

A Research Paper on Recent Innovations in E-Business

Ms. Shivani Verma¹, Dr. Vijeyata Tegwal²

¹*Research scholar, D.N.P.G. College Meerut (India)*

²*Assistant Professor, IIMT College of Engineering, Greater Noida (India)*

ABSTRACT

Purpose: *The Purpose of this paper is to highlight the latest innovations in technologies built to facilitate E-Business.*

Finding: *Overall preliminary finding confirm that the E-business has changed the shopping experience from the point of view of customers and facilitated the whole world as connected business platforms.*

Value of paper: *E-business can comprise a range of functions and services, ranging from the development of intranets and extranets to e-service, the provision of services and tasks over the Internet by application service providers. Today, as major corporations continuously rethink their businesses in terms of the Internet, specifically its availability, wide reach and ever-changing capabilities, they are conducting e-business to buy parts and supplies from other companies, collaborate on sales promotions, and conduct joint research. With the security built into today's browsers, and with digital certificates now available for individuals and companies from VeriSign, a certificate issuer, much of the early concern about the security of business transaction on the Web has abated, and e-business by whatever name is accelerating.*

I. INTRODUCTION

Electronic Business or e-business is a term which can be used for any kind of business or commercial transaction that includes sharing information across the internet. Commerce constitutes the exchange of products and services between businesses, groups and individuals and can be seen as one of the essential activities of any business. Electronic commerce focuses on the use of Information Communication Technology to enable the external activities and relationships of the business with individuals, groups and other businesses or e business refers to business with help of internet i.e. doing business with the help of internet network . The term "e-business" was coined by IBM's marketing and Internet team in 1996.

II. FOUNDER OF E-BUSINESS

In 1994, IBM, with its agency Ogilvy & Mather, began to use its foundation in IT solutions and expertise to market itself as a leader of conducting business on the Internet through the term "e-business." Then CEO Louis V. Gerstner, Jr. was prepared to invest \$1 billion to market this new brand.

After conducting worldwide market research in October 1997, IBM began with an eight-page piece in the *Wall Street Journal* that would introduce the concept of "e-business" and advertise IBM's expertise in the new

field. IBM decided *not* to trademark the term "e-business" in the hopes that other companies would use the term and create an entire new industry. However, this proved to be too successful and by 2000, to differentiate itself, IBM launched a \$300 million campaign about its "e-business infrastructure" capabilities. Since that time, the terms, "e-business" and "e-commerce" have been loosely interchangeable and have become a part of the common vernacular.

III. E-COMMERCE

E-commerce (short for "electronic commerce") is trading in products or services using computer networks, such as the Internet. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle, although it may also use other technologies such as e-mail.

IV. LICENSING MODELS OF E-COMMERCE

➤ On-premises e-commerce

On-premises e-commerce software usually requires initial one time purchase investment in terms of licensing fees. Also, it implies extra costs related to hardware and installation services as well as data migration and on-going maintenance fees that are usually charged on a yearly basis for software updates and support. Some examples of typical on premises E-commerce platforms are Oracle Web Commerce(formerly ATG) Hybris (company), Intershop Communications,Sana Commerce., and IBM WebSphere.

Advantages:

1. Easily customizable;
2. Data security;
3. High performance;

Disadvantages:

1. Large initial investment;
2. Self-maintenance;
3. Technical knowledge

➤ Fully Managed (FM) E-commerce

Fully Managed (FM) E-commerce - is the next step of Platform as a Service (PaaS). As a basis, PaaS consists of e-commerce software and hardware hosting. In addition to this, fully managed e-commerce solutions provide services like product picture taking, image editing, data management, customer support, marketing consulting. FM E-Commerce is offered to brick-and-mortar stores as a B2B solution to help them start selling online quickly and at low cost. The licensing model is usually based on the sales volume.

➤ Open source E-commerce

Open source e-Commerce is a free of charge platform that doesn't imply licenses fee. Furthermore, open source users are also responsible for installing, maintaining, securing and configuring the software on their own

servers. In order to set up an open source platform, basic technical expertise is required in the areas of web design and development. Software products that are distributed as open source are generally free, and users can access and modify the source code.

