

Technological Advancements in E-Commerce and Customer Relationship Management

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ABSTRACT

In the recent past, for any business to be successful it is essential to acquire, serve and retain customers. The number of users of commercial purposes has led to increased demand for E-Commerce in the global market. There has been a remarkable progress in E-Commerce due to globalization and technological advancements which led to sustainable quantum of business at affordable price. Technologies used in E-Commerce includes: Augmented Reality: The Future of E-Commerce Stores, Artificial Intelligence: Improving E-Commerce services and Optimizing Customer Experience, Voice Search, Chatbot, Blockchain Technology: A Faster, Safer and More Transparent used as E-Commerce Payment System, Security and Supply chain management. This paper focuses on the evolution of E-Commerce, development of CRM initiatives, leading E-Commerce companies, technological advancement in E-Commerce: E-Commerce platforms and service providers; software and tools used in E-Commerce and recent trends in E-Commerce and CRM in streamlining the CRM process thereby minimizing the cost of CRM.

Keywords-- Evolution of E-Commerce, CRM Initiatives, E-Commerce Companies, E-Commerce Platforms, Service Providers, Software, Tools used in E-Commerce

It is evident that technological advancements facilitate E-Commerce business to strengthen Customer Relationship Management (CRM) and there is a drastic shift towards CRM. The main purpose of CRM is to acquire and retain customers by providing optimal value for their money. This could be possible by using mobile CRM, Electronic Funds Transfer, Supply Chain Management, Internet Marketing, Online Transaction Processing, Electronic Data interchange, Inventory Management System and Automated Data Collection Systems. The software associated with CRM automates the lead and sales processes by collecting information about the customers in a centralized place. These customers' data are tracked and recorded in server logs which ultimately provides abundant amount of data that can be analysed for taking business decisions.

II. EVOLUTION OF E-COMMERCE

The contribution of E-Commerce to business organisations is immense. It has paved way to the development of business and because of its vast reach and popularity, it has transformed the way entrepreneurs do business today. It's interesting to know the evolution of E-Commerce, the following table presents evolution of E-Commerce in chronological order:

I. INTRODUCTION

Table 1: Evolution of E-Commerce

Year	Evolution of E-Commerce
1969	CompuServe, the first significant E-Commerce company was established by Dr John R. Goltz and Jeffrey Wilkins by utilizing a dial-up connection. This is the first time E-Commerce which was introduced.
1979	Michael Aldrich invented electronic shopping (he is also considered as founder of E-Commerce). This was done by connecting a transaction-processing computer with a modified TV through a telephone connection. This was done for transmission of secure data.
1982	The continued growth of technology, particularly in electronics led to the launch of the first E-Commerce platforms by Boston Computer Exchange.
1992:	The 90s took the online business to the next level by introducing Book Stacks Unlimited as an online bookstore by Charles M. Stack. It was one of the first online shopping site created at that time.
1994:	Web browser tool introduced by Netscape Navigator by Marc Andreessen and Jim Clark. It was used on the Windows platform.
1995:	The year marked the iconic development in the history of E-Commerce as Amazon and eBay were launched. Amazon was started by Jeff Bezos, while Pierre Omidyar launched eBay.

1998:	PayPal launched the first E-Commerce payment system as a tool to make money transfers.
1999:	Alibaba started its online shopping platform with more than \$25 million as capital. Gradually it turned out to be an E-Commerce giant.
2000:	Google launched the first online advertising tool named Google AdWords as a way to help retailers to utilize the pay-per-click (PPC) context.
2005	Amazon Prime membership was launched by Amazon to help customers get free two-day shipping at an annual fee.
2005	Square, Inc as an app-based service is launched
2005	Eddie Machaalani and Mitchell Harper launched BigCommerce as an online storefront platform.
2005	Etsy was launched to enable small and medium scale retailers to sell goods online. In 2009, Jack Dorsey and Jim McKelvey started.
2011	Google launches its online wallet payment app
2011	One of the earliest moves by Facebook to launch sponsored stories for advertisements
2014	Apple launched Apply Pay, an online payment application
2014	et.com was launched as an online shopping portal.
2017	Instagram introduces shoppable tags- enabling people to sell directly from the social media platform. And finally, Cyber Monday sales exceeded \$6.5 billion

