E-COMMERCE IN INDIA: GROWTH, PROSPECTS AND CHALLENGES

What is E-Commerce?

E-commerce means sale or purchase of goods and services conducted over network of computers or TV channels by methods specifically designed for the purpose. Even though goods and services are ordered electronically, payments or delivery of goods and services need not be conducted online. The bookings done through electronic communication could be Business to Business or Business to Consumer. Business to Business i.e. (B2B) is e-commerce between businesses such as between a manufacturer and a wholesaler or between a wholesaler and a retailer. As per a WTO report, global Business to Business transactions comprise 90% of all e-commerce.

Business done electronically between manufacturers/wholesalers/retailers and consumers for purchase or sale of goods and services is known as Business to Consumer (B2C) e-commerce. This type of e-commerce is generally what a common person has in mind when we talk about e-commerce business. Some of the popular examples of B2C e-commerce websites include amazon.com, flipkart.com, ebay.com, etc. Over 70% of all B2C e-commerce transactions in India are travel related. The non-travel B2C segment is E-tailing that focuses only on trading in goods (merchandise) such as electronic items and personal items like apparels, jewellery, etc., and is one of the fastest growing components of e-commerce.

There are several variants in B2C model that operate in e-commerce arena. From the point of view of business, there are two models of e-commerce. First model is known as 'Market Place' model, which works like exchange for buyers and sellers. The 'Market Place' provides a platform for business transactions between buyers and sellers to take place and, in return for the services provided, earns commission from sellers of goods/services. Ownership of the inventory in this model vests with the enterprises which advertise their products on the website and are ultimate sellers of goods or services. The 'Market Place', thus, works as a facilitator of e-commerce. Different from the Market Place model is the second category of business known as 'Inventory Based' model. In this model, ownership of goods and services and market place vests with the same entity.

This model does not work as a facilitator of e-commerce, but is engaged in e-commerce directly.

Some other variants of e-commerce are: Consumer-to-Consumer (C2C) which involves transactions between and among consumers. For example, many sites, such as, sulekha.com, olx.in, etc. offer forums where individuals can buy and sell. Mobile Commerce (M-commerce) essentially involves use of mobile phones to do online transactions.

Status of E-Commerce in India

Some key statistics relating to the growth of the e-commerce sector in India are as follows:

- E-commerce market in India is growing at the rate of 34% compound annual growth rate (CAGR) since 2009. The market is expected to reach US$ 15 billion by the end of 2014.

- Online travel segment contributes to 71% of the total e-commerce industry in India.

- E-tailing is the largest and the fastest growing category in the non-travel segment of e-commerce constituting 16% of the total share in e-commerce in 2012.

- E-tailing captures less than 1% of the retail pie in India which is very low as compared to 6% in China and 5% in the USA.

- Internet penetration in India is abysmally low at 11%, internet penetration of 25% will be a tipping point for e-commerce growth in India.

The employment potential of e-commerce in India, both direct and indirect, is huge. Another significant aspect related to e-commerce has been the increasing participation by small and medium enterprises either as service suppliers or consumers. The Internet has opened many business opportunities to small and medium-sized suppliers in many countries, including in India. It has also helped in stimulating entrepreneurial activities across the globe. In India also, as the availability and penetration of Internet has increased over the years, many e-commerce companies have come into existence to serve the consumers. The growing e-commerce industry is also having positive spillover effect on associated industries such as logistics, online advertising, media and IT.

Although many factors support the growth of e-commerce in India, the fledgling industry is faced with significant hurdles with respect to infrastructure, governance and regulation. Low internet penetration of 11 per cent impedes the growth of e-commerce by limiting the internet access to a broader segment of the population. Poor last mile connectivity due to missing links in supply chain infrastructure is limiting the access to far flung areas where a significant portion of the population resides. High dropout rates of 25-30 per cent on payment gateways, consumer trust deficit and slow adoption of online payments are compelling e-commerce companies to rely on costlier payment methods such as Cash on Delivery (COD).

In India, the B2C e-commerce comprises only 10% of all e-commerce transactions; and out of that, over 70% of all consumer e-commerce transactions in India are travel related, comprising mainly of online booking of airline tickets, railway tickets and hotel bookings. The biggest players in the travel category are Makemytrip.com, Yatra.com and the IRCTC website for railway bookings. Non-travel related online commerce comprises 25-30 per cent of the B2C e-commerce market. The unfettered growth of online travel category has been possible because the regulatory and infrastructure issues do not impede its growth. Also, it does not face the infrastructure challenges since the goods need not be transferred physically.