Advantages:

1. Free of charge system;
2. Wide variety of available addons/plugins/extensions;
3. Better flexibility with a customizable source code;

Disadvantages:

1. More technical knowledge required;
2. Performance depends on hosting costs
3. No standard integration with back-end system;

Major Recent Innovations of E-Business:-

➤ **Shopkey**

Shopkey makes it easier for Shopify store owners to manage a live chat or instant messaging service from their phone. Currently available to iPhone owners only, the app enables users to get instant access to their entire product catalog using their device's keyboard, and share links (to products) and images (of products) via their messaging service of choice (similar to how you would add an emoji to a message).

Why it's changed e-commerce

It helps Shopify store owners engage and sell to consumers anytime, and more importantly, from anywhere. This is especially valuable when you consider that sites that use live chat have been shown to generate between 4-8x more leads than those that don't.

➤ **Beacon Technology**

Beacon technology has been around since 2013, but it's only been in the last year or so that it's really started catching on.

Its applications stretch well beyond e-commerce, but for online stores that also have physical locations, the potential it offers is huge.

For beacon technology to work, a customer must have downloaded your app - this allows the technology to monitor each user's location (internet connection permitting). From there, whenever the user in question is within a certain distance from a branch of your store, it fires them a message designed to entice them in (usually an offer, but it doesn't have to be).

Why it's changed e-commerce

It's helped align the experience of buying from an e-commerce store with that of visiting a real-life, physical shop. For many customers, it's one or the other - the customer either prefers to buy from the comfort of their home, or they prefer the hands-on, more immediate experience of shopping in a physical store. It doesn't have to be that way. Beacon technology removes that barrier and helps consumers diversify the way they shop, and brands, the way they market to them.

Mobile couponing app company RetailMeNot uses beacon technology to direct offers at users while they're out shopping. For example, its research showed that better use of technology designed to integrate the in-store and

mobile shopping experiences helped UK retailers to unlock an extra £200m (\$244 million dollars) in sales each year and drove more foot traffic.

➤ **Apple Pay**

Entering card details has arguably been one of the biggest barriers to mobile online shopping - it's a little awkward at best and downright frustrating at worst - but things are changing.

Apple Pay was originally designed to make it easier for consumers to complete in-store purchases, but it's now available to Shopify store owners (and their customers) too.

The online branch of Apple Pay enables customers to complete a purchase in your store quickly and securely by tapping the Apple Pay button, and scanning their fingerprint. That's amazing technology that Shopify store owners should be getting excited about. Get it activated by clicking [here](#).

Why it's changed e-commerce

The quicker and easier it is for customers to make a purchase, the greater the odds that they will complete it. That means more sales, higher conversion rates, and increased revenue for e-commerce store owners.

It's too early to see precisely how Apple Pay will affect online transactions but when V3 spoke to Mark Curran - Lloyds' payments and technical services director - about Apple Pay, he said it will have a "significant impact."

"Apple Pay brings something new to the market, no question. It will have a significant impact, and you don't do anything with Apple in a guarded way. You just have to look at their reach, at the type of customers they've got, the number of customers. And the service is pretty good, so I think it will take off."

➤ **Shopify Capital**

Shopify Capital is a money lending service that offers Shopify store owners cash they can use to help them grow their companies.

It's important to note that these aren't loans, but cash advances. There are no banks involved and no monthly repayments. Instead, borrowers pay a small percentage of each sale to Shopify until the loan is repaid.

Why it's changed e-commerce

It lets small businesses access much-needed cash with none of the drawbacks of a traditional loan. There's no paperwork to complete, no interest to pay, and perhaps most critically - no minimum payment. If a store owner doesn't make sales, they don't make repayments. That's a big deal for businesses that can't afford to take on the risks associated with a bank loan. Between launch and June 30th, Shopify stated it had already "advanced over \$5 million to participating merchants."

➤ **Buyable Pins**

Pinterest's Buyable Pins let shoppers buy products without ever leaving the platform. They look almost identical to regular pins, save for a small, blue "Buy It" button that sits next to the famed "Pin It" button.

Users can save products they're interested in to a board (just like they've always done) or buy the item right away, directly through Pinterest. They simply click the Buy It button and complete their purchase using Apple Pay or with a credit card - all from within the Pinterest app.

Initially, Buyable Pins were only available to a select few big brands. Now, retailers who use one of five e-commerce platforms, including Shopify, Magento, and BigCommerce, can get instant access to the feature. Everyone else will have to add themselves to the waiting list.

Why they've changed e-commerce

They fuse social media and e-commerce in a manner that's not only great for businesses, but great for the consumer, too.