2017 to Present

Major reforms have taken place in the field of E-Commerce between these years such as retailers are pushed to sell online, increase in small businesses, local sellers are operating using social media platforms, operational costs have lowered down in the B2B sector. However, parcel delivery costs have seen a significant rise with growing E-Commerce industry. Several E-Commerce marketplaces have emerged enabling large number of sellers to sell online. Introduction of automation tools and artificial intelligence in logistics. Social media is playing a pivotal role in E-Commerce by increasing sales and brand image. E-Commerce business

has brought tremendous change in the buying habit of customers today.

III. EVOLUTION OF CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

The concept of customer relationship is not new to business and it has been in place since time immemorial. Even before the technological development, businessmen were taking utmost care of their customers in serving them better through personalized attention which led to create trust and loyalty among their customers.

Table 2: Evolution of CRM

Year	Evolution of CRM
Before the 1950s	Analog pens, notebooks, account folders in filing cabinets, personal organizers (such as Filofax)
1950s	Rolodex launched
1960s	Rolodex, folders in filing cabinets, and personal organizers still reigned Supreme
1970s	CRM took on its present iteration as a software/digital tool. Customer databases were stored on standalone mainframe computers Software-based lists and spreadsheets
1980s	Use of statistics to gather and analyze customer data. Database marketing became a trend Customer evaluation & contact management system Siebel Systems launched as the first CRM-focused product in 1993 Large scale use of sales automations. CRM products began to include functions for marketing, shipping, and enterprise resource planning (ERP)
1990s	Online CRM became a reality First mobile CRM solution introduced by Siebel and acquired by Oracle in 1999 First cloud-based CRM SaaS (Software as a Service) offered by Salesforce in 1999.
2000s	Microsoft Dynamics Launched in 2003 SugarCRM developed first open-source CRM in 2004 Cloud-based CRMs became dominant Social media integration to CRM
2010s	CRM integrations with business intelligence services and communication systems Robust CRM customization capabilities based on industry, line of business, sales process, or

market focus Visual, highly intuitive CRMs such as Pipedrive became a trend Improvements in data analytics reporting Improvements in mobile access Increasing use of AI and machine learning (ML) for various purposes.
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2017 to Present

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Innumerable companies are engaged in E-Commerce business around the world. The following table provides the leading E-Commerce companies world-wide

Table 3.1

LEADING E-COMMERCE COMPANIES IN THE WORLD 2020

S.No	Company	Country
1	Amazon	US
2	Alibaba	China
3	eBay	US
4	Jingdong	China
5	Zappos	US
6	Rakuten	US
7	Hope Depot	Japan
8	Flipkart	Germany
9	Zalando	Japan
10	Otto	US

<https://magenticians.com/top-ecommerce-companies-in-the-world/>

Table 3.2

US as a paneer in E-Commerce business operating domestically and globally

S.No	Company
1	Amazon
2	Walmart
3	eBay
4	Apple
5	The Home Depot
6	Wayfair
7	Best Buy
8	Target
9	Costco
10	Macy's

<https://ceoworld.biz/2020/03/09/top-10-us-e-commerce-companies-2020/>

Table 3.3

The second largest E-commerce companies are from China

S.No	Company
1	Taobao.com
2	Tmall.com
3	360buy.com
4	Suning & Gome
5	QQ buy
6	Dangdang
7	Vancl
8	51buy & Coos8
9	Yihaodian
10	Meituan & 55tuan

<https://www.techinasia.com/ecommerce-players-china-watch>



Table 3.4

India has large number of E-Commerce companies operating at different levels

S.No	Company
1	Flipkart
2	Snapdeal
3	Myntra
4	PayTM
5	nfibeam
6	Nykaa
7	Limeroad
8	Shopclues
9	Naaptol
10	Yepme

<https://www.easyleadz.com/blog/top-70-e-commerce-companies-in-india/>



The statistic displays the Customer-Relationship-Management (CRM) software market revenue in the World from 2016 to 2021. The CRM market is expected to grow to a tune of approximately 52.0 billion U.S. Dollars by 2021. In the growing and ever-changing field of E-Commerce, using a CRM for your E-Commerce store, that's built on an E-Commerce platform, represents a strategic decision. It will allow E-Commerce firms of all sizes to leverage their contacts, and truly put their customer information to use. Social CRM or SCRm that integrates the official social profiles (Facebook, Twitter, LinkedIn, etc.) to CRM system and behaves as an extended arm of business organization.

