



RESEARCH PAPER

Performance of e-Commerce business in India and China

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Abstract : Cross border e-Commerce is the general term for purchases made online from businesses in other countries. It involves buying of preferred commodities via websites in other countries or through the online stores available in India. Indian e-Commerce space in this respect is widening day by day. Advent of Technology permits shrinkage of border across the nations and promote online shopping. With the increase in number of online shoppers, the strength of online shopping set to grow exponentially both in volume and value. Preference of varieties, product choices, quality of the produce and its inspection online, comparing the price at the different websites for the similar produce, comparatively lesser price in the online stores when examining the same with the produce sold in the malls or retail stores, congestion in the city traffic and the existence of fatigue among the sales personnel at the malls or business environments forced the consumer and the business personnel to go for online shopping. Around 60 per cent of the respondents have performed their shopping domestically while 35 per cent of the shoppers do shopping in both domestic and cross border e-commerce and around 5 per cent preferred only cross border shopping in the online stores abroad. Online retail sales in China has reached \$752 billion during the year 2016 representing 26.20 per cent growth when one could compare the same during the year 2015, it is almost double the growth rate of overall retail sales. When we compare the same with India, the Indian e-Commerce revenue is anticipated to move from \$ 26 billion in 2016 to \$ 103 billion in 2020 revealed that China is found to be the world leader in e-Commerce trade. But if one could compare the India's annual growth rate of e-Commerce, it is arrived at 51 per cent while the Chinese e-Commerce market is prevailing at only 18 per cent. The success was mainly attributed to the existence of e-Commerce organizations across India particularly the role played by the Flip kart, Snap Deal and U.S based Amazon. Besides the trade of non-agricultural produce, the agriculture based products and grocery shopping has become the priority produce for the Indian consumers. Compared to China, food product trade is expected to be little higher in Indian online retail. In fact, the penetration levels of online grocery shopping in India are already higher when compared to China from the year 2008-09 onwards. Continued interest in getting the produce at the doorstep of the consumers and the product quality found to be the main reasons apart from price to the city consumers. Food, feed, seed, grains, crop services, crop inputs, farm equipment, agricultural implements and machinery and their parts were found to be the main items of purchase through e-Commerce mode in India and other e-Commerce websites. Lack of Professional Research and Development Team, content based website purely for agricultural and allied produce availability is relatively small, the utilization rate of such website is also small, most of the agricultural websites are lacking professionalism of agriculture, the design and contents of the websites are less attractive are the reasons for slow pick up. Most of the agricultural websites are incapable of reflecting the agricultural information, for help analysis, decision making and the production related information are found to be dismal resulted in poor production, supply and marketing benefits through online. For that the futuristic approaches are to be prioritized with a special form on student exchange programme. In future, the agricultural products will gradually become industrialized such as industrial chain factories in the whole process become more and more standardized. Awareness creation exercises are to be

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intensified with appropriate higher education programme as evidenced in China are the need of the hour in India to boost the cross border e-Commerce in India. Besides, this paper is also going to attempt on the number of e-Commerce institutions promoting this e-Commerce applications and factors influencing cross border e-Commerce were also discussed.

Key Words : E-commerce, Cross border E-commerce, e-Commerce institutions, Online stores, B2B, B2C

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INTRODUCTION

Twenty first century has witnessed a tremendous breakthrough in information communication technologies which has enabled the unreachable into the reachable one within a short span of time. This has facilitated not only the production, but also the post production initiatives like processing, grading, value addition, export and its traceability issues. In these process, many information platforms have facilitated the trade. One such platform is e-Commerce. Before entering into the detailed discussion on e-Commerce, it is important to highlight what is e-Commerce?, what are the key drivers of its growth and what potential it has in the international and national arena and in this context, the discussion on” e-Commerce is presented as buying and selling of goods and services or transfer of funds from one account to other or data over an electronic networking, primarily using the internet facility. These transaction or exchange that occur between both business to business (B2B) and business to consumer (B2C).

e-Commerce is performed through Electronic Data Interchange (EDI), E-Mail, Shopping Carts, Digital Commerce makes possible for purchasing transaction over the web and supports creation and constant growth of online relationship with customers across multiple channels like retail, mobile, direct sales or indirect sales. The backbone of such development is internet access. The key factors enabling growth of the internet are provided as follows.

- Raising standards of living through enhanced income generation by avoiding intermediary interference
- Foreign investments in e-Commerce sector due to strong growth prospects of international e-Commerce
- Reduced cost of transaction as large section of people have access to internet broadband and fourth generation gadgets (Wireless mobile telecommunication technology)
- Increased use of smart phone, interactive personal application device (I-Pad) and tablets promote the growth

of e-Commerce plus most of the expenditures made through mobile devices

- Development of specific mobile application for e-Commerce exchange specifically to fruits and vegetables.
- Development and execution of e-Farm business following B2C principles.

The above factors have facilitated or motivated the e-Commerce in respect of business to business and business to consumers. Emergence of specific mobile applications has eased the business to the greater extent.

Market potential for e-Commerce:

India has greater prospects of market potential with e-Commerce industry growth which is doubling almost year by year. The sector has grown in e-Travel which accounts for 70 per cent of the total e-Commerce. E-Commerce caters the need of young population which are under the age of forty or plus.

According to World Bank Report (2018), India is found to be the biggest Improver with respect to ease of doing business in India and its rank has been elevated to 77 during 2019 from the level of 100. This is quite a big jump, given that its rank crept up from 142 to 100 in the four years from 2015 to 2018. The World Bank now deems India an easier place to do business in than BRIC Peers such as Brazil (109) and South Africa (82) and West Asian Economies such as Qatar (83) and Saudi Arabia (92). But India has a long way to go before it can catch up with China (46), US (8) Hong Kong (4) and the New Zealand is the top nation in facilitating for doing a business in their nation. India’s climb in the 2019 rankings seems to have come mainly from sharply higher scores on two “Doing business indicators” and “Trading across the borders” (The Hindu, 2018). The World Bank while assessing the indicators for ranking different nations for doing ease of business, the trade development is one of the indicator fixed and India could rank in 80 during the year 2019. Whereas the rankings for trade

for the year 2018 stands at 146 revealed that the country is fast improving in terms of trade performance including cross border e-Commerce and hence, assessing the factors which are responsible for such development is of much important.