Take Facebook Ads. They're awesome for businesses, but they can be highly intrusive to consumers. Buyable Pins are different. They're a natural enhancement for the platform that actually improve user experience by making it easier for consumers to do what they want to do anyway: buy the items they see on Pinterest. This is even more exciting for retailers when you consider the fact that around 84% of Buyable Pins' customers are new to the store in question.

➤ Chatbot on Facebook Messenger

Facebook Messenger is the second-most popular messaging app worldwide (if you didn't guess, WhatsApp is first). In April of this year, Shopify launched Messenger for Shopify, a Facebook Messenger-integrated plugin that lets Shopify store owners chat with their customers on their terms, and their turf.

In addition to this, the plugin features an AI-powered bot that is capable of automating a whole host of tasks, from running ads on Facebook or Instagram, to distributing email campaigns. It even allows customers to shop, ask questions, or receive updates about their purchase, all without ever leaving Facebook Messenger.

Take clothing store Spring. It uses Facebook Messenger to assist customers with an automated personal shopper service that asks questions to narrow down the type of product the customer is interested in buying, and provides recommendations.

Why it's changed e-commerce

There's a reason there are 50 million small business brand pages on Facebook - because we know that if we want to be effective at reaching, selling to, and building relationships with our customers, we have to be where they are.

This is a natural extension to using social media for business. It means customers don't have to visit our sites to interact with us or even make a purchase; the entire process can take place without the customer ever needing to leave their comfort zone - the familiarity of a chat app like Facebook Messenger.

➤ Digitizing the Storefront



One of the most common roadblocks that online retailers haven't completely overcome yet is the fact that people still enjoy the experience of shopping at a physical store. Although the research by Forrester predicts

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that **online retail sales will reach \$370 billion by 2017**, brick-and-mortar is still a dominant player despite the power of smartphones, tablets and the increased investment in online sales by traditional retailers. But, how will new innovations help the e-commerce world become more appealing to consumers? The solution comes in the form of offline and online merging. Ebay, ModCloth, Walmart, and Delta Airlines, for example, have all experimented with pop-up storefronts to use brick-and-mortar opportunities to advocate for their digital experience

Implementations of technologies can bring convenience, ease of use, personalization, process simplification, and the high level of comfort that could be a game-changer. Big brands have started to use “memory” mirror technologies led by RFID tags to let customers try on virtual outfits and place iPads in fitting rooms enabling customers to ask for help, read reviews, see what sizes are in stock, and so on. As a real-world example, American fashion brand Rebecca Minkoff has partnered with Magento to create a **smart dressing room** to provide customers, who create a profile with their phone number, a fully-tailored experience that, recognizes the items that were tried on in the dressing room, which ones were purchased and which ones were left behind. The store can then send updates to the client to notify them that what they tried on is now available in their size or color. These, while impressive, are only the basics as many more customization options are available on the platform. In other words, the system is like “cookies” in your web browser that follow you around in the real-world.

Kady Thomason of Rock & Republic Clothing sees virtual try-on technology as **the future of shopping**, online and in stores: *“Being able to see yourself, 360 degrees, wearing something where fit is crucial, like pants, glasses, a fitted blazer—that’s going to change the shopping game forever, online and in-store. There will be a major reduction in returns because shoppers will be able to accurately identify the size and color product they’ll want. It’s helping the consumer get exactly what they want. It’s exciting to see how this juxtaposition of fashion and tech will evolve.”*

➤ **Data Integration**



I would like to stress the importance and impact of data integration for retailers with an example that explains how Aldo took new technology to build necessary bridges between legacy and more modern system.

Lance Martel, **Vice President and CIO at Aldo Group**, a global chain of shoe and accessory stores, shifted his focus to building out a new e-commerce platform that would effectively, meld in-store and online shopping experiences. On the front end, the platform uses Hybris, SAP’s e-commerce solution that enables organizations to deliver convenient, contextual, and relevant shopping experiences by personalizing each customer's needs,

while the back-end system is **IBM Sterling Order Management**, software that keeps tabs on inventory and order fulfillment. As a whole, they both connect to Aldo's existing systems. *"We realized the need for a data integration product between those products and our legacy system, like our core merchandising and warehouse system,"* he said. Although the brand was keeping up with the digital transformation, using a handful of small applications wasn't a type of integration Aldo wanted to implement on a global level. At this point, Martel and his team decided to experiment with a new integrator on the block: Redwood City-California based open source integration software provider Talend. According to what the software company stated, with using Talend, Aldo was able to integrate more than 100 applications, services, and databases, processing millions of events per day. Additionally, the platform provides enough flexibility to support integration with the Restful APIs commonly used by websites, mobile applications and social networking sites, as well as with flat file integrations. As a result, in a few months, Aldo already started to receive immediate ROI as it **saw the largest Black Friday and Cyber Monday in its e-commerce sales history**. According to Lance Martel, the general growth of e-commerce, mobile and in-store technologies were all **powered by this data integration technology**.