IV. E-COMMERCE SOLUTION PROVIDERS

E-commerce solutions are the products and services that help a company conduct business electronically. The range of available e-commerce

solutions is vast, including those that allow traditional businesses to design, create, and operate World Wide Web sites. When an electronic merchant who wants to improve the online checkout process for its clients might turn to a specialized vendor like VirtualCart for a shopping cart solution. As the expectations of e-commerce have been increasing it warrants for more comprehensive solutions. As a result, E-commerce solutions providers are focusing in designing suitable products and services to meet multiple needs and solve various problems.

4.1 Following are the leading E-Commerce Solution Providers

IBM - Computer hardware and services giant IBM Corp. began working to recreate itself as an e-business services provider in the mid-1990s. The firm's push into e-business began as early as June of 1995, with the purchase of Lotus development Corp. Central to the firm's e-business services was its WebSphere server software, which IBM used to support the E-Commerce initiatives, including retail Web sites, of clients. The

WebSphere Commerce Suite 4.1 package was launched and released Web-Sphere Commerce Suite Pro 5.1, a "Java-based, E-Commerce solution to provide "an infrastructure for building, deploying, and administering E-Commerce sites."

4.1.1 HEWLETT-PACKARD CO.(HP)

Founded in 1938, is second only to IBM Corp. among the world's largest computer firms. Along with manufacturing and marketing computers and printers, HP also sells Web-based hardware, software, and services. Following are the internet solutions: Internet Solutions line, 9000 N Class server, which was designed to offer Internet Service Providers (ISPs) a comprehensive suite of E-Commerce tools, and the Commerce for the Millennium system. The HP 9000 Superdome server, which allowed different operating systems to run at the same time. In 2001 HP launched 25 software products the following month, including the Netaction e-services development and implementation suite and the OpenView e-services systems management suite. HP added 19 Internet server appliances to its growing line of e-business solutions.

4.1.2 MICROSOFT CORP.

Spent the late 1990s developing its presence in the Internet arena. Following are the software released by Microsoft Windows 2000. In an effort to compete with IBM's WebSphere server, Microsoft launched BizTalk and it considered as one of the foundation pieces of Microsoft's attempt to recast its Windows operating system and applications as a platform for the Internet.

4.1.3 ORACLE CORP.

Microsoft's closest software rival is founded in 1977. Oracle became a major E-Commerce solutions provider in 1998 when it unveiled Oracle 8i, a version of its flagship database program that permits a company's database functions to be handled on the Web. Oracle's order fulfillment and shipping networks were blended with its sales network to allow the firm to handle customer service from a single source. In addition, by using a Web-based expense reporting system, the accounts payable department was able to cut its staff by 25 percent and deposit pay checks into employee bank accounts more quickly. Oracle also consolidated the 97 servers and 120 databases running its e-mail system into just two servers and four databases.

4.1.4 Amazon

Upstart as E-Commerce solutions providers and the online retailing giant was able to license E-Commerce platform, complete with features like its patented one-click checkout, to other e-tailers struggling to move into E-Commerce. Amazon took over inventory, customer service, and shipping services. Amazon technology underlying its infrastructure, the site saw its holiday sales grow more than threefold. Some analysts believe Amazon's ability to market itself as a full-scale E-Commerce solutions provider will be a key factor in whether or not the firm achieves profitability.

4.1.5 COMMERCEONE INC.

It is an E-Commerce solutions provider that got its start in 1994 as a maker of office automation software for banks. CommerceOne constructs B2B procurement exchanges that allow companies to do business via the Web or some other electronic platform. These exchanges, or marketplaces, allow buyers, sellers, distributors, and suppliers to complete commerce transactions in a single place. CommerceOne exchanges include auction functionality, reverse auctions allow businesses to collect and compare bid prices for products and services they wish to purchase. CommerceOne also offers a procurement software suite known as BuySite, which creates private supply-chain sites for individual companies. BuySite allows purchasers to not only access supplier catalogs online, but it also facilitates the completion of electronic transactions. Market Site Portals range in price from \$500,000 to \$2 million.