Expansion of E-Commerce : Role of Cloud Computing and Data Centres

The cloud computing (see Box-1) and mobile applications are critical aspects of the expanding e-commerce business in recent years. The cloud is essentially a network of remote servers which enables companies to store, manage and process data and use programmes through a web-based interface. The data and programmes stored in the cloud can be accessed from anywhere through various devices with web connectivity, which is an advantage for small companies who don't have a huge IT budget.

Box-1
Cloud Computing

Cloud computing is computing in which large groups of remote services are networked to allow the centralized data storage, and online access to computer services or resources. Cloud computing may be public as well as private.

A recent Gartner Report has indicated that the public cloud services (see Box-2) market in India is on pace to grow at 32.2 per cent in 2014 to total US$ 556.8 million, an increase from 2013 revenue of US$ 421 million. Spending on Software-as-a-Service (SaaS) will total US$ 220 million in 2014, growing at 33.2 per cent compared to last year. SaaS is the largest overall cloud market segment, followed by Infrastructure-as-a-Service (IaaS) totaling US$ 78 million and Business Process-as-a-Service (BPaaS), totalling US$ 75 million.

Box-2
Types of Cloud Services

- Infrastructure-as-a-Service (IaaS): Cloud service providers offer customers virtualised and scalable storage, computing and network resources, which can be provisioned/de-provisioned and made available on a pay-per-use basis.
- Platform-as-a-Service (PaaS): Cloud service providers offer customers development platforms or middleware to create applications that can be deployed on a public or private Cloud.
- Software-as-a-Service (SaaS): Cloud service providers offer customers applications that are delivered over the internet and are enabled for multi-tenancy to support multiple clients.
- Business Process-as-a-Service (BPaaS): The service provider delivers outsourced solutions for business processes to customers over the internet.

Many reports suggest that for the 50 million or so startups and small businesses in India, cloud computing is set to be a game changer. Already, the number of small businesses in India using Google Apps, a cloud hosting service, has grown by 70 per cent in the past years. Historically, small companies had poor tech choices—they could either use expensive software designed for large companies or inexpensive software lacking functionality. Today, cloud is levelling the playing field. The potential for India is huge. India is home to around 47 million small businesses, yet only 1 per cent are online. Google isn't alone in the opportunistic pursuit of India's cloud potential. Microsoft, an entrenched player in the Indian market, is using some innovative initiatives to tap the small business segment. Recently, the software giant announced a trade-in scheme for small enterprises to exchange their used personal computers for credits to use the company's cloud-based Windows Azure platform.

India is also bound to witness a huge growth in data centre operations owing to the strong demand for cloud computing services. In a National Association of Software and Services Companies (NASSCOM) study, it has been indicated that Indian cloud computing market would reach US$ 16 billion by 2020. Of this market, data centres are experiencing a rapid growth and likely to grow at a rate of 22 per cent per year. The major sectors affecting the growth of data centres in India are: Banking & Financial Services Industry (BFSI), Telecom, IT and Social Media. Other factors impacting the growth of data centres in India include:

- Government's e-governance policy: Creation of State Wide Network; National Informatics Centre (NIC); State Data Centres.
- New initiatives of the Government like Digital India, smart cities and the Jan-Dhan financial inclusion schemes which offer significant opportunity for hosting data and cloud services.
- Reduction of bandwidth cost.

Despite this, none of the large cloud computing companies, including Amazon, Google and Microsoft, has so far built a local data centre. Microsoft has 13 data centres globally to serve its cloud services while Amazon

has 8 and Google 12. In Asia, all three companies have data centres in Singapore, but none in Mainland China or India. Unpredictable power supply, patchy internet connectivity, limited bandwidth and unreliable optical fibre connectivity between different parts of the country have so far prevented these companies from setting up data centres in the country. However, with cloud adoption increasing rapidly, this is set to change.

Recent newspaper reports state that Microsoft may become the first MNC to set up cloud data centres in India. Currently, the company offers cloud computing services to Indian customers through its global data centres. The Reserve Bank of India's guidelines prohibit storing any customer data outside India, which limits cloud adoption by financial services companies. This could be one reason why Microsoft is looking at setting up data centre in India.