➤ **Chatbot**

Chatbots aren't new, yet one of the earliest chatbots, ELIZA, **was published in 1966** by tapping into the same pattern-matching foundation with many modern chatbots. **What's new** however, is that there's been plenty of progress in getting chatbots up to speed in processing and responding to **contextual awareness**, thanks to **big data** and **machine learning**. This technology is designed to help businesses maintain the feeling of connection as well as eliminate wait times, dropped calls, and lost tempers. After all, e-commerce should be driving your customer experience.

As more companies invest in strong AI systems, such as neural nets, deep learning, and real-world human trainers, **chatbots become a real digital disruption** that could shake up major industries and consumer interactions.

"It's technology that's inevitable," **Microsoft's CEO Satya Nadella** has said and referred to the development of chatbots as a way to create **"conversation as a platform."**

Slack recently launched an external API for developers, which Taco Bell has already publicized with its in-the-works 'Tacobot', apparently capable of taking your order and doing so with 'personality' whether consumers relate it to the same 'brand' of personality will be one of many areas for exploration by businesses.

➤ **Voice-activated Assistants**

Holger Luedorf, SVP Business at Postmates, believes voice is a potentially powerful game changer, and he seems to be right as voice-activated assistants are picking up speed. Many also believe this technology will intersect and become one with chatbots/virtual assistants at some point in the future.

Amazon's Echo Alexa, which represents the beacon of today's smart home, allows consumers to order the 'usual' pizza or purchase more Tide dish detergent from a local delivery company. This IoT-connected, voice-activated, convenient and efficient household assistant is **capable of 'doing' commerce with a simple vocal command** and turning off lights to save energy at the same time.

Although the technology has been rapidly emerging in the US, China's voice-powered mobile app WeChat has taken off to the tune of 700 million active users every month. The platform can hail a taxi, order takeout, buy

movie tickets, and even customize a retail purchase according to your needs. Over 10 million businesses in China have WeChat accounts.

➤ **Beacon Technology**

Companies have started to offer mobile deals and greetings when someone walks into the store through beacon technology which works when consumers' mobile devices keep searching for a beacon. Physical stores can implement physical beacons in the shops, so once someone walks in, their phone accepts the signal and provides something like a promotion. Marketers can configure their apps to activate messages as soon as certain conditions are met. If the user, for example, is within the beacon range for 3 seconds or 3 seconds after the user has left the beacon range, a marketing message can be triggered. Retailers like Sephora utilize beacon technology, which sends personalized promotions to users' mobile device while simultaneously collecting consumer data. The beauty chain also has rolled out immersive apps that allow users to virtually try on products. Beacons are truly versatile and have found wide-scale implementation from airports to retail stores to restaurants delivering marketing offers and product information. Other brands featuring beacons for marketing include Starbucks, Macy's, Target, and Coca-Cola.

➤ **Direct Purchase through Social Media**

More and more "direct purchase" options are popping up on social media platforms like Twitter, Pinterest, Instagram, and Facebook. In fact, Facebook is the source of 64% of social sales worldwide, while 93% of Pinterest users have bought something online in the last 6 months. Moreover, the medium is the source of 16% of all social sales as Pinterest's rich pins functionality enables retailers to fully integrate their site, automatically synchronizing any change on the product's page with the product's "pin". Clicking on the pin automatically takes the shopper to the product page, optimized to convert this prospect into a sale. J.Crew, GAP, and Nordstrom are only a few of the American retailers that quickly capitalized on this new trend. On Instagram, integrated applications now make it possible to go from an Instagram picture directly to a product page. It drives even more traffic to a retailer's website when celebrities and/or influencers promote products.

➤ **Video Content**

Many businesses are now taking things to the next level with branded, custom video content as it can boost a retailers' site SEO, increase conversions, make content more shareable, build a lot of trust with prospective customers, and help shoppers consume more information in less time. Behind-the-scenes production videos, demonstrations, 360-degree product rotations and even live streaming are now being looked at as viable strategies. Especially, product videos which tell an engaging story can revolutionize any brand. Here's a great example that shows how a successful video content strategy leads a start-up e-commerce company to make \$1 billion in less than five years.