4.1.6 FIRSTSOURCE CORP.

It is an E-Commerce solutions provider that started out as an Internet-based reseller of computers and related hardware systems to individuals and small and mid-sized companies. Analysts forecasted that B2B sales would eventually increase. The firm began offering E-Commerce solutions, such as Web site configuration, marketing, staffing, and information technology services to small and medium-sized businesses. Firstsource Connect, which designs Web-based purchasing hubs connected to various product distributors for businesses looking to streamline their procurement processes. Eventually, the firm also began licensing inpower, the platform that powers Firstsource Connect, to businesses wanting to conduct operations online.

4.1.7 BLUE MARTINI SOFTWARE, INC.

It is best known for its customer relationship management solutions (CRMs). Since its founding in 1998, the firm has carved out a niche in the E-Commerce solutions market by offering a comprehensive suite of online merchandising, content management, customization, and transaction services. In 2001, the firm's Blue Martini 4 software focuses on online branding and personalization for e-business applications, not just E-Commerce sites.

4.1.8 BROADVISION, INC.

It was founded in 1993. The firm's One-to-One Enterprise platform helps its customers—including Bank of America, E*Trade, Circuit City, Toyota, and Boeing—conduct business over the Internet. The platform includes order processing, transaction management, reporting, and monitoring functions. One-to-One Retail Commerce suite, Additional E-Commerce solutions include the InfoExchange Portal, which assists with the creation of information portals for businesses; Amadeus Travel Commerce, which allows a Web site operator to offer personalized online travel booking services; MarketMaker, which assists with the creation of online exchanges for specific markets; and publishing, finance and billing tools.

V. E-COMMERCE TOOLS

To understand and operate E-Commerce industry there is a need to integrate certain marketing E-Commerce tools and tactics, smooth logistical operations and communication strategies. Following are the tools used in e-Commerce business:

5.1 Unbxid

Unbxid is a relatively new entry to the E-Commerce marketer's toolkit. Unbxid provides intelligent, 'context-aware' site search and personalized recommendations. Unbxid is a one-stop product discovery solution and gives marketers and merchandisers the tools to optimize their site search and product recommendations.

5.2 Google AdWords

Organic search is an effective method for traffic acquisition and sales promotion, but its conversion rates are not always high. Google AdWords is one tool that can help to promote the E-Commerce site more efficiently and also boost sales. You can create and run ads using this tool in Google's Search and advertising network.

5.3 Optimizely

This is one of the best tools for A/B testing, which is used to measure the impact of changes of two variants in design. A/B testing helps you to test different layouts, colors, and copy on E-Commerce website to determine what converts best and leads to higher revenue.

5.4 SearchSpring

This is a popular site navigation solution that helps online retailers to connect shoppers with relevant products and boost sales. Some of the largest E-Commerce brands like Stanley Black & Decker have used SearchSpring for their advanced website search and category navigations.

5.5 Zendesk

Zendesk is the tool which helps to provide better customer service without having a customer service team. This tool has a plethora of advanced features that allow you to create customer support tickets, resolve tickets, use templated solutions, create self-help sections, and track your customer service performance.

5.6 Crazy Egg

Heat-map and scroll-map are important insights for E-Commerce sites. Tools like Crazy Egg allows to see which parts of the web pages visitors click on so that a company can gain a better understanding of how visitors engage with online store. Such insights play a significant role in improving the conversion rates.

5.7 Bounce Exchange

Bounce Exchange is based on "exit intent" technology. Online retailers often overlook the potential of this call to action, but exit intent can actually skyrocket sales figures. Bounce Exchange shows the call to action when a visitor is about to leave the website with the

intention of grabbing their attention with an exciting offer via a lightbox.

These are only a few E-Commerce tools that needs be included in business plan to increase sales. In simpler words, a CRM solution for E-Commerce helps to gather, organize, store, and analyze information about company's customers.

