure customer satisfaction providing quality goods at reasonable price it will build up trust of customers toward the manufacturers due to having physical existence in the locality. Besides, it will be possible to offer diversified products to diversified people as the area coverage will be expanded from urban areas to rural areas (Bhattacharjee, 2002).
7. There will have no impact of tax on price level of products as manufacturer will get tax advantage. This model will spread brand image to mass people with vast opportunity of business expansion. Besides, cost of doing business with e-commerce transaction will significantly reduce. It will not be feasible to abolish manual showroom or taking support from retailer or wholesaler to reach mass people in densely populated urban areas as Dhaka. E-commerce agent based model will be supporting mechanism to expand the business besides manual business mechanism that will require middle man and showroom at different crowded districts.
8. Under the proposed model, branded goods such as Catseye, Richman, Raymond etc. will also be sold through e-commerce agents. Besides, some products will have guarantee and warranty where applicable. That is why consumers will get trust and confidence of getting quality products. E-commerce agents will support to manage complaints of customers and they will collect the products for the customers in remote areas or districts where physical showrooms are not available for the product to save the time of the customer. Manufacturer can offer discount if average production cost and administrative cost becomes lower due to high demand and supply in that particular area.
9. As agent banking has been started in Bangladesh, with other payment methods such as debit card, credit card, b-kash, rocket, Q-cash, COD, advance payment etc. it can also be introduced to make payment for purchasing through e-commerce in remote areas (Sagar & Chowdhury, 2014; Uddin & Akhi, 2014).
10. Concerned regulators of e-commerce industry have to take prompt actions regarding advanced software development, ensuring market discipline, VAT and Tax issues and establishing and implementing proper e-commerce guideline as there are some lacking regarding structured legal issues of e-commerce in Bangladesh (Ministry of Commerce, 1997; Ministry of Commerce, 2000).

7.4.1 Unique Propositions of the Proposed Model:

1. From the existing Surf –and Turf e-business model, it has been found that prices offered by the manufacturer or retailer or wholesaler vary significantly due to the attitude of profiteering and lack of uniformity in prices. Besides, customers do not have confidence on price against quality as there is no connection between the manufacturer or trader and customer. There is no authority as well to justify the price gap or spread. Hence, customers are the victims. Besides, some e-commerce sites are doing business at the urban areas only where majority portion of the people are living in rural areas. E-commerce booths will be established in that rural areas to reach the mass people and delivering goods and services at reasonable prices without any discrimination to rural people. If there is any problem for making payment by rural people, e-commerce agent can physically help them to make financial transactions. Payments can be made to the manufacturer or trader through e-banking channels such as, debit cards, credit cards, B-kash etc. Besides, agent banking booths can be used to make account to account transfer or depositing cash in the account of manufacturer or trader as convenient payment system against goods and services. Deposit slips can be the proof of payment by the customer.
2. Under the proposed model, there will be opportunity for applying tax rate in long run under a centralized platform of government as existing waiver of e-commerce from tax is good only in initial phase of its development. It has to be taxed as e-commerce has become an important part of the commerce in Bangladesh. If Value Added Tax of 15% is applied for e-commerce transactions government may earn around Tk. 53.76 crore (Tk.89.6 crore x0.15x4) from only local transactions per year.
3. E-commerce agents will get commission against sales. As manufacturers or traders need not to incur cost of maintaining showroom in remote areas, it can be a cost cutting advantage for the manufacturer or trader that can be the source of revenue for e-commerce agents. A particular agent will get commission from several manufacturers or traders as it will sell different products offered by them from one centralized agent booth. Some newly arrived sample products can be shown physically in the agent booth for the convenience of the customers.
4. It has been observed from the experience of e-commerce that there is huge price gap between the price offered by the manufacturer or trader and price offered by the retailer or wholesaler or any other delivery channel. Under the proposed model, there will be a uniform price for purchasing from manufacturers or traders and another uniform price for purchasing from e-commerce agents. Besides, both the prices will be shown in the e-commerce website of the manufacturer or trader. Hence, there will be no option of price manipulation through intermediation by multiple traders to be involved in profiteering.
5. To maintain discipline and proper tax collection in long run, central government based application has been proposed so that central government can exclude any e-commerce site if required.

6. As there will be direct communication between manufacturer or trader and agent without any further intermediary there will be no chance of difference between real products and displayed products in website. Timely delivery will be ensured as products will be send directly from manufacturer or trader to agent only. Lack of reliability on e-commerce business will be minimum due to having physical existence of agent booths near customers for complaint management and convenient return policy.
7. According to the data of The World Bank, as 66 percent people are rural population in Bangladesh as of 2015, a huge portion of potential customers are beyond the reach of e-commerce in existing e-commerce mechanism (The World Bank). E-commerce agents will reach to these potential customers to develop inclusive e-commerce industry in Bangladesh. Quantity of sales will definitely increase taking support from e-commerce agents to make order or learning the way of making own order own self.

8. Conclusions and Recommendations

It has been found that clothing items (54.5%) are preferred products in case of e-commerce where it is required to have branding with real product image in the respective e-commerce webpages. Around 36 percent customers prefer to purchase electronic items through e-commerce where guarantee and warranty issues need to be settled promptly to build customers' trust. Customer convenience of 28 percent e-commerce customers depends on delivery issues where 24 percent customers prefer quality issues in this regard. It is needed to develop trained manpower for management and delivery purposes. Incentives can be introduced to compensate delay delivery issues. Besides, making profit with high quality products at reasonable price is urgent need. To implement the proposed e-commerce business expansion model, a comprehensive regulatory guideline has to be developed for ensuring market discipline where cyber security issues will get preference and the middlemen or intermediaries will be encouraged to be converted into e-commerce business. A central government based application or platform can be developed which will include almost all the e-commerce sites of Bangladesh with category of products having almost all the payment options so that customers using only this one app can get all the information. A regulation committee from the government side connected to the central app to ensure the market discipline and customer complains can be introduced. E-commerce websites need to be translated in to Bengali besides having English option to reach mass people and to be more user friendly. There should have the option of 24/7 customer care and option of real time feedback from customers regarding products to implementing them.

Acknowledgements

I would like to acknowledge the support of Mr. Md. Ashfaq Uddin, Mr. Zawad Abedin, Mr. Nasir Ahmed Siddiquie, Ms. Musrat Jahan and Ms. Sabiba Khaled for conducting excellent survey and interview with me. Besides, I also thank Mr. Sukanoto Halder for his support in e-commerce model development. I specially thank Mohammad Ziaul Islam for his contribution in the research paper as Research Assistant.

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