In 2012, Michael Dubin launched an online men's razor merchant, Dollar Shave Club, with a hilarious YouTube videomaking fun of the pain and expense of shaving. The video went viral, the website crashed, and the blades sold out in six hours. Guess what? Two weeks ago, Dollar Shave Club hit the jackpot as Unilever agreed to buy the online men's razor merchant for \$1 billion which is about five times the revenue that Dollar Shave Club is expected to bring in this year.

Ryan Darnell, Principal at Basset Investment Group, which invests in such e-commerce startups as luggage seller Raden, commented: *“Unilever and P&G are masters at traditional marketing, mostly offline, but they struggle with the direct-to-consumer brand-building at which upstarts like Dollar Shave Club excel. These startups conduct authentic-seeming conversation with customers over social media, while the consumer products conglomerate take to Twitter and Facebook mostly to address customer complaints.”*

These are really just the starting point as we will be seeing fascinating changes and outside-the-box thinking in the e-commerce technology space in the coming years. Throughout this period, some technologies like mobile-first will become a mainstream, while some advances like drones may disappear in the near future. Regardless, investing in these and other emerging technologies is undoubtedly a smart move when it comes to positioning a business that remains with or ahead of the curve over the next 5 to 10 years.

As E-Commerce technology continually evolves, customer experience is becoming increasingly essential to the conversion of sales. Some retailers are currently planning to create and sustain customer value by providing sophisticated digital experiences that deliver orders more quickly, blend physical and digital capabilities, and simplify ordering procedures. Drones, droids, augmented reality goggles, and smart refrigerators are some of the more prominent innovations on the horizon that are expected to transform the E-Commerce industry.

➤ Drone Delivery



The growing popularity and availability of drone delivery is expected to be one of the most innovative technologies in the retail industry over the next decade. Though regulations (primarily concerning airspace governance) have yet to be established in some parts of the world and are therefore delaying the widespread use of drones, the new delivery system has already played a big role in delivering products to aid disaster relief efforts. The existing delivery technology for these efforts easily translates to the online retail industry, with major retail and delivery companies exploring how they can incorporate drone technology and future eCommerce solutions. Most drones have a cruising altitude of 400 feet and can fly at roughly 60 miles per hour. Radius distances vary from 10 to 15 miles away depending on the prototype, and drones can generally carry packages up to 5 pounds. Alongside eCommerce giants who want to deploy the technology, startups like Flirtey, a U.S. company specializing in the delivery of medical supplies, have achieved ground-breaking developments like making the first FAA approved doorstep delivery drone. Australia Post is currently testing drones to commercially deliver parcels to civilian addresses, and sites in the U.S. and Europe have been quick to build airports specifically for drones (internally referred to as “droneports”). In time, drones could enable some companies to offer same-day shipping, or even same-hour delivery in highly populous areas. These faster

delivery times along with a growing number of online shoppers worldwide will likely encourage more online purchases in the future.

➤ Droid Delivery



A more grounded solution, droid delivery is slowly gaining attention as well. Droids are little robots, typically built with six wagon wheels that travel along sidewalks at a pedestrian pace (usually about four miles per hour, though most are capable of speeds more than twice as fast). The most popular delivery droid so far has been created by Starship Technologies, a startup assembled by the founding engineers of Skype. This particular droid weighs between 20 and 30 pounds, is capable of transporting roughly 20 pounds of goods in 30 minutes or less, and is designed to complete the final mile of a delivery. They can climb small sets of stairs, are equipped with nine cameras to stream live video back to their base, a microphone for two-way communication with customers, GPS tracking (for both their base and shoppers), and sensors that help it navigate any obstacles or foot traffic on sidewalks. Environmentalists like these little delivery droids because they use less energy than most lightbulbs and because they not only reduce vehicle emissions but are also generally quicker to deliver products. In fact, nearly 30% of transportation costs are incurred during the last mile, when delivery drivers must search for a parking space and leave their car idling while they make the last few steps of the trip walking to the customers' front door. Delivery droids will make the whole process less expensive and will therefore appeal to retailers and fulfillment companies looking to cut cost and delivery times. Though droids are not yet utilized within the U.S., several companies plan to deploy testing this summer in southern states and on the West Coast. Around the world, luxury hotels have implemented delivery droids to boost their hospitality capabilities. For example, hotel droids are able to bring necessities like extra towels, soaps, and even room service meals. In Australia, Domino's Pizza introduced its own robot to deliver pizzas quickly to customers, avoiding traffic and parking problems.