5.8 Mobile CRM

It is an exciting development within the wider field of CRM. It is a tool which utilises available technologies to gather and evaluate customer data online. As well as providing statistical computerised analysis of customer data, this form of CRM also enables companies to communicate more effectively with their customers by using messaging services online. Several companies already use Mobile CRM and social media in conjunction to great effect.

Few examples: Taco Bell has been using up to the minute iAd software to advertise its products and to initiate and sustain communication with customers by pinpointing where its customers are located and to tailor its CRM strategies to suit customers in that location.

IKEA is another notable example of a company using these mobile marketing and customer engagement strategies. IKEA combines online loyalty programs and online advertising with software that analyses the data about the people who engage with these mobile customer engagement strategies.

5.9 Social Media

Social media In recent years, emerged as a crucial source of customer data. Social media sites have also proved to be a very effective way for companies to reach out to both potential and existing customers. Social media plays an increasingly important role worldwide.

Social media is a huge marketplace for online retailers who are already leveraging social media. Acquiring new customers involves high cost but to retain the existing customers is the key to business success, this could be possible through social media marketing. Therefore, adding social media integration to a CRM system is crucial for any E-Commerce company.

Social media can bring thousands of new leads, helping online stores to generate bigger profits. Another important aspect of social media is that customers are more likely to take purchase decision after reading positive reviews.

5.10 Electronic Funds transfer (EFT)

Electronic funds transfer (EFT) are electronic transfer of money from one bank account to another, either within a single financial institution or across multiple institutions, via computer-based systems, without the direct intervention of bank staff.

5.11 Online Transaction Processing

Online transaction processing, or OLTP, refers to a class of systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing. The "transaction" is not only in the context of computer or database

transactions, but also is defined in terms of business or commercial transactions. OLTP has also been used to refer to processing in which the system responds immediately to user requests. An automatic teller machine (ATM) for a bank is an example of a commercial transaction processing application. The technology has been used in a variety of industries, ranging from banking, airlines, mail order, supermarkets to manufacturing. Applications include electronic banking, order processing, employee time clock systems, E-Commerce, and e-Trading. The most widely used OLTP system is probably IBM's CICS. The disadvantage of OLTP is that as with any information processing system, security and reliability are considerations. Online transaction systems are generally more susceptible to direct attack and abuse than their offline counterparts. When organizations choose to rely on OLTP, like any other technology, operations can be severely impacted by reliability problems. Also, some systems require offline maintenance which further affects the cost-benefit analysis. Moreover, B-G (Business to Government) varies from country to country adhering to the law of the countries concerned while doing online business is inevitable.

5.12 Electronic Data Interchangeor (EDI)

Electronic Data Interchangeor EDI, has been in use for decades - as early as the late 1960s. In its most basic form, EDI is a computer to computer exchange, between two companies, of standard business documents in an electronic format. The ability to exchange documents electronically has a wide variety of benefits, which include increased efficiency from automating transactions, reduction of errors from manual data entry, validation of content (via EDI standards and receiving software) to confirm transactions contain all they need to enable proper processing, traceability, reduced costs and faster processing. There are a wide variety of industry specific EDI standards that have conventions that are specific to a region. For example, ANSI X12 is the North American standard, EDIFACT is the European standard and there are many others.

5.13 Inventory Management System

Inventory Management System is beneficial to integrate the inventory management system with existing CRM software. Earlier, businesses used to handle inventory management as well as CRM software as two separate systems. Basically, an inventory management system is confined to managing the critical back-end business operations such as billing and shipping details, purchase history, accounting information, financial data, and supply chain management details whereas the CRM software deals with the front end business operations such as recording the customer details and customer interactions with the company, tracking of sales, managing the sales pipeline, as well as creating the marketing campaigns.

5.14 CRM + Marketing Automation

By integrating CRM system with marketing automation, a company can deliver targeted email campaigns depending on the customer's phase or activity: Offers to clients who haven't purchased anything in a year, Event invitations to your prospects, Reminders to renew a contract sent in advance, Onboarding campaigns for new customers, Emails collecting clients' feedback. By combining E-Commerce data with marketing automation, also can send various automated campaigns to drive additional sales: Recommended products based on the customer's previous purchases, Automated emails listing complementary products, An automated info package to a new customer, Shopping cart reminders.