Challenges faced by e-Commerce industry:

The Indian Government is not motivating foreign investment in online retail companies that is capable of selling the goods directly to the consumers following the B2C concept. The government allows foreign direct investment in the companies owned and manned in India. This move has forced the e-Commerce institutions to abandon their inventory model and shift to electronic marketplace model. In this respect, the e-Commerce companies or institutions need to address many of the issues which are delineated below.

- As the storage and warehousing requirements of e-Commerce market is expected to increase in the ensuing years, it is important to establish or strengthen the logistics infrastructure. In respect of cross border e-Commerce, there exists the problem of reverse logistics

- Since the e-Commerce platform is mostly effected through smart phones, breaching of the security and privacy issues becomes common and hence, care has to be taken to protect the security and privacy issues by the organization concerned.

- The multi-National corporations and National level companies whom are indulged in manufacturing and distribution of the produce following International e-Commerce platform are not paying the tax regulations on time and hence, the revisit of rules and regulations are to be carried out to avoid the loophole escape.

- Some of the customers or consumers are expressing reluctance in using the online e-Commerce platform as they are worried about the credit and debit process using credit cards fearing that someone would have cheated and swindle the money. In this case, cash on hand and delivery may be synchronized.

- Certain companies need to adopt to change in Technology shift from laptop to smart phone facility. They should provide multichannel sales coupled with fast browsing experience along with after sales service. Online reviews, videos, buyback mechanism, comparison of similar products for quality check, three dimensional viewing about the product should also be provided to enhance the new entrants using mobiles and their experiences need to be taken care off to enhance the e-

Commerce platform.

- Incidents of distribution of counterfeit goods through e-Commerce platform have also been increasing which has added to the woes of both consumers as well as e-Commerce companies. This is mainly because of the absence of a trustworthy mechanism which can allow consumers to authenticate sellers or their products.

- Data or cyber security is another major challenge faced by the players as they deal with huge volumes of customer information, a lot of which is shared with third parties such as logistics providers raising concerns about exploitation by external entities.

- Another challenge is payment by customers in cash. Receiving payment in cash or cash on distribution (COD) makes the process laborious, risky and more expensive for the companies as their working capital requirement increases. Higher return ratio for goods sold online is also proving expensive and presenting challenges for companies. Incidentally, return percentage of orders in COD is much higher compared to online payments.

- The e-Commerce industry in India has seen intensified competition in the sector, which in turn has forced companies to adopt aggressive pricing policies, offering heavy discounts to customers and high commissions to vendors and other parties.

Above all, the user friendly mechanism, attractive web page not only for the manufactured products but also for agricultural produce may also attract the consumers from different quartz. Amidst all these challenges, one would be interested in documenting the performance of e-Commerce Institutions across the borders and the factors influencing the consumers to depend upon the e-Commerce institutions assumes much importance and hence a study has been initiated among the consumers of products accessed through e-Commerce mode.

Holger Winklbauer (2018) in his report on cross border e-Commerce reported that the consumers in China, Korea, India and the United States are the most active nations.

Pal (2017) in his report on e-Commerce development in India reported the government initiatives for the improvement of e-Commerce and also the challenges faced by the e-Commerce companies in India.

Das and Ara (2015) observed that the market of e-Commerce will rise to \$ 137 million by the year 2020. The statistics indicate that household income is expected

to reach \$ 3823 in 2015 and become \$ 6790 during the year 2020 which is accounted for 78 per cent increase over the year 2015 and thereby the Indian e-Commerce market is set to grow largest and fastest in the world.

According to Preeti and Sampat (2015), hidden costs, website crash, website timeout, unsuitability of delivery option, long processing time were found to be the factors affecting the online shopping experience.

Nigam *et al.* (2015) has conducted a case study on Flipkart and Amazon concluded that comparison in respect of selling of books, the consumers popular opinion that the amazon is cheaper in dealing with books with less shipping charges. Consumers can gather information about merchandise and hence, can compare a product across suppliers at low cost.

According to Ratchford *et al.* (2001), the internet may increase use of sales persons, inspections, broadcast ads and personal sources by enlarging the consideration set, here by increasing return to information.

An experienced user only needs to learn price and information about the configuration. Internet is an efficient source of the required information and an efficient way to make the transaction.

Kotler *et al.* (2000) pointed out that a person's buying choices are further influenced by four key psychological factors: Motivation, Perception, Learning and beliefs and Attitude. The perception of making purchases online may vary from consumer to consumer.

According to Guttman *et al.* (1998) the unique elements like consumer friendliness which makes online shopping a different one from the traditional in-store retail model. With this background an effort has been taken to conduct the study on cross border e-Commerce with the use of both primary and secondary source of data.

MATERIAL AND METHODS

Design of the study:

The backbone of any research is the availability of data which were generated from both the primary and secondary sources. Primary source of data is collected through the stakeholder interviews through the set of structured and pretested questionnaire at field. The secondary data were collected from the published sources like Reports of National and International e-Commerce importance, Journals addressing the e-Commerce issues and the related websites dealing mainly with International cross border e-Commerce and the method of analysis and its interpretation formed the skeleton of the research.

The data and the method of analysis using appropriate tools and its interpretation presents the holistic picture of the issue considered for discussion.

Sampling design :

The organizations who are dealing with cross border e-Commerce were enlisted from the Website sources and the top ten organizations dealing with cross border e-Commerce were Chosen from the list in the first stage. Among the top ten e-Commerce institutions, the organizations whom are dealing with higher number of package distribution per annum to the consumers through the respective distributors and the value of transactions made were enlisted and the two organizations in this respect *viz.*, Amazon and Flip Kart were chosen from the list in the second stage.

In the third stage, 10 distributors each of Amazon and Flip Kart present in the Coimbatore city and the 20 customers of Amazon and 20 customers of Flip Kart whom are regularly receiving the goods and services from the above two e-Commerce institutions were randomly selected and interviewed forming a total sample of 60 by adopting a three stage purposive sampling technique. The tools of analysis used to arrive the results were descriptive statistics like mean, median and mode. The study was carried out during the month of October 2018.

RESULTS AND DISCUSSION

The issues taken for discussion is to assess the performance of e-Commerce institutions in India and the factors influencing the consumers to depend on the e-Commerce institutions across the Globe. In this respect, the results are analyzed under the following heads and are discussed separately for drawing a meaningful conclusions. They are:

- Profile of e-Commerce leaders
- General characteristics of cross border e-commerce institutions
- Performance of e-Commerce institutions
- Factors influencing the consumers to depend on the e-Commerce institutions for their various needs
- Governmental intervention to stabilize e-Commerce
- Strategies to promote the e-Commerce trade.