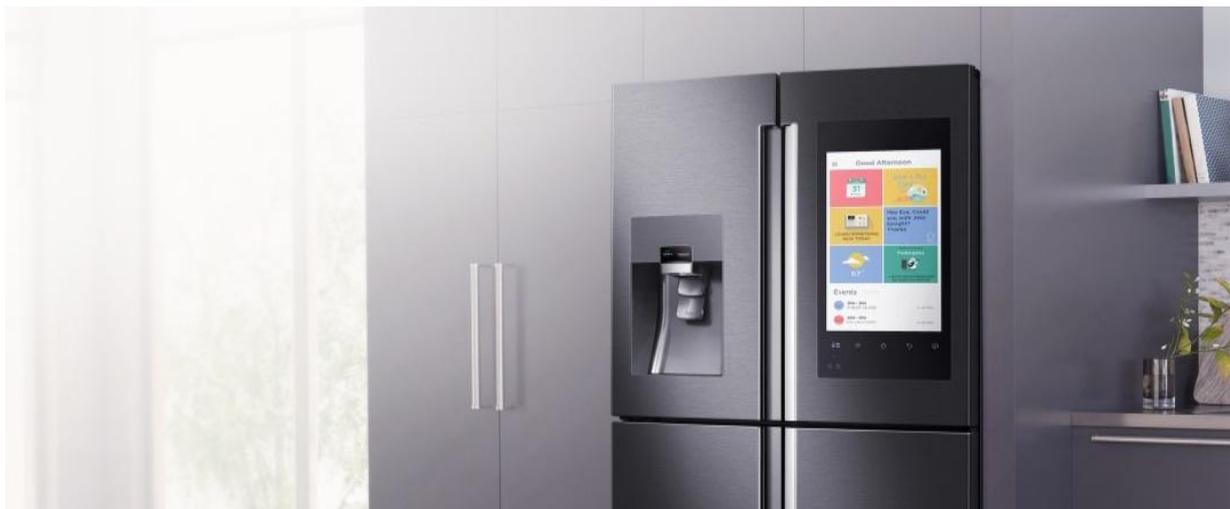
➤ Augmented Reality Technology



In terms of discovering products, retailers have implemented the use of augmented reality to increase online sales. In-home augmented or virtual reality technology comes in the form of headsets or goggles that create an interactive, 3-D shopping experience for the user. It provides retailers an in-home extension of their physical stores and can potentially increase sales with simplistic user experiences and built-in upselling features. Goggle technologies or virtual reality headsets (such as Microsoft HoloLens, Sony SmartEyeglass, Oculus Rift) are growing in popularity due to their multi-use properties in terms of retail marketing. With goggles, shoppers can look into their mirror at home and transform it into an interactive dressing room. The goggles can then help the shopper choose correct clothing sizes with a virtual view of how the garments will fit as well as suggest matching accessories. By utilizing this technology to accurately choose garment sizes, the percentage of online return shipments may also decrease.

Home design will also be transformed with the use of goggle technologies. Leading furniture companies will be able to display what their products will look like within a shopper's home and allow the shopper to interact with the furniture in order to choose what styles they like best. For example, a customer will be able to select and visualize a couch, moving it to different sides of the room to see how they like it or even try a different size to make sure it fits in a specific space.

➤ **Smart Refrigerators**



Gone are the days of putting little Danny's artwork on the fridge. With today's new smart refrigerators, users can display photos, update digital calendars, watch TV, see the weather forecast, play music, compile recipes, receive voice instructions for cooking, and leave notes for others. More importantly, shoppers can access camera views of their refrigerator's contents on their smartphones and even order groceries and kitchen essentials

straight from their refrigerator door. Several prototype refrigerators can even suggest groceries that are running low or notify the user when foods expire and can generate online shopping lists to be purchased and delivered at a chosen time. Shoppers can also order necessities from favorite recipes they've saved without the hassle of going to the grocery store, with the refrigerator first taking inventory of the supplies already present and only ordering the necessary ingredients.