CRM applications contain large volume of organization's customers and prospects. These information needs to facilitate informed and timely business decisions; this could be possible with latest business intelligence and analytical capabilities. Following are the basic marketing applications: Unified Channels of Customer Interaction, Web-based Functionality Support, Centralized Repository for Customer Information, Integrated Workflow: Integrated with ERP applications.

VI. E-COMMERCE PLATFORMS

An E-Commerce platform is a software application that allows online businesses to manage their website, marketing, sales, and operations. E-Commerce platforms offer the powerful features needed to run a business and also integrate with common business tools. The E-Commerce platforms is classified into three types namely, Open-Source, SaaS (Software as a Service) and Headless Commerce. E-commerce offers two host environments for customers to run their E-Commerce store. They are Cloud: Hosted Elsewhere and On-Premise: Self-hosted on the business premises.

E-Commerce solutions are the products and services that help a company conduct business electronically. The range of available E-Commerce solutions is vast, including those that allow traditional businesses to design, create, and operate World Wide Web sites. Some solutions focus on a specific problem. For example, a company selling its wares via a World Wide Web site might purchase a bandwidth management solution from a firm in an effort to allocate more resources to actual commerce transactions than to other applications. Similarly, an electronic merchant who wants to improve the online checkout process for his clients might turn to a specialized vendor for a shopping cart solution. The Software Report is announced The Top 25 CRM Software of 2020. The Software Report evaluated each software company's history and evolution, management team caliber and ability to draw in top tier customers as well as capital support from investors. Following are the Top 25 E-Commerce software of 2020:

Table 6.1 Top 25 E-Commerce software of 2020

S. No	E-Commerce software	Features
1	Salesforce	Founded in 1999 started with a "No Software" sales pitch that caught attention and sparked a cloud computing revolution. With their SaaS-based automation software designed to help sales teams manage their customer relationships. As the world's most well-known CRM platform, the company's flagship product is its Salesforce Customer 360. Designed as a way for companies to integrate their marketing, sales, commerce, and IT teams, it provides users with a robust set of tools that automates functions, analyses data, and offers insights.
2	HubSpot	They've successfully grown their company into the kind of CRM platform that their customers can trust to help them close deals. The HubSpot platform offers cloud-based, inbound marketing software that includes social media publishing, monitoring, blogging, SEO, website content management, email marketing, marketing automation, and reporting and analytics. The company currently supports over 68,800 customers in about 100 countries, including DoorDash, Atlassian, VMware, and Subaru.
3	Freshsales	Freshsales (Freshworks) is an India-based CRM software solution that was originally intended as a way for its parent company, Freshworks, to manage the myriad of moving parts within their own sales process. The software serves as a single point of access for maintaining customer engagement and tracks thousands of leads without losing the user-friendly functionality. FreshWorks, and its Freshsales counterpart, became front-runners for India's burgeoning SaaS market and a beacon of light to other budding tech entrepreneurs. Freshsales wins customer loyalty by maintaining an impeccable product and service reputation. Now, Freshsales serves over 15,000 customers, including Dyson, GardaWorld, Best Western Hotels & Resorts, and Joblift.
4	SugarCRM	SugarCRM believes that emancipating their users from CRM data entry servitude is key to customer loyalty. Everyone from sellers, marketers, customer support agents, administrative staff, and executives will find that Sugar offers a streamlined service across any device. Currently, over 2 million customers spanning 120 countries rely on the Cupertino-based company for sales force automation, marketing campaigns, customer support, collaboration, mobile CRM, social CRM, and reporting. Some of their most notable clients include Tetley Tea, Sennheiser, and Google Play.
5	NexJ	Founded in 2003, Canadian-based NexJ Systems is a market leader in cloud-based enterprise CRM solutions. Its focus of service is to financial services, insurance, and healthcare industries. In 2015, NexJ spun out its healthcare CRM as a way to focus their efforts and drive more significant innovation within the industry. NexJ Systems would continue to operate as a finance and insurance software provider. Royal Bank of Canada, Wells Fargo Advisors, Credit Suisse and HSBC represent some of their higher-profile customers.
6	Insightly	It's a versatile platform that provides options for customization and feeds for tracking sales progress. According to techradar.com's review of their cloud-based service, the Insightly platform offers an extensive array of tools for leads management, sales funnel, and reporting. While it might be overwhelming for the beginner user, there is a wealth of opportunity for users looking to customize their CRM experience. Today, Insightly has more than 25,000 companies and 1.5 million users worldwide. Organizations like

