An Analytical Study of Future Trends In E-Business Technologies

Ratnakar Mann, Shweta Joshi

*PG Deptt of CS & IT, Lyallpur Khalsa college, Jalandhar, India*

Abstract- The paper attempts to explore the wide field of e-business and its relevance in today's scenario. The rapid shift in e-business paradigms is explained in the paper. Starting from the very basic concept of e-business, its definition and advantages are discussed in the paper which provides a framework for the rest of the paper. The origin and evolution of e-business technologies is highlighted. Various issues pertaining to usage of e-business technology are discussed. The main thrust of the paper is analytical study of future trends in e-business technologies. Different trends that may bring a revolution and huge transformation in the field of e-business are explored. Also the pros and cons of each of the future trends are discussed and concluding recommendations are made.

Keywords- e-Business, storefront digitizing, beacon technology, drones

I. INTRODUCTION TO E-BUSINESS

Electronic Business popularly known as e-business is the process of doing business with the help of electronic media. E-commerce is one of the related part of e-business but surely it is not e-business .e-business includes many activities which include e-commerce (Buying and selling goods, services and information online) and conducting other intra business tasks such as communicating with employees, providing services to the customers, Marketing, Recruiting and E-payments etc .e-business usually refers to those businesses that exist on the WWW. Widespread usage of Internet is the main reason which has given rise to e-business and E-commerce opportunities. To utilize advancements in e-business various tools such as EDI (Electronic Data Interchange), Mobile Phones, PDA (Personal Digital Assistant), internet, intranet, extranets and Facsimile are required. E-business is an opportunity for the business to grow in a significant manner as it helps in performing different activities as E- Tailing, Online communication, such as E-mail, Online training for staff (E-learning) and Web-site marketing.

Today, as real enterprises ceaselessly reevaluate their organizations in terms of the Internet, particularly its accessibility, wide reach and regularly evolving capacities, they are conducting e-business to purchase parts and supplies from different organizations, work together on deals advancements, and lead joint research.
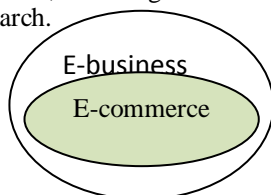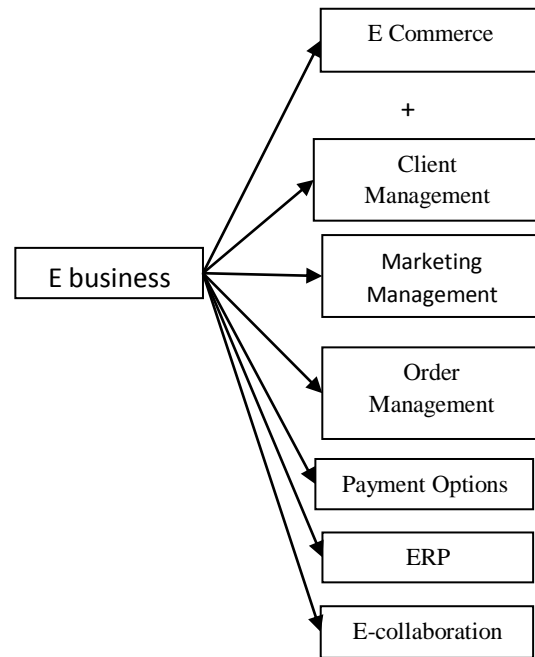

How E-commerce differs from e-Business

TABLE 1

Criteria	E-commerce	e-business
Definition	Buying or selling of goods on internet	Running business on internet
Limited to Monetary transactions?	Yes	No
Network	Internet	Internet, intranet, extranet
Transactions	Commercial	Business
Set	Subset	Superset
Tools	Website	Website, ERP ,CRM

II. THE MODEL OF E-BUSINESS

Advantages of E-business

A. Removes location and availability restrictions:

With traditional business store, customers are bound with timings of store and its location but when e-business is considered it provides access to every resource available as internet reaches across the world which means business have same capabilities when it is even online and moreover it is available 24 hours a day.

B.   Saves time and money spent:
With bills for lease, power, phones and general office upkeep, costs for physical areas can begin to heap up. By putting business on the web, one can diminish or kill a great deal of these overhead expenses. Moreover, things get a lot easier from a logistical standpoint, since one individual can perform the necessary task of many people. For example, sending a mass email to a list of clients is easier than conveying 100 direct mailings (paper, postage and staff). This method is also friendlier on the pockets as customer can refuse the purchase or can exchange it. E-business showcasing is more moderate as well, as internet publicizing tends to cost not as much as conventional promoting channels.