Profile of e-Commerce leaders:

Cross border e-Commerce is getting great popularity

and attraction among the youths of cities across the world. While discussing the e-Commerce, one should discuss on the profile of leaders leading the world in e-Commerce. China is one of the leader in leading the e-Commerce trade across the world and other countries are tracing the path of Chinese model of adoption of e-Commerce. In this situation, the country profile of India and China becomes important and hence, these details are analyzed and the results are presented in Table 1.

The population of India and China is almost equal. A difference of only 8 crores of population is high in the case of China (Table 1). Shortly India will outperform in enhancing the population unless it takes some control measures. The gross domestic product of India and China is also almost equal. Only the marginal difference in growth is in favour of China. In actual terms, China is a giant and India has to go a long way to reach that level. But the growth is expected to decrease in both the nations according to some macroeconomic estimates. One of the estimate done by international monetary fund predicted that the GDP growth in respect of China will reach to the level of 5.60 per cent and the India's GDP will touch to the level of 7.70 during the year 2023.

According to UNCTAD, the B2C e-Commerce Index estimates, India is ranked in 83 out of 144 countries. Whereas, China is ranked in 65 out of the 144 nations. From that one could understand that the China is growing fast in respect of e-Commerce applications between the Businesses to Consumer process. In respect of International Telecommunication Union's ICT development Index, India is in 134th position out of 176 nations. Whereas, China is occupying 80th position in respect of ICT development index out of 176 nations. The internet users in China is also almost double when compared to India. Such strong nations in respect of GDP

and other indices, its growth through Cross border e-Commerce and its status assessment is drawn with a view of comparing with its counterpart, China.

General characteristics of cross border e-Commerce institutions:

Internet penetration in India and China:

Before availing discussions on the general characteristics of e-Commerce institutions, it is important to analyze the causative factor which facilitated the trade to huge extent is of paramount importance. The causative factor for the success is the spread and extent of usage of Internet by the stakeholder institutions through the communication satellite which has made the world into a small village by which one can communicate fast and access the resource needs across the world. The internet removes geographical boundaries, eliminates travel time and provides instant access to products available anywhere in the world (Ratchford *et al.*, 2001). In this respect, one would be interested in analyzing the details of rate of internet penetration in India and hence these details are analyzed and the results are presented in Table 2.

China is found to be the leader in internet penetration and India is the follower (Table 2). Though India is slowly progressing in respect of internet penetration when compared to China, India is growing very fast in number of users of Internet. During the year 2017, the number of internet users in China is found to be 771.98 million (Fig.1). Whereas, India had only 331.77 million. When one could compare these figures during the year 2006, 137 million in China and India had only 32.60 million users of internet. In a decade of time, the percentage change in the internet users in India is arrived at 613.48 per cent. But, China could realize only 267.61 per cent increase in

Table 1: Profile of E-commerce leaders (2017)

Sr. No.	Particulars	India	China
1.	Population in million	1324.20	1403.50
2.	GDP in million US \$	2 259 642	11218281
3.	Merchandise trade in million US \$	624177	3685557
4.	Internet users in millions	391.30	746.70
5.	GDP growth in percentage	7.10	7.30
6.	Land area in square km	2973190	9388211
7.	Rank in UNCTAD B2C E-commerce index	83 / 144	65 / 144
8.	Rank in international telecommunication union (ITU) ICT development index	134 / 176	80 / 176
9.	Rank in WEF networked readiness index	91 / 139	59 / 139

Source: <http://unctadstat.unctad.org>; <http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index>

internet users over a period of ten years. It is understood that the internet users' growth is alarming in respect of India which is growing at the rate of 24.40 per cent while the China is growing at the rate of 14.90 per cent. If this trend continues, India could out beat China in another decade of time. What is needed here is the facilitating services for the growth and spread of internet services by the respective Governments.

Mobile phone internet users in India:

Mobile phone has played a greater role in the communication process in the current decade and also played a vital role in facilitating the e-Commerce transactions using internet and the growth of business to business and the business to consumer models also have grown to certain heights. In this respect, one would be

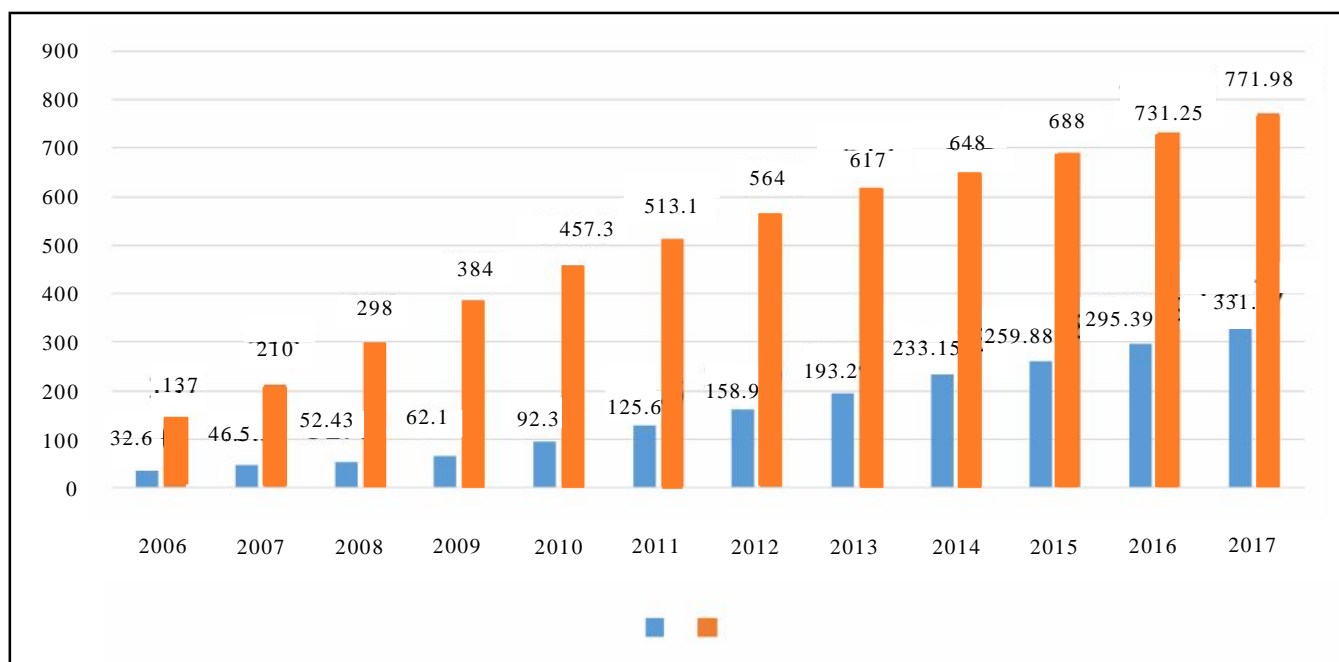


Fig. 1 : Internet users (Millions)