With the nearing arrival and growing popularity of these technological advances, the eCommerce industry will likely adjust to leverage new capabilities. With drone and droid delivery technology, fulfillment will have lower long-term costs and faster delivery rates. Augmented reality will provide an in-home shopping experience to customers and will likely decrease return rates with more accurate sizing abilities. Specialty retailers will also get a new opportunity to sell unique pieces online as customers will be able to visualize these products in their homes. Appliance technologies like the smart refrigerator will capitalize on recurring kitchen purchases and will simplify ordering online with delivery options. In the future, retailers can utilize these and additional new technologies to align forward-thinking business strategies so they can possibly obtain an advantage over their direct competition.

➤ **M-Commerce**

Mobile is among the top eCommerce trends 2017. The share of m-commerce sales in the United States is expected to grow up to 65 percent in 2017 and almost 80 percent in 2020, as compared to 46 percent in 2015. In 2020 mobile commerce revenues are expected to total almost \$336 billion in the US, in contrast with \$156 billion in 2017. For these reasons, e-tailing businesses should focus on their mobile offerings, work on engaging notifications and additional conveniences.

➤ **Shipping matters**

Delivery time and price are among the top factors when it comes to e-tailing. Today, people are impatient and they don't want to wait for one-two weeks for their purchases to arrive. That's why brands often advertise same-day or overnight delivery, where possible. Moreover, about 29 percent of online shoppers are ready to overpay for same-day delivery, according to Forrester report.

However, when it comes to shipping fee 28 percent will leave their carts if the delivery charge is too high. While 75 percent of consumers will abandon their buying and opt for those retailers that offer free shipping.

V. CONCERNS OF E-BUSINESS

While much has been written of the economic advantages of Internet-enabled commerce, there is also evidence that some aspects of the internet such as maps and location-aware services may serve to reinforce economic inequality and the digital divide. Electronic commerce may be responsible for consolidation and the decline of mom-and-pop, brick and mortar businesses resulting in increases in income inequality.

VI. SECURITY

E-business systems naturally have greater security risks than traditional business systems, therefore it is important for e-business systems to be fully protected against these risks. A far greater number of people have access to e-businesses through the internet than would have access to a traditional business. Customers, suppliers, employees,

and numerous other people use any particular e-business system daily and expect their confidential information to stay secure. Hackers are one of the great threats to the security of e-businesses. Some common security concerns for e-Businesses include keeping business and customer information private and confidential, authenticity of data, and data integrity. Some of the methods of protecting e-business security and keeping information secure include physical security measures as well as data storage, data transmission, anti-virus software, firewalls, and encryption to list a few.

VII. PRIVACY AND CONFIDENTIALITY

Confidentiality is the extent to which businesses makes personal information available to other businesses and individuals. With any business, confidential information must remain secure and only be accessible to the intended recipient. However, this becomes even more difficult when dealing with e-businesses specifically. To keep such information secure means protecting any electronic records and files from unauthorized access, as well as ensuring safe transmission and data storage of such information. Tools such as encryption and firewalls manage this specific concern within e-business.

VIII. AUTHENTICITY

E-business transactions pose greater challenges for establishing authenticity due to the ease with which electronic information may be altered and copied. Both parties in an e-business transaction want to have the assurance that the other party is who they claim to be, especially when a customer places an order and then submits a payment electronically. One common way to ensure this is to limit access to a network or trusted parties by using a virtual private network (VPN) technology. The establishment of authenticity is even greater when a combination of techniques are used, and such techniques involve checking "something you know" (i.e. password or PIN), "something you need" (i.e. credit card), or "something you are" (i.e. digital signatures or voice recognition methods). Many times in e-business, however, "something you are" is pretty strongly verified by checking the purchaser's "something you have" (i.e. credit card) and "something you know" (i.e. card number).

IX. DATA INTEGRITY

Data integrity answers the question "Can the information be changed or corrupted in any way?" This leads to the assurance that the message received is identical to the message sent. A business needs to be confident that data is not changed in transit, whether deliberately or by accident. To help with data integrity, firewalls protect stored data against unauthorized access, while simply backing up data allows recovery should the data or equipment be damaged.

X. NON-REPUDIATION

This concern deals with the existence of proof in a transaction. A business must have assurance that the receiving party or purchaser cannot deny that a transaction has occurred, and this means having sufficient evidence to prove

the transaction. One way to address non-repudiation is using digital signatures. A digital signature not only ensures that a message or document has been electronically signed by the person, but since a digital signature can only be created by one person, it also ensures that this person cannot later deny that they provided their signature.

XI. ACCESS CONTROL

When certain electronic resources and information is limited to only a few authorized individuals, a business and its customers must have the assurance that no one else can access the systems or information. Fortunately, there are a variety of techniques to address this concern including firewalls, access privileges, user identification and authentication techniques (such as passwords and digital certificates), Virtual Private Networks (VPN), and much more.