C.   Expedites customer service:
At the point when clients get in touch with the business dealers, they need quick answers. Due to email and live talk, e-business experiences no difficulty satisfying that need. In addition, these adaptable types of client services can stretch out past a physical store's hours of activity. E-businesses likewise offer the facility of delivering items straight to a client's place.

D.   Helps in improving the business:
When it comes to learning more about the clients, a physical store is no counterpart for an e-business. With tools like Google Analytics, it's much easier to access information on sales and customers at no additional charges. In contrast, to retrieve such statistics about customers in a physical store, hard record-keeping needs to be done. Maintaining customer information gives knowledge into the clients' purchasing practices and interests, which is important to enhancing the business.

E.   Helps in keeping business relevant and updated:
The web is a major piece of our lives, and isn't hinting of leaving at any point in the near future. Opening an e-business keeps one in contact with what's current: it makes everything fair and gives the resources needed to compete in today's increasingly digital market center. For instance, having an online presence on internet sites is a major move in getting listed among top competitors in business. To remain relevant, organizations need to reliably post content on these outlets that intrigue their purchasers.

When it is E business, both the purchaser and the business receive the benefits. Being on the web makes a business advantageous, available, moderate and better prepared to help its clients, and when organizations are centered on profiting their clients, everyone wins.

III. ORIGIN AND EVOLUTION OF E-BUSINESS

Advancements in server innovation, including the capacity to create sites from item databases has resulted in production of huge Internet-only organizations like eBay and Amazon. In previous item-sales sites, every item must be manually posted on a site page. With database-driven sites, organizations could utilize website templates to show thousands of products on-the-fly. As the quantity of accessible items expanded, so did activity and sales on these sites. [1]
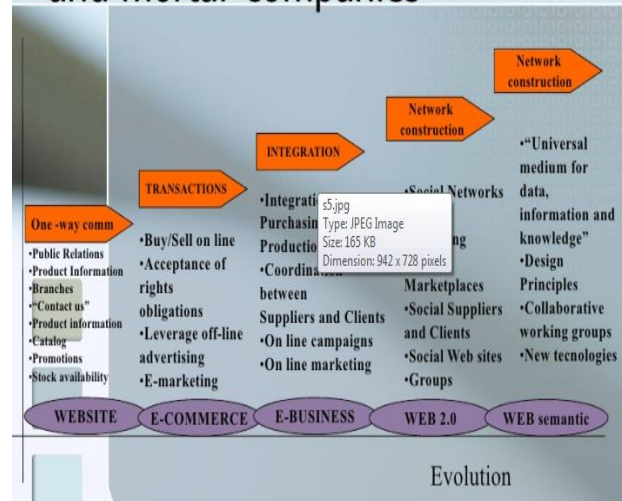

Fig.1: Evolution of E-business [5]

E-business is the mix of electronic innovation in business functions. It incorporates the utilization of PCs and computerized systems for internal activities and in addition the Internet for communication and E-commerce. The advancement of organizations toward expanding e-business functions dates from the PCs in the 1980s and the improvement of the business Internet in the 1990s.
The primary significant development in e-business was the introduction of the Internet to consumers in 1994. The ascent of E business has been meteoric as purchasers increased more prominent access to the web.

IV. FUTURE TRENDS IN E-BUSINESS TECHNOLOGIES

As the e-business technologies are spreading rapidly and widely, new technologies are emerging to facilitate customer experience. Some of the upcoming e-commerce technologies that will change the way business will be carried out in future are discussed below.

A.   Storefront Digitizing
One of the most promising upcoming technologies is Storefront Digitizing. In order to provide excellent service to customers, firms like eBay, Wal-Mart [6] have all started Storefront Digitizing. This technique uses the memory mirror technology which is more like a virtual mirror where a customer can see him/herself and visualize how they would look by wearing a particular outfit. They don't actually wear the outfit but mere visualization can help them to make a good decision regarding buying the goods. The mirror stores their information about likes and dislikes, and interacts with them on demand. A retailer's merchandising strategy as well as its physical design strategy must bring omnichannel agility [7] and allow retailers to easily store and deliver the products their customers are searching for – from their most in-demand product to the rare product that a small number of loyal customers desire. Combining digital elements into the traditional store, and

incorporating an online marketplace is the key to helping retailers. The major advantage of this technology can be customer satisfaction while purchasing goods and reduction in goods exchange bought using Storefront Digitizing.