Table 2 : Internet penetration in India and China

Sr. No.	Year	Number of internet users in millions		Percentage increase in China over India
		India	China	
1.	2006	32.60	137.00	320.25
2.	2007	46.50	210.00	351.61
3.	2008	52.43	298.00	468.38
4.	2009	62.10	384.00	518.36
5.	2010	92.30	457.30	395.45
6.	2011	125.60	513.10	308.52
7.	2012	158.90	564.00	254.94
8.	2013	193.20	617.00	219.36
9.	2014	233.15	648.00	177.93
10.	2015	259.88	688.00	164.74
11.	2016	295.39	731.25	147.55
12.	2017	331.77	771.98	132.69
Percentage change in a decade of time		613.48	267.61	
Compound growth rate (%)		24.40	14.90	

Source: www.statista.com

interested in learning the extent of penetration of mobile phone internet users in India and China is of much importance and hence these details are analyzed and the results are documented in Table 3.

Considering the importance of mobile phone internet usage in the e-Commerce transactions, the extent of increase has been forecasted to 2022. During the year of 2022, the mobile phone internet user's strength is accrued to 493 million. The same was arrived at 243 million during the year 2015. When one could compare the percentage change between the eight year duration, around 103 per cent increase (Fig. 2) in the mobile phone internet users will be visualized during the year 2022 over the year 2015. This has resulted in a growth rate of 10.53 per cent indicating that the percentage will be increasing in the years to come (Table 3).

When one could compare the above figures with that of China, the percentage change in the mobile phone internet users' population was found to be 142 per cent

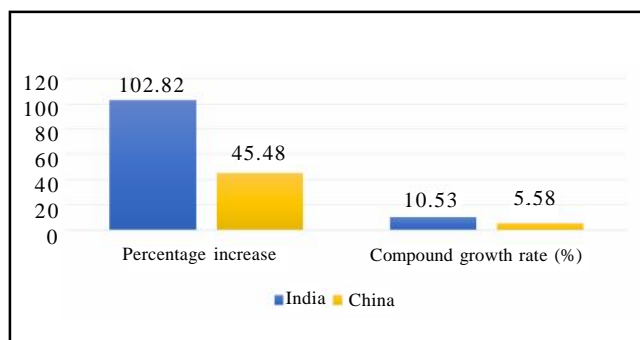


Fig. 2 : Growth of internet usage through mobile phone

increase during the year 2015. But the same increase is not visualized during the year 2022 in respect of China because of poor growth in the mobile phone internet users. This is visible through the data presented in the Table 3. However, India is progressing ahead in respect of growth of mobile phone internet usage and it will outperform China in less than a decade of time. Since

Table 3: Mobile phone internet user penetration in India and China

Sr. No.	Year	Number of mobile phone internet users in millions		Percentage increase in China over India
		India	China	
1.	2015	242.92	588.54	142.27
2.	2016	281.81	619.22	119.73
3.	2017	320.57	653.16	103.75
4.	2018	358.46	690.60	92.66
5.	2019*	394.99	730.90	85.04
6.	2020*	429.77	772.99	79.86
7.	2021*	462.77	815.45	76.21
8.	2022*	492.68	856.19	73.78
Percentage increase during 2022 over 2015		102.82	45.48	
Compound growth rate (%)		10.53	05.58	

Source: www.statista.com . * are predicted values

Table 4 : Details of e-Commerce institutions operating in India

Sr. No.	Name of the company	Number of employees	Revenue earned in B\$	Head quarters
1.	Amazon	268908	107.00	Seattle, USA
2.	Alibaba	26000	12.29	China
3.	E-Bay	34600	08.59	San Jose, USA
4.	Rakuten	12981	06.30	Tokyo, Japan
5.	Groupon	10000	03.10	Illinois, USA
6.	Flipkart	35000	01.50	Bangalore, India
7.	ASOS.com	07500	01.40	London, UK
8.	Zalando	10000	03.28	Berlin, Germany
9.	Net Ease	12919	03.63	China
Total		417908	147.09	

Source: <https://www.worldatlas.com/articles/the-25-largest-internet-companies-in-the-world.html>

Mobile phone is the handy instrument to most of the consumers, they do their purchase through electronic commerce platform operating agencies like Amazon, Alibaba, Flip Kart and so on. In this respect, it is important to know the leading e-Commerce institutions which are operating in India and other countries.

Details of e-Commerce institutions:

So far the discussion went on analyzing the extent of internet penetration and its users in India and China. Here it is important to discuss the details of e-Commerce institutions operating in India and China and to assess their performance in terms of sales revenue realization and the number of employees it has employed per annum or from its existence is much important here and hence, these details are analyzed and the results are presented in Table 4.

There were 9 institutions operating the cross border e-Commerce with the base of India. In all these institutions, a total number of employees employed were accounted to be 4.18 lakhs and the revenue earned is arrived at 147 billion US \$. Among the nine e-Commerce institutions, Amazon alone found to be the biggest one

which had the share of 64 per cent of total employees of e-Commerce institutions (Table 4). The revenue earned by the Amazon alone is accounted for 73 per cent to the total revenue earned by the e-Commerce institutions. The head quarter of Amazon is located in Seattle, USA and the head quarter of Alibaba is positioned at China, the next highest and biggest operator of e-Commerce in India. Similar to Indian e-Commerce operators, the e-Commerce institutions operating in China are also analyzed and the results are presented in Table 5.