Existing Regulatory Framework for E-commerce in India

The mandate of the Department of Electronics and Information Technology is to deal with all matters related to information technology, electronics and internet (except licensing of service providers) and also to provide assistance to other departments in the promotion of e-governance, e-commerce, e-medicine, e-infrastructure, etc. However, it does not specifically talks about regulating e-commerce activities in India.

As per the extant FDI policy, FDI up to 100%, under the automatic route, is permitted in B2B e-commerce activities. However, the extant FDI policy does not permit FDI in B2C e-commerce. In other words, retail trading in any form, by means of e-commerce, would not be permissible for companies with FDI engaged in the activity of single brand retail trading or multi-brand retail trading.

The Information Technology Act, 2000 provides legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication, commonly referred to as "electronic commerce", which involves the use of alternatives to paper-based methods of communication and storage of information, to facilitate electronic filing of documents with the Government agencies. Then there is the Consumer Protection Act, 1986. Though, nothing in this Act refers explicitly to e-commerce consumers, it provides for regulation of trade practices, creation of national and state level Consumer Protection Councils, consumer disputes redressal forums at the national, state and district level to redress disputes and, for recognized consumer associations, to act on behalf of the consumers. The Act provides a detailed list of unfair trade practices, but it is not exhaustive.

The legal requirements for undertaking e-commerce in India also involve compliance with other laws like Contract Law, Indian Penal Code, etc. The Information Technology (Intermediary Guidelines) Rules, 2011 prescribe stringent liabilities for e-commerce websites to ensure privacy protection, data protection, data security, cyber security, confidentiality maintenance, etc.

As far as online payment system under e-commerce in concerned, the Department of Payment and Settlement Systems (DPSS) of the RBI regulates various payment systems operating in the country in the following manner:

(i) Online shopping in India involves compliance with the banking and financial norms as laid by the RBI. For instance, take the example of PayPal *(see Box-3)*. If PayPal has to allow online payments (receipt and disbursements) for its existing or proposed e-commerce activities, it has to take a license from the Reserve Bank of India (RBI) in this regard.

(ii) The RBI regulates electronic payment systems such as card not present transactions *(see Box-4)* that enable e-commerce.

(iii) The RBI has also issued directions for opening and operation of accounts and settlement of payments for online payment transactions involving intermediaries. This is with a view to safeguarding the interests of the customers and to ensure that the payments made by them using online payment modes are duly accounted for by the intermediaries receiving such payments and remitted to the accounts of the merchants who have supplied the goods and services without undue delay.

Box-3
PayPal

PayPal is an American international e-commerce business allowing payments and money transfers to be made through the Internet. Online money transfers serve as electronic alternatives to paying with traditional paper methods, such as cheques and money orders.

It is worth noting that legal issues of e-commerce in India are different for different categories of e-commerce. For instance, electronic trading of medical drugs in India requires more stringent e-commerce and legal compliances as compared to other e-commerce activities.

Box-4
Card Not Present (CNP) Transactions

CNP transaction is the terminology used by the RBI to describe transactions made without actually swiping the card but using details given on the card. The RBI has made the second factor authentication, a one-time or permanent password, mandatory for CNP transactions in India.

Emerging Challenges and Constraints

The regulatory framework for e-commerce is in its evolving stage in India. There is no dedicated nodal regulator for governing e-commerce activities in India. E-commerce activities are subject to a number of regulations spreading across various departments/ministries/regulatory bodies of the Government of India. In such situation, co-ordination among various agencies and fixing responsibility and accountability among them becomes problematic.

Broadly, two types of challenges are being faced by the e-commerce industry in India today. These are related to: (i) governance and regulatory issues; and (ii) infrastructural issues, both 'hard' and 'soft' infrastructure related issues. These have been discussed below:

Governance Issue

The growth of e-commerce and the multi-jurisdictional nature of e-commerce transactions raise fundamental questions about the way our taxation and administration

work. Traditionally, businesses were required to register under sales tax laws in order to be identified as a legal person for tax compliance. Each State has its own taxation framework and the States collect taxes based on the permanent establishment in their respective taxable jurisdictions. E-commerce is not territorially bound and is incompatible with a territorial definition of permanent establishment. With the advent of e-commerce, enterprises can set up business in the cyber-universe and assume virtual identities, thereby making it difficult for tax authorities to attribute income to an appropriate virtual entity especially for intangible goods. The land-and-water boundaries make it difficult to identify the rightful authority that should tax e-commerce transactions. To add to this, 'unregistered' enterprises exploit the definition of permanent establishment to their advantage in order to evade taxes. Further, due to difference in taxes across States, e-commerce enterprises set up warehouses in cities where taxes are lower.

