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Mobile EDI - Opportunities and Challenges

Abstract

Electronic Data Interchange (EDI) is predominantly used for applications such as inventory and logistics management, transport and distribution, administration, and cash management. EDI-based solutions require minimal human intervention as most processes are automated. Without EDI technology, exchanging documents, even electronic ones, would have been a manual task thanks to incompatibilities in application and database formats. The popularity of Mobile is not hidden with us. We can see that almost every person is carrying a smart phone with him. As EDI is the foundation of business-to-business e-commerce (B2B), so it was inevitable that a combination of mobile devices and EDI would be something that companies would start to consider. After all, there are many potential opportunities to improve business processes by integrating mobile devices with EDI document exchange processes. So the integration of EDI with Smartphone gives birth to a new technology called as Mobile EDI. Thus the study of Opportunities and Challenges of Mobile EDI becomes very important to us.

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Introduction

The world of Electronic Data Interchange has seen a sea change from traditional VAN's to Internet EDI. This development in itself has made EDI available to smaller trading partners who find the reduced cost and easy-to-get IT infrastructure for establishing EDI much more feasible and desirable. EDI deployments help reduce the flow of hardcopy documents. “It enables faster decision-making as EDI workflow processes add intelligence to application software based on pre-defined parameters. These processes help in comparatively faster large-scale purchasing and scaling-up of operations, and offer multi-level checking and validation.

Now the scene is that smartphone is found everywhere and people find very convenient easy opening and working with various apps. The software industries have developed Mobile Apps for almost every software that are used in the industries. So we can see that various departments have shifted on small and fast platform for their work and that is Mobile apps.

EDI through mobile is also possible and this study is done to find out the opportunities and threats of the adaptation of “mobile EDI”. As mobile is that device which is already found in the pocket of every person, the adaptation of mobile EDI seems to be very easy to implement but it has various challenges and threats as well.

Objectives of the Study

As we already know that EDI is predominantly used for applications such as inventory and logistics management, transport and distribution, administration, and cash management. EDI-based solutions require minimal human intervention as most processes are automated. Without EDI technology, exchanging documents, even electronic ones, would have been a manual task thanks to incompatibilities in application and database formats. To overcome these problems EDI specifies a standard format for each type of business document. These EDI standards are developed under the auspices of standards development organizations (e.g. ISO) and bodies like Accredited Standards Committee (ASC). The benefits of deploying EDI include reduced paperwork, fewer errors in transcription, faster response time for procurement and customer needs, reduced inventory requirements, and timely payment of vendors. But there are various hurdles also. The development of mobile apps for EDI and the agreement among all business partners for the new change, the training of those people who will use mobile EDI, these are list of problems which

needs to be studied to advice the adaptation of this new form of Electronic Data Interchange.