There were nine institutions operating the e-Commerce platform in China. Among these nine, J.D.Com Inc. is found to dominate other institutions in China. It is employing 1.26 lakh employees and has earned 62.90 billion US \$ as revenue. The share of J.D.Com Inc. revenue is accounted to be 32.97 per cent to the total revenue earned by the e-Commerce institutions in China (Table 5). When compared to the number of employees manned by the Indian e-Commerce Institutions and the China e-Commerce Institutions, the Indian e-Commerce institutions could employ higher number of workforce but the revenue earned by the Indian institutions is found to be little less when we

Table 5: Details of e-Commerce institutions operating in China

Sr. No.	Name of the company	Number of employees	Revenue earned in B\$	Head quarters
1.	Alibaba Group Holding Ltd (NYSE: BABA)	66421	44.70	Hangzhou, China
2.	JD.Com Inc	125835	62.90	Beijing, China
3.	Tencent Holdings Ltd	44796	44.50	Shenzhen
4.	Baidu Inc	39343	14.70	Beijing, China
5.	Vipshop Holdings Ltd	58702	12.60	Guangzhou, China
6.	Net Ease, Inc.	18129	10.00	Beijing, China
7.	58.Com Inc.	23132	01.40	Beijing, China
8.	Jumei International Holding Ltd	2886	00.894	Beijing, China
9.	AutohomeInc	4097	00.821	Beijing, China
	Total	383341	192.515	

Source: *which-50.com*, *www.owler.com*

Table 6: Digital buyers in India and China (Buyers in millions)

Sr. No.	Year	Digital buyers in India	Digital buyers in China	Percentage increase in digital buyers with China over India
1.	2016	130.40	521.00	299.54
2.	2017	180.10	582.00	223.15
3.	2018	224.10	650.00	190.05
4.	2019*	273.60	722.00	163.89
5.	2020*	329.10	797.00	142.18
	% Change during 2020 over 2016	152.38	52.98	
	Compound growth rate (%)	25.47	11.24	

Source: *www.statista.com*

compare the same with China. Such income increase could be contributed by participation of higher number of buyers. In this respect, one has to examine the details of digital buyers through the e-Commerce websites and hence these details are analyzed and the results are presented in Table 6.

The data for the years 2019 and 2020 are predicted values based on the growth rate. The overall growth rate for the five year period is arrived at 25.47 per cent for Indian digital buyers. Whereas, the growth rate of digital buyers in respect of China is arrived at only 11.24 per cent (Table 6). After seeing the experience of digital buyers, the other customers were also motivated in India to buy the produce through e-Commerce platform.

When one could examine the percentage change in the number of digital buyers during the year 2020 over the year 2016, it is arrived at 152 per cent increase in respect of India. Whereas, the percentage change during the year 2020 over the year 2016 in respect of China is found to be dismal and it is arrived at only 53 per cent. From that one could understand that the digital buyers in India are more interested and motivated to buy the produce through e-Commerce platform. Though this increase is visibly appreciable in China, it is only absolute figures. But its growth is increasing at decreasing rate and hence the China should examine the futuristic aspect of retaining e-Commerce platform active to meet the requirements of youth in China.

Performance of e-Commerce institutions:

Under the head of performance of e-Commerce, the discussion on the following will be giving a complete picture on the modus operandi of e-Commerce. They are

- e-Commerce sales made in India and China
- e-Commerce education programmes in India and China

Over the years, the e-Commerce sales is found to be increasing worldwide and even a small consumer friendly produce produced in a remote city could be easily accessed because of the internet facility and the same were found to be received through e-Commerce mode. For that the above organizations are helping the consumers by displaying the physical appearance and its special features on the website. This will help the customers to examine the produce and the purchases were made as per the procedures delineated in the web site. In this respect, the sales revenue made through e-Commerce is assessed and the details are presented in Table 7.

When compared to the revenue earned by the Indian e-Commerce institutions with that of China, China could realize around 2293 per cent increase in the sales revenue over the Indian counterpart during the year 2018. However, the sales revenue is found to be increased over the years and attained a growth of 22 per cent in a period of 7 years while China has attained the growth in sales revenue of 15 per cent (Table 7).

The percentage change in the sales revenue during 2022 is arrived at 225 per cent in the case of India while the same is 137 per cent in China over the year 2016 revealed that the India could realize sales revenue through e-Commerce transactions on the higher side and hence, it should concentrate on the facilities to be provided for performing the e-Commerce platform and this e-Commerce transactions are mostly unaware to the youth in the class – II cities and hence as part of the awareness creation exercise, the e-Commerce education has to be

Table 7: Retail e-Commerce sales in India and China

Sr. No.	Year	Sales in million U.S. Dollars		Percentage increase in sales with China over India
		India	China	
1.	2016	16,073	403458	2410.16
2.	2017	20,059	499150	2388.41
3.	2018	25,076	599995	2292.71
4.	2019*	31,123	700005	2149.16
5.	2020*	37,979	794579	1992.15
6.	2021*	45,206	880638	1848.06
7.	2022*	52,301	956488	1728.81
Percentage change in sales during 2022 over 2016		225.40	137.07	
Compound growth rate (%)		22.05	15.47	

Source: www.statista.com* are predicted values

intensified as it appreciably implemented in China. In this context, a thorough analysis of e-Commerce programmes available in India so as to draw the futuristic programmes for activating and facilitating the e-Commerce transactions becomes important and hence these details are analyzed and the results are presented in Table 8.

There were around 39 institutions offering different programs in e-Commerce to infuse the knowledge on electronic commerce. The knowledge giving programmes are classified into the following

- Certificate programmes in e-Commerce with a duration of six months for the high school drop outs so as to instill the confidence of doing business through electronic media or to get the basic idea of E-Commerce so that they will be employed in the e-Commerce institutions as delivery boys or agents. However, it is not mandatory to possess such e-Commerce certificate programmes as one of the eligible qualification for delivery boys. All the school and high school dropouts were selected and employed in the e-Commerce Institutions and they will provide the training to those delivery boys for a period of one week both in-house and field training on delivery of goods (Table 8).

- Diploma in e-Commerce and post-graduate diploma in e-Commerce are offered by 8 institutions

- Bachelor degree courses like B.B.M., B.Com. and B.Sc. focusing electronic commerce as its specialization to infuse new skills and expertise to the students

- Similar to the under graduate programmes in e-Commerce, the post-graduate programmes were also offered by some of the institutions in the electronic commerce exclusively and in combination with web design (Table 8).

Still these programmes are not much attractive to the youths interested in pursuing graduate studies. If other programs are not available, these programmes were given preference by the students who pass out the higher secondary examination. In this respect, to give a boost to this programme, the inter-university collaborative and exchange programmes in e-Commerce with universities abroad has to be initiated. The Principals of Arts and Science Colleges should take such a vision based approach to impart employable candidates in consultation with the appropriate authorities. However, analyzing the education programs available in the area of e-Commerce with the E-Commerce giant, the China is also important and hence, these details are analyzed and the results are presented in Table 9.