B. Chatbots

The technology of making use of Chatbots is growing rapidly these days. This technology has evolved as smarter and better in terms of processing speeds. Chatbots are also known as "conversational agents" – are software applications that mimic written or spoken human speech for the purposes of simulating a conversation or interaction with a real person. Chatbots have become extremely popular in recent years due to dramatic advancements in machine learning and other underlying technologies such as natural language processing. [8]Chatbots eliminate the need of human interaction. The navigational experience of a customer on e-business website is less text-based but more conversation-based and chatbots become a handy tool. Major benefits of this technology include immediate online assistance to queries. The biggest advantages of chatbots include reaching to a broader audience, and the ability to automate personalized messages.

C. Beacon Technology

Beacon technology is a very innovative technology which enables different devices to connect with each other via Bluetooth Low Energy (BLE). Beacons make use of BLE to broadcast a signal from an app on one device to a compatible app on another device. Its major feature is that it acts in a similar way as the classic Bluetooth but extends to not more than 50 meters. Different businesses can use beacons for a range of applications, depending on what they want to achieve. Beacon technology operates in the following manner: It sends the current deals and offers, when the customer enters the 'Zone'. Before receiving the promotional details, the devices need to be connected with each other that are called 'beacons' post connectivity. iBeacon was introduced by Apple in 2013 and ever since then, more and more companies have embraced beacon technology and applied it to the services they provide and this technology is expected to grow enormously in the times to come because of the multiple advantages that it offers. Some of the important advantages of Beacon Technology are: Relevant Information in Real-Time, Indoor Navigation, Efficient Service and Quick Payments, Offers and Discounts, Reduced Waiting Time and Queuing, Delivery Tracking. [9]

D. Direct Social Media Purchase

Direct social media purchase is currently being put to practice in e-business but it is expected to rise rapidly in the coming days. Under this technology, the customer can directly purchase goods from the social media websites like Facebook, Pinterest, Instagram and Twitter by clicking on 'Buy now' button straightforward from the site's page and proceed for online payment, eliminating the need to visit the e business website. Several advantages of using social media to market business are: Increased Brand Awareness, More Inbound Traffic, Improved Search Engine Rankings, Higher Conversion Rates, Better Customer Satisfaction, Improved Brand Loyalty, More Brand Authority, Cost-Effective, Gain Marketplace Insights. [10]

E. Voice Assistants

Voice-assistant technology is a very convenient and efficient technology which is based on the IoT (Internet of Things). It listens to the users voice commands and is capable to perform tasks like purchases, searches, help, etc. The prime examples are Google Assistant, Amazon's Alexa, Apple's Siri and Microsoft's Cortana. These voice assistants can buy movie tickets, book a taxi, takeout an order, and perform other tasks efficiently on a single command of user. Some of the advantages of using Voice Assistants are Higher Customer Engagement, Wider Outreach, 24/7 Service, Cost-Effective Option.[11]

F. Drone and Droid Delivery

Drone delivery is an upcoming technology with multiple benefits.

Drones were introduced many years back but nobody had ever imagined that they were going to deliver stuffs to customer addresses. It is one of the most pioneering technologies that are going to shape up the future retail industries. There are several companies that have already started making use of this technology. The technology has advanced so much that United States and Europe are working on building the airports specifically for parking drones named drone ports. The drones can fly at the rate of 60 miles per hour with an altitude of 400 feet. They can carry items up to 2 pounds. Making use of this technology can greatly reduce the delivery time of the goods and customers can get their selected products delivered on the same day as well.

Similarly, Droids can be used for delivering goods to customers. Droids are small robotic machines which are capable of handling weight typically between 20 to 30 pounds. They have cameras installed in them to view the surroundings and stream the live video. They even have microphone in them to interact with the customers and a GPS tracking between the source and destination. Droids can quickly reach the delivery address and hand the item to the respective customer, without any interruptions.

Some of the advantages that drone and droid delivery offers are : Deliver Products, Improves Time Management, Conserves Energy, Saves Time, Promote Safety, Accuracy.[12] The drones not only have advantages but there are few limitations too that are associated with them. Some of the disadvantages of drone usage are: Expensive Device, Battery Defects, Require Technical Familiarity, Defective drone, Privacy Breach, Easily Stolen.