Regulatory Issue

As per the extant FDI policy, FDI is not permitted in B2C e-commerce[1]. But 100% FDI is permitted under automatic route in B2B e-commerce. Research indicates that an estimated 70% to 80% of e-commerce companies are on life support and in dire need for funds. But faced with a double whammy of dried up capital and restrictions on FDI, some of these are forced to either shut shops or change business models from inventory model to a marketplace model[2] since marketplaces, by virtue of their very definition, do not fall under the ambit of the existing FDI norms.

Majority of the bigger players have been left with no option but to work around FDI restrictions by setting up back-end B2B entities wherein 100% FDI is allowed. The foreign funding flows into such B2B companies which also hold the inventory while the front-end B2C companies are kept clear of FDI and only issue invoices and collect payments from customers. While these legal structures may be in line with the provisions of the FDI law, they may or may not be in accordance with the spirit with which the law was brought into existence. In other words, these restrictions have forced the companies into complicating their businesses by complicating their structures.

Infrastructural Constraints

E-commerce relies on the 'hard' infrastructure, *i.e.* internet, logistics and supply chain, and also on the 'soft' infrastructure, *i.e.* payment gateways, digital money and data security. Additionally, as any other business, it is also dependent on human capital and the corresponding skills. The 'hard' and 'soft' infrastructure forms the backbone of the e-commerce business.

'Hard' Infrastructural Constraints: Internet penetration in India is still very low. The situation appears

to be even worse if we consider the quality of internet connectivity and the number of people actually transacting online. The reasons behind the poor internet connectivity could be attributed to the following: high broadband price; poor quality and reliability of connection and; low accessibility of PCs in rural areas. Besides, the supply chain and logistics still remain a major problem area. The e-commerce industry in India is facing multiple challenges related to supply chain and logistics, especially with respect to order fulfilment. Poor last mile reach, high logistics cost, lack of e-commerce specific services and poor infrastructure in the country are some of the key challenges.

'Soft' Infrastructural Constraints: Even though payment gateways have evolved and multiple payment options have emerged over the years, the e-commerce industry in India still faces challenges related to high drop-out rates on payment gateways, insufficient penetration of credit cards and slow adoption of other digital payment options such as digital wallets *(see Box-5)* or mobile payments. Data security and authenticity of credit card transactions is a big regulatory challenge pertaining to the e-commerce transactions. There are many cases of credit card fraud and credit card information hacking while doing online transactions. This is more severe in the case of international websites and their online transactions. Domestic online transactions require secure 3D password (just like our PIN at the ATM), mandated by the RBI but such requirement is not applicable for international websites. This makes international online transactions vulnerable to misuse and hacking. Also, with increase in e-commerce and online payments, there is a proliferation of payment gateways and mobile wallets, many of which are facing risk of being misused by unscrupulous merchants.

Box-5
Digital Wallets

Digital wallets are example of prepaid payment instruments that facilitate purchase of goods and services against the value stored on these instruments. When issued in electronic form, these instruments facilitate e-commerce. Few Banks have been authorized by the RBI under the Payment and Settlement Systems Act, 2007 to issue such instruments.

Summing up

E-commerce is an emerging sector in the Indian economy, particularly in the post-economic reforms era. The revolution in the IT sector in the recent past has been instrumental in the development of e-commerce. E-commerce offers many benefits to various stakeholders. These include cost effectiveness, quick comparison shopping, better customer service, higher business margins resulting from economy in business operations, knowledge market development, etc. At present, there are several stumbling blocks in the development of e-commerce such as computer related initial investments, technological issues, computer illiteracy, legal hassles, adverse mindset of consumers, privacy and security issues. However, these barriers to e-commerce would be taken care of in due course and, hence, e-commerce has bright prospects in India.

[1] However, 51% FDI is permitted in multi-brand retail trading (MBRT) subjected to approval by individual States and with some riders, as considered necessary.

[2] Flipkart, which was an inventory e-commerce player, changed its model to 'market place' in 2012 to adhere to the Indian FDI rules for online retail companies. Both Amazon and Snapdeal operate on the pure market place model.