XII. AVAILABILITY

This concern is specifically pertinent to a business' customers as certain information must be available when customers need it. Messages must be delivered in a reliable and timely fashion, and information must be stored and retrieved as required. Because availability of service is important for all e-business websites, steps must be taken to prevent disruption of service by events such as power outages and damage to physical infrastructure. Examples to address this include data backup, fire-suppression systems, Uninterrupted Power Supply (UPS) systems, virus protection, as well as making sure that there is sufficient capacity to handle the demands posed by heavy network traffic.

XIII. COST

The business internet which supports e-business has a cost to maintain of about \$2 trillion in outsourced IT dollars just in the United States alone. With each website custom crafted and maintained in code, the maintenance burden is enormous. In the twenty-first century, look for new businesses that will help standardize the look and feel of the internet presence of a business to be more uniform in nature to help reduce the cost of maintenance. Expect maintenance by graphical software tools instead of directly by code as a key business proposition that will revolutionize the internet once again.

XIV. SECURITY SOLUTIONS

When it comes to security solutions, sustainable electronic business requires support for data integrity, strong authentication, and privacy.

XV. ACCESS AND DATA INTEGRITY

There are several different ways to prevent access to the data that is kept online. One way is to use anti-virus software. This is something that most people use to protect their networks regardless of the data they have. E-businesses should use this because they can then be sure that the information sent and received to their system is clean. A second way to protect the data is to use firewalls and network protection. A firewall is used to restrict access to private networks, as well as public networks that a company may use. The firewall also has the ability to

log attempts into the network and provide warnings as it is happening. They are very beneficial to keep third-parties out of the network. Businesses that use Wi-Fi need to consider different forms of protection because these networks are easier for someone to access. They should look into protected access, virtual private networks, or internet protocol security. Another option they have is an intrusion detection system. This system alerts when there are possible intrusions. Some companies set up traps or "hot spots" to attract people and are then able to know when someone is trying to hack into that area.

XIV. ENCRYPTION

Encryption, which is actually a part of cryptography, involves transforming texts or messages into a code which is unreadable. These messages have to be decrypted in order to be understandable or usable for someone. There is a key that identifies the data to a certain person or company. With public key encryption, there are actually two keys used. One is public and one is private. The public one is used for encryption, and the private for decryption. The level of the actual encryption can be adjusted and should be based on the information. The key can be just a simple slide of letters or a completely random mix-up of letters. This is relatively easy to implement because there is software that a company can purchase. A company needs to be sure that their keys are registered with a certificate authority.

XV. DIGITAL CERTIFICATES

The point of a digital certificate is to identify the owner of a document. This way the receiver knows that it is an authentic document. Companies can use these certificates in several different ways. They can be used as a replacement for user names and passwords. Each employee can be given these to access the documents that they need from wherever they are. These certificates also use encryption. They are a little more complicated than normal encryption however. They actually used important information within the code. They do this in order to assure authenticity of the documents as well as confidentiality and data integrity which always accompany encryption. Digital certificates are not commonly used because they are confusing for people to implement. There can be complications when using different browsers, which means they need to use multiple certificates. The process is being adjusted so that it is easier to use.

XIV. DIGITAL SIGNATURES

A final way to secure information online would be to use a digital signature. If a document has a digital signature on it, no one else is able to edit the information without being detected. That way if it is edited, it may be adjusted for reliability after the fact. In order to use a digital signature, one must use a combination of cryptography and a message digest. A message digest is used to give the document a unique value. That value is then encrypted with the sender's private key.

XV. CONCLUSION

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The growth of e-commerce is fantastic for customers, who benefit from the convenience of being able to shop from anywhere at any time - and even better for entrepreneurs, who can launch an online business for minimal capital and risk.

Numerous innovations are helping to drive this growth and ease the process of setting up shop and selling online, and in turn, building a successful e-commerce business. If you're thinking about launching an e-commerce business yourself, there has never been a better time than now.

2017 will definitely bring much innovation to e-businesses. Think of the solutions that will turn first-time buyers into loyal fans of your brand, who are brought together by similar interests, who engage and contribute. Work on your social media offerings and engage your admirers. Encourage consumers to write reviews and share their opinion. Word-of-mouth marketing can seamlessly enhance the consumer's shopping experience and boost your conversion rates.

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