There were variety of e-Commerce programmes available with China for the benefit of their graduate and post graduate wards. The variety of programmes included were e-Business, e-Commerce, financing, cross border e-Commerce and electric trade are the specialized programmes offered to the students of China in a four year duration of under graduate programme. The foreign students are permitted for admission in China if they secure the international english language testing and speaking (IELTS) score of 5.50 with the high school graduation certificates (Table 9).

The Masters' degree programmes are offered to the students in the areas of specialization like information management and e-Commerce, e-Commerce, financial and e-Commerce trade, e-Commerce and logistics management. These master level programmes earmarked for a period of 3 years and the Doctoral programmes are attracting the duration of three to five years. The Doctoral programmes are offered in the areas of specialization are e-Commerce, information

Table 8: Details of e-Commerce programmes offered in India

Sr. No.	Name of the e-Commerce programme	Duration in months	Eligibility	Number of institutions offering
1.	Certificate programme in e-Commerce	06	10 th	05
2.	Diploma in e-Commerce	12	10+2	04
3.	Post Graduate diploma in e-Commerce	12	Graduation	04
4.	BBM (e-Commerce)	03 Years	10+2	02
5.	B.Sc. (e-Commerce)	03 Years	10+2	02
6.	B.Com (e-Commerce)	03 Years	10+2	17
7.	MBA. (e-Commerce)	02 Years	Graduation	01
8.	M.Com (e-Commerce)	02 Years	Graduation	02
9.	M.Sc. (e-Commerce and web design)	02 Years	Graduation	02
Total number of institutions				39

management and e-Commerce.

To sum up, one could infer that the Chinese programmes in e-Commerce are well defined and attracts youth for induction into the above programmes. Whereas in Indian context, the undergraduate and post graduate programmes are not focused much towards e-Commerce. In India, it is a seeking programme and China has a demanding programmes. In this context, the e-Commerce education can be linked with Chinese leading universities to draw much skill to the youth in the area of e-Commerce. Student exchange programmes (SEP) can be thought off at university level to enhance the quality of the programme. Another, option is enhancing the duration of the programme from three year to four year

program in e-Commerce and other basic degree in arts and science by infusing industry – institution linkages to enhance the skill among the students. The education programs on E- Commerce would have added an awareness to the consumers who make periodic purchases and hence, these results are analyzed and the results are presented in Table 10.

The consumers are much aware about Amazon store which was expressed by 85 per cent of the consumers who make purchases through online stores followed by 65 per cent of the consumers have expressed that they were aware about the Flip Kart store (Table 10). However, when comparing these two stores, the Coimbatore city consumers were aware more about

Table 9: Details of e-Commerce programmes offered in China

Sr. No.	Name of the e-Commerce programme	Duration in years	Eligibility	Number of institutions
1.	Certificate programme in Chinese + Cross border e-Commerce	3 weeks	New HSK (Chinese proficiency test) Level 3, Non-Chinese citizens, Age above 18	01
2.	Bachelor programme in e-Business	4 years	Age over 16 High School graduate	18
3.	Bachelor programme in e-Commerce	4 years	High School graduate, New HSK Level 5, IELTS Score 5.50	36
4.	Bachelor programme in e-Commercial	4 years	Age limit above 18 Graduation from senior High School, HSK level 4	01
5.	Bachelor programme in financing	4 years	Age limit Above 18, Graduation from High School, HSK level 6	01
6.	Bachelor programme in electronic-trade	4 years	17 year or above, Graduate of senior middle school	01
7.	Bachelor programme in B B A in e-Business	4 years	Age 18-28, HSK level 4, Qualification of overseas student must be equivalent to Graduation from High School	01
8.	Bachelor programme in international business (Cross border e-Commerce)	4 years	Age above 18	01
9.	Associate programme in e-Commerce	3 years	Graduate from school	01
10.	Master programme in information management and e-Commerce	3 years	Non-Chinese citizens, Age under 40, Attain a Bachelor's Degree	02
11.	Master programme in e-Commerce	2 years/3 years	Undergraduate study equivalent to Chinese Bachelor's Degree, TOEFL 80, IELTS 5.5	02
12.	Master programme in financial and trade e-Commerce	3 years	Age limit above 18 below 40, Non-Chinese citizens, Must have Bachelor's degree, New HSK Level 5	01
13.	Master programme in e-Commerce and logistics management	3 years	Must have Bachelor's degree, New HSK Level 5	01
14.	Doctoral programme in e-Commerce	3-5 years	Must have Bachelor's degree, New HSK Level 5	02
15.	Doctoral programme in information management and e-Commerce	3 years	Non-Chinese citizens, Age under 45, Attain a Master's degree	03
16.	Total number of institutions offering e-Commerce programmes			70

Source: www.cucas.edu.cn/find/e-Commerce

Amazon and only 15 per cent of the people are aware about the big basket promotions and the e-Bay got the least. On these lines, it is important to assess the frequency of visits made by the consumers to the respective stores becomes important and hence these are analyzed and the results are presented in Table 11.

Out of 40 consumers, 18 consumers were making 10 to 20 visits to the e-Commerce stores which are accounted for 45 per cent followed by 25 per cent of the consumers were making a visit of 30 to 50 times. More than one hundred visits to the e-Commerce stores were made by only 7.50 per cent of the consumers (Table 11). It revealed that the consumers were frequently accessing different websites for different and innovative products. If their preference matches, the purchase request is made and the money transfer is effected for making delivery of the product. In this case one has to focus on the devices through which a consumer prefers to procure the produce in e-Commerce platform and hence, these results are analyzed and the results are presented in Table 12.

Out of 40 consumers, 15 consumers make use of the laptops for procurement of produce through online store which accounted for 37.50 per cent which is followed by the desktop computer users whom are accounted for 30 per cent of total consumers responded.