		Discount Rental Cars, Denver Public Schools, and Global Presence Alliance trust Insightly with their CRM needs.
7	Apptivo	Launched in 2009 as an online place that customers could call home, Apptivo is a cloud-based CRM suite designed to help users take their businesses to the next level. From their platform, clients can build contact lists, create email campaigns, and track analytics. The sales functionality allows for streamlined contact management, sales pipeline, automation, and reporting. It was initially intended as a small-to-medium business solution but includes customizable and scalable options for niche markets and larger organizations. They serve over 150,000 businesses from 193 countries.
8	StayinFront	StayinFront has developed consumer goods solutions focused on retail execution and improving in-store selling and efficiency. By delivering mobile KPIs, and actionable data in real time, StayinFront's products allow managers and sales forces to leverage client data to effectively execute in all types of stores globally. Global CPG leaders rely on StayinFront's products such as their EPoS data insights, Predictive Analytics and intelligent digital merchandising technology. Their software is deployed across six continents, in more than 50 countries, and in over 30 different languages.
9	Zoho CRM	Founded in 1996 (Chennai). Zoho stays competitive with a robust, lead and contact management tool that is coupled with its well-known invoicing and billing application. They have created a rich and diverse ecosystem of applications so that customers can choose only the tools they need their business, ranging from their CRM suite, email marketing, social media management, and other offerings. Initially created for the SMB crowd, Zoho has since started attracting larger enterprise organizations. More than 50 million users access the CRM, including Amazon, Facebook, KPMG, and HP.
10	Ontraport	California-based Ontraport provides its customers with an automation app that manages selling, marketing, and business operations all in one place. Like some of Ontraport's competitors, some users initially find the number of options overwhelming. Nevertheless, many customers agree that signing on with the CRM firm was a significant factor in increasing sales numbers.
11	Agile CRM	It's an India-based firm (2013) promises to make running a small business smooth. Also, Agile CRM integrates with many of the top SaaS solutions, like ClickDesk, Zendesk, Stripe, LinkedIn, Twitter, Freshbooks, and many more. They now serve more than 15,000 customers worldwide, including Indeed, Fidelity Bank, and freelancer finder site PeoplePerHour.
12	Redtail Technology	It all started in 2003 when co-founders Brian McLaughlin and Andy Hernandez realized there was a need for an online CRM tool that provided anytime, anywhere access to a financial advisor's client and calendar information. They are proud to say that they were the first cloud-based CRM for financial advisors. Redtail counts companies like New York-based Heron Wealth and other financial services firms as part of their family.
13	ActiveCampaign	The Chicago-based company founded in 2003 is mostly focused on serving SMBs but offers options that would appeal to even the largest enterprises. Some of their small business clients include Morrow Audio, Venture Harbour, and Thinkific.
14	Copper	The San Francisco-based CRM offers options for tracking leads,