G. Augmented Reality Device

AR technology offers a three-dimensional experience to witness the virtual items by augmenting the real objects with the virtual ones at the home itself. This technology can be real helpful in cases when one has a confusion of what to purchase. One can simply try the virtual objects whichever are visible at the website. This can help the customer to visualize what looks better keeping in mind one's location and one can shop accordingly. Using this technology, one doesn't have to choose randomly. One can have a virtual experience before actually purchasing and make a wise decision. Another major advantage of this technology is that the chances of returning the products will be greatly reduced. Some other benefits of AR for marketing are: Technology is unique and noticeable,

augmented reality gets more virility, AR opportunities for personalization, Content quality improvement, Interactivity maintains the retention. [13]

V.   ISSUES AND RECOMMENDATIONS

With current e-business and with its future trends there might be some issues that need to be considered as they have greater impact on the growth of particular trend in market .In this paper some issues of e-business are considered and recommendations as a solution are given to reduce the negative impact of the specific trend .First major issue is fear of intrusion of privacy or protection of Sensitive information of their customer such as E-mail, Phone number and most of the e-business activities also involve transactions so security of banking and credit card information is a part of important issue in e-business. Customer security laws for the internet contrast from nation to nation and court judgments go in one country are frequently unenforceable in another country. This makes it troublesome for online purchasers to ensure their rights. Though a crime free society is perfect and exists only in illusion, it should be constant attempt of rules to keep the criminalities lowest. [2]Recommendation:-Sensitive data needs to be protected with high encryption keys so that no one can hack the data. Common cyber laws for every country are imposed hard for protection.

Issue: e-businesses offer numerous favorable benefits over conventional business. They enable organizations to beat the physical constraints like space. They can offer the most extensive range of items to clients without really having them in their distribution centers. They can likewise offer quick and exact exchanges as per the need of their clients without making a big investment. Despite the fact that e-organizations have worldwide access, they can't expect that their items will be acknowledged all around.

Recommendation: They allowto customize their sites, features, business models and strategies to suit the customers' tastes and preferences that differ from country to country. As customers favor one-stop shopping experience, the e-business need to guarantee that they offer a range of items and related services. Since benefit is never again thought about an after deals activity, e-business ought to be prepared to offer administration the minute a client connects with the organization (even before he buys an item from the site). Further, e-organizations ought to enable them to arrange their own items and make alterations even after they send their requests. The site needs to be easy to understand and enable clients to look at different items on offer and select the best one. To develop as a genuine virtual business, associations need to outsource all the functions with the exception of the one where its center ability lies. In e-business, players should be proactive and assume a dynamic part in the nonstop development in technology.

VI.   CONCLUSION

Worldwide retail e-business sales have reached $2.290 trillion in 2017 and are set to hit $4.479 trillion by 2021. [14] While many markets are already well established, there's still a huge potential audience to be reached and exciting up-coming trends like storefront digitizing, beacon technology, drone delivery can be of great help to reach them.

The future of e business is surely going to be bright both from customer and business perspectives. With the usage of upcoming technologies as discussed in the section above, the delivery times are expected to improve greatly, customer service will get increasingly better, and product selection will become ever greater. Greater personalization and a better customer experience will be boon for e- businesses in the future. AI systems can be efficiently used to optimize business sales. By developing systems using AI algorithms, e business will flourish into an even higher level of sophistication as the technology improves.

VII.   REFERENCES

[1].   https://bizfluent.com/about-5282606-history-ebusiness.html

[2].   http://www.icmrindia.org/courseware/e-business/Future%20of%20e-business%20Chap26.htm

[3].   http://www.sltda.lk/e_business

[4].   https://www.volusion.com/blog/e-business-advantages/

[5].   https://www.slideshare.net/renerojas/e-business-process-for-entrepreneurs

[6].   http://www.ndimensionz.com/kb/latest-e-commerce-technologies-and-trends-for-future/

[7].   http://www.fourthsource.com/ecommerce/digitising-storefront-brick-mortar-store-catalyst-omnichannel-retail-20849

[8].   https://www.wordstream.com/blog/ws/2017/10/04/chatbots

[9].   https://localz.com/seven-ways-beacons-benefit-customers/

[10].   https://www.bluefountainmedia.com/blog/advantages-of-social-media-marketing/

[11].   https://www.upwork.com/hiring/for-clients/conversational-technology-will-transform-e-commerce-industry/

[12].   http://grinddrone.com/info/pros-cons-delivery-drones

[13].   https://theappsolutions.com/blog/development/ar-benefits-for-business/

[14].   http://www.future-of-ecommerce.com/eight-trends-to-watch-in-2018/