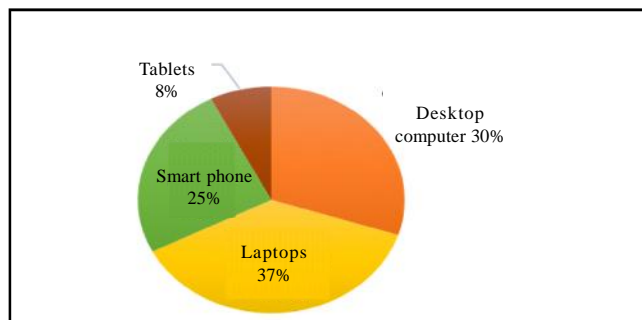


Fig. 3 : Device preferred for online purchase

Around 10 respondents were using smart phone as their main device for placing procurement orders online (Fig. 3). From this one could infer that the laptops and the desktop computers were mainly used by the consumers

Table 10: Awareness gained by the consumers in e-Commerce applications

Sr. No.	Awareness of the consumers	Number of consumers (Multiple response)	Percentage to total
1.	Amazon store	34	85.00
2.	Flip kart store	26	65.00
3.	Big basket	06	15.00
4.	E-bay	01	02.50

Source: Primary survey conducted during October 2018

Table 11: Frequency of visits made to e-Commerce stores per annum

Sr. No.	Frequency of visits made	Number	Percentage to total
1.	None	04	10.00
2.	10 to 20	18	45.00
3.	30 to 50	10	25.00
4.	60 to 100	05	12.50
5.	More than 100	03	07.50
	Total	40	100.00

Source: Primary survey conducted during October 2018

Table 12 : Details of the preferred devices for procurement of goods from online shop

Sr. No.	Name of the device	Number of respondents	Percentage of total
1.	Desktop computer	12	30.00
2.	Laptops	15	37.50
3.	Smart phone	10	25.00
4.	Tablets	03	07.50
5.	Total	40	100.00

Source: Primary survey conducted during October 2018

for making purchases.

In this circumstance, one would be interested in assessing the opinion of consumers on procurement made by them from online stores and hence these details are analyzed and the results are presented in Table 13.

In general, the consumers are found to be so cautious in making purchase of produce through online stores. Before effecting the purchase, 40 per cent of the consumers used to gather the information about the product from the internet and discuss with others before placing the orders online. It is followed by 27 per cent of the consumers used to buy the produce online after analyzing the information provided about the product in the websites of the online stores. Around 20 per cent of the consumers used to gather the information about the product from the internet, visit the shops to verify the details and then decide either to purchase the produce from online store or from the shops available locally. These consumers are mostly come under the risk averting category of consumers. From that one could infer that the consumers accounted for 27 per cent to the total are risk taking consumers because they see the product from the website and decide the product after reading the

quality features of the product (Table 13). So they rely on the words of online stores because they might have built reputation among the consumers over years. In this context, one would be interested in analyzing the frequency of purchase of produce through E-commerce mode and hence these results are analyzed and the results are presented in Table 14.

Any purchase should be backed by willingness to purchase; desire to purchase and purpose of purchase of a commodity. These decides the frequency of purchase. In respect of e-Commerce mode, the consumers are more interested in accessing the e-Commerce platforms when the purchase need arises to them. This was reported by around 29 respondents whom are accounted for 72 per cent to the total consumers followed by occasionally purchasing consumers whom are accounted for 12.50 per cent. Other category of consumers are having the attitude of purchasing once in a month and once in two months (Table 14). It might be due to their interest developed towards procuring some innovative products from the store. Here, one should show some interest in analyzing the nature of produce purchased by the consumers and hence these are

Table 13: Details on the process of procurement made by the consumers

Sr. No.	Process of procurement	Number of respondents	Percentage
1.	Not preferring online purchase of produce	01	02.50
2.	Buying of produce online after analyzing the information provided about the product	11	27.50
3.	Gathering information from the internet and discuss with others before placing order online	16	40.00
4.	Gathering information from the internet, visit shops to verify the details and then decide either to buy online or to buy locally	08	20.00
5.	Gathering information from the internet but prefer to buy only from the local dealers/shops	04	10.00
	Total	40	100.00

Source: Primary survey conducted during October 2018

Table 14: Frequency of purchase of produce through e-Commerce

Sr. No.	Purchasing frequency	Number of consumers	Percentage to total
1.	Occasionally	05	12.50
2.	Fortnightly	00	00.00
3.	Once in a month	01	02.50
4.	Once in 2 months	03	07.50
5.	Once in three months	02	05.00
6.	When need arises	29	72.50
	Total	40	100.00

Source: Primary survey conducted during October 2018

analyzed and the results are presented in Table 15.

The farm related produce were purchased by 32 per cent of the consumers which is mainly effected through big basket online store and the electronic goods and toys were found to be purchased regularly by almost all the consumers from different online stores whom are accounted to be 80 per cent to the total. Machineries and farm related equipment purchase was made by around 37 per cent of the households. The online stores

also floating the fashion products to attract the women consumers. Accordingly, the fashion product purchase through online stores were accounted to be around 40 per cent to the total respondents (Table 15). Whereas, one of the consumer has highlighted the reading manual purchase from the Amazon Store for his reading and training related purposes. The same are presented in the form of a picture (Fig. 4). In this circumstance, one would be interested in assessing the value of purchase made



Fig. 4 : Sample copy of books purchased by consumer from Amazon

Table 15: Nature of produce procured through e-Commerce mode

Sr. No.	Nature of produce	Number of consumers (Multiple responses)	Percentage to total
1.	Farm related produce (Food)	13	32.50
2.	Electronic goods and toys	32	80.00
3.	Machineries and farm equipment	15	37.50
4.	Fashion related products	16	40.00
5.	Fiction and non-fiction books	06	15.00
6.	Reading manuals and videos	03	07.50

Table 16: Value of purchase made by the consumers per annum

Sr. No.	Value of purchase	Number of respondents	Percentage to total
1.	None	05	12.50
2.	Less than Rs.1000	02	05.00
3.	Between Rs.1000 –Rs.5000	16	40.00
4.	Between Rs.5000 – Rs.10000	13	32.50
5.	Above Rs.10000	04	10.00
	Total	40	100.00

Source: Primary survey conducted during November 2018

by the consumer respondents per annum and hence these are analyzed and the results are presented in Table 16.

The consumer respondents accounted for 40 per cent were effecting purchase worth of Rs. one thousand to Rs. five thousand category followed by 32 per cent of the consumer respondents were effecting purchase of Rs. five thousand to Rs ten thousand. Only 10 per cent of the consumers have made their purchases more than Rs. ten thousand. While examining the value of purchase, one could infer that the middle income people are more interested in effecting such online purchase from e-Commerce stores (Table 16). Whereas, the high income group are spend thrifts. They used to visit quality show rooms for their requirements.

Factors influencing procurement of products from online stores:

Electronic commerce is gaining momentum across the world means it should have some strong factors in support of performing the e-Commerce trade. The influencing factors for performing the e-Commerce trade are summarized in Table 17.

The factors which are capable of influencing the cross border e-Commerce initiatives were many.

According to the consumer survey taken in the Coimbatore city, the consumers of Coimbatore city has expressed differently regarding the factors. Let us look into those factors expressed by the consumers. Considering the time availability, the survey was restricted only to the Coimbatore city.