		managing projects, building pipelines, tracing emails and tasks, and reporting/insights. They support over 10,000 teams and small businesses around the world. Copper has designed CRM specifically for integrating with G Suite. By allowing users to work within their Gmail inbox, it offers an intuitive user experience that is easy for customers to understand.
15	CRMNext	Founded in 2002, the company provides clients with a range of sales & service automation, operations management, digital applications, and reporting analytic tools bundled offered on one platform. Designed with those working in the financial sector in mind, Next empowers its customers to "do instead of view" with the CRM's easy-to-use tools. They provide services to any business from start-ups to Fortune 500 and count Pfizer, ICICI Bank, National Bank of Oman, Banco de Oro Philippines as amongst their clients.
16	Spark451	Spark451, the only cloud-based platform customized to reflect the long-term relationships of their customers – starting from high school up to alumni, and beyond. Another dimension comes from how relationships evolve with the students, parents, extended family, and branches out from there. Spark451 provides an integrated system that doesn't require handovers between recruitment, admissions, enrollment, and alumni/donor relations – thus providing rich and meaningful data for institutions. Post-secondary institutions are Spark's primary buyers.
17	TargetX	Founded in 1998, TargetX's CRM is built on top of Salesforce's development platform and is the perfect solution for smaller colleges. To date, over 400 colleges and universities rely on TargetX to help build long-lasting relationships. Customers don't hesitate to trust the firm's top-flight customer service with all their needs.
18	Atemis	AtemisCloud is another seasoned veteran of the CRM market. Launched by Benoit Barrier in 1998. They have 11 office locations on four continents and solutions available in 12 languages to serve 1,200 customers in 60 countries. They have a significant European presence that's reflected in their customer list, which includes Renault, Bosch, Roche, Intercontinental, and KPMG. AtemisCloud has built many specialized solutions to serve different verticals, such as legal, consulting, real estate, healthcare, hospitality, and others.
19	Nimble	Nimble with over 140,000 users on their platform, more than 10 million deals have been closed and hundreds of hours saved. Companies like Coldwell Banker, GoDaddy, UpWork, Tableau, and Crossfit trust Nimble to smooth out the complex business of managing customer relationships. It has the best solutions for relationship management, integrated communications, social media tools, and team collaboration to keep teams organized and efficient. Nimble also works well with businesses running G-suite and Microsoft Office 365 technology.
20	Tigerpaw	In 1984, Doug Foxall started Tigerpaw as a computer consulting business that helped companies with anything ranging from networking systems to writing software. The big break came for the Nebraska-based IT firm when a telephone company contacted them about automating their entire operation. Tigerpaw powers business for over 40,000 users, allowing them to manage, automate, and amalgamate their operations into one platform. They serve users from several industries, including IT

		services, voice & integrated communications, audio & visual installation, print providers, medical equipment, and security installation systems.
21	Less Annoying CRM	It's designed to flatten the learning curve and have their customers up and running in minutes. Less Annoying gives users, a streamlined way to manage contacts, leads, notes, calendar, to-do's, and other tasks. In 2009, he teamed up with his brother to create their CRM, and Less Annoying was born.
22	Rethink	It's a Texas-based firm believes that customers are at the heart of their business. The company can count notable firms like CBRE, Cushman & Wakefield, NA Global, and Mohr Partners as amongst their client list.
23	Pipedrive	Pipedrive started in 2010 as a CRM for direct sales. After hitting wall after wall, they teamed up with developers to create a sales-driven CRM, and Pipeline was born. The team must have tapped into a common pain point because Pipedrive now provides services to over 70,000 in 100+ countries. In 2018, Pipeline launched an industry-specific CRM for financial services.
24	Workwise	It's flagship products, WorkWise ERP, and OnContact CRM, form the backbone of the tech firm's solutions and are geared towards the discrete manufacturing industry. The customer relationship management portion of Workwise's business was added after they acquired Wisconsin-based OnContact in 2012. Some of Workwise's noteworthy clients include Toys R'Us, Vestcom, Pyramax bank, CBCInnovis.
25	Franconnect	Running a franchise system has never been more convenient with FranConnect Sky Sales - a CRM that delivers a complete solution that covers all the bases that franchisors rely on to be productive. It helps businesses keep potential franchisee partners involved through the entire development process and maximizes their close ration. With a 60 percent year-over-year increase in sales and the addition of 160 new brands, the firm now serves over 800 franchise brands and 148,000 franchisees.

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VII. CONCLUSION

The technologies which are enabled by the internet has an enormous impact on Customer Relationship Management (CRM). Today, not only the business organizations can manage relationship with customers but also customers can manage relationship with vendors via vendor relationship management (VRM). The technological advancements in E-commerce and CRM paved way to connect the globe as a single village. It is evident from the way in which E-Commerce businesses are operating and in streaming the CRM process thereby reducing the costs of CRM enterprises. Today business organizations have realized that to be successful in the global and highly competitive market is to provide optimum value to customer's money and meeting their expectations. Certainly, it's a great challenge because now customers are well informed and techno-savvy and their expectations very are high. This demands marketing efforts to be more informative, customer and service oriented by treating them with a holistic approach.

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