Among the nine influencing factors, the top ranking factor to go for the E-Commerce institution web site for purchase of goods and services are “Less Price when compared to the store at show room in the city” followed by ease of usage and comfort. The first factor has gained 62.88 as its score and the second factor has scored 58.78 as its score. According to Garrett’s rank, the third rank goes to “Provision of various offers and customer services in the online stores” which has got 58.10 as its score. The fourth rank goes to Web site quality and the site seems to be informative to the consumers when they access the site which has secured 56.15 as its score. The fifth rank goes to ensuring of easy payment system (Table 17).

The sixth rank goes to the factor on availability of variety of products in the online stores which has gained 48.33 as its score. Time saving, energy saving and saving of transportation cost for purchase of the goods were

Table 17: Factors influencing procurement of products from online stores

Sr. No.	Influencing factors	Total score gained	Average score	Rank
1.	Less price when compared to the store at show room in the city	2515	62.88	I
2.	Ease of usage and comfort	2351	58.78	II
3.	Website quality and informative	2246	56.15	IV
4.	Availability of variety of products in the online stores	1933	48.33	VI
5.	Provision of various offers and customer services in the online stores	2324	58.10	III
6.	Easy payment system	2029	50.72	V
7.	Quick and fast delivery mechanism	1689	42.23	VII
8.	Easy buyback mechanism	1542	38.55	IX
9.	Saving of time, energy and cost	1632	40.80	VIII

Source: Primary survey conducted during October 2018

Table 18: Factors affecting procurement of commodities from online stores

Sr. No.	Factors affecting procurement	Total	Average	Rank
1.	Difficulty in understanding the interface	2020	50.5	III
2.	Inability to examine the product physically prior to purchase of the same	2172	54.3	II
3.	Presence of low quality produce	1980	49.5	VI
4.	Consumers have big concern about the security of the debit or credit card	1721	43.025	VII
5.	Accomplishment of procedures and delay in credit of money for return of the product	2208	55.2	I
6.	Chances of fake delivery of the produce	1983	49.575	V
7.	Higher shipping cost and pmpport duties	2003	50.075	IV

Source: Primary survey conducted during October 2018

not visible in the case of e-Commerce purchase and hence this factor has been ranked in the 8th position with a score of 40.80. The ninth rank goes to the Easy buy back mechanism available in the online stores which has secured 38.55 as its score.

To sum up, the motivational factors for cross border e-Commerce purchase is found to be less price, ease of usage and comfort and provision of offer for the products intend to purchase from the online stores were found to be the predominant factors. At the same time, one should also be interested in assessing some of the factors which may hinder the purchase of the product in the online stores and hence, these were analyzed and the results are presented in Table 18.

The details of factors which hinders the consumers in effecting the purchase of the commodity from online stores is outlined here. There were seven factors which demotivate the consumers according to the survey. The first demotivating factor is “Accomplishment of procedures and delay in credit of money for return of the product” which has gained 55.20 as its score followed by inability to examine the product physically prior to purchase of the same is found to be the second important demotivating factor which has secured 54.30 as its score. Third factor is difficulties in understanding the interface of the system followed by less attractiveness of the web page promoted by e-Commerce institutions. These three are the principal factors which demotivate the consumer to go for online stores (Table 18). However, the demotivating factors are not fully demotivating but the consumer at one point got convinced and search the web page for some other product in another occasions and they become acclimatized and don't bother about the factors hindering the purchase.

The Government efforts on stabilizing and promoting e-Commerce:

– The Government of India had launched an e-Commerce portal called TRIFED and a portal called “Tribes India” which has enabled 55000 tribal artisans get access to international markets. On the lines of TRIFED, the farm grown commodities can also be provided similar arrangements so that the farmer producer organization can also enter into the international markets.

– Cent per cent FDI is allowed in companies engaged in B2B e-Commerce business on the lines of Walmart and Alibaba.

– Cent per cent FDI is allowed for trading of food products manufactured or produced in India through e-Commerce platform

– The food safety and standards authority of India (FSSAI) has also issued draft norms for licensing online food operators. The consumer affairs ministry is also planning to regulate e-Commerce sector highly competitive.

– With no major entry barriers and with few e-tailers, the Indian market for e-Commerce has grown at a fast pace for the past three years. Omni-channel retailers such as shoppers-stop; Reliance; Croma etc. have also embraced e-Commerce as another sales channel to increase digital footprints.

– The United States is one of the top ten countries for cross border shopping for Indian buyers. Automotive, Baby product supplies, toys, clothing, footwear, wearable and accessories, jewelry, watches, cosmetics, health products and digital entertainment and educational services are some of the leading categories for cross-border e-Commerce. Some of the challenges restricting the growth of cross-border e-Commerce are high shipping costs, import duties and complexities in returns and exchanges. These are to be revisited.

Strategies for promoting cross border e-Commerce:

Recently, USA has imposed restrictions and raised import duties for certain products and this has become a big impediment for the cross-border e-Commerce and hence in a joint sitting, one has to negotiate to alleviate the cost escalation in respect of food products and its shipping to consuming end in India or China.

From the consumer survey, one could understand that the awareness creation through appropriate education is lacking in Indian context and hence awareness creation exercise need to be created. As part of the awareness creation exercise, the student exchange programme with Indian Universities and the Chinese Universities can be thought off.

Since e-Commerce platforms are expanding their wings to food and farm related products, the academic programs focusing e-Agribusiness, e-Agribusiness and information management, e-Agribusiness and e-Commerce, e-Agribusiness, e-Commerce and logistics can be thought off and the same may be implemented in farm varsities so as to infuse diversification in the existing programmes.

The academic programmes in support of cross border e-Commerce is lacking in India when compared to China and hence, the programme like e-Agribusiness and e-Commerce can be introduced in the Departments of Agricultural Economics or by establishing a separate department for e-Commerce and Agribusiness or even a School of e-Commerce and Entrepreneurship can be thought off in the farm varsities.

Summary:

The cross border e-Commerce is gaining momentum in many nations. Among these, China is the country leading in a big way followed by India in absolute terms. When one could compare the performance of e-Commerce institutions in India, the performance of them will outperform the Chinese institutions shortly as per the growth rate in respect of certain indicators. To be specific, the internet user's penetration and the mobile phone internet user's rate are exorbitant in respect of India than China. To stabilize the e-Commerce trade, the governmental interventions are needed in certain areas like attracting Foreign Direct Investment in e-Commerce business. Besides, e-Commerce education in Indian Universities are to be diversified so as to infuse greater awareness and to realize its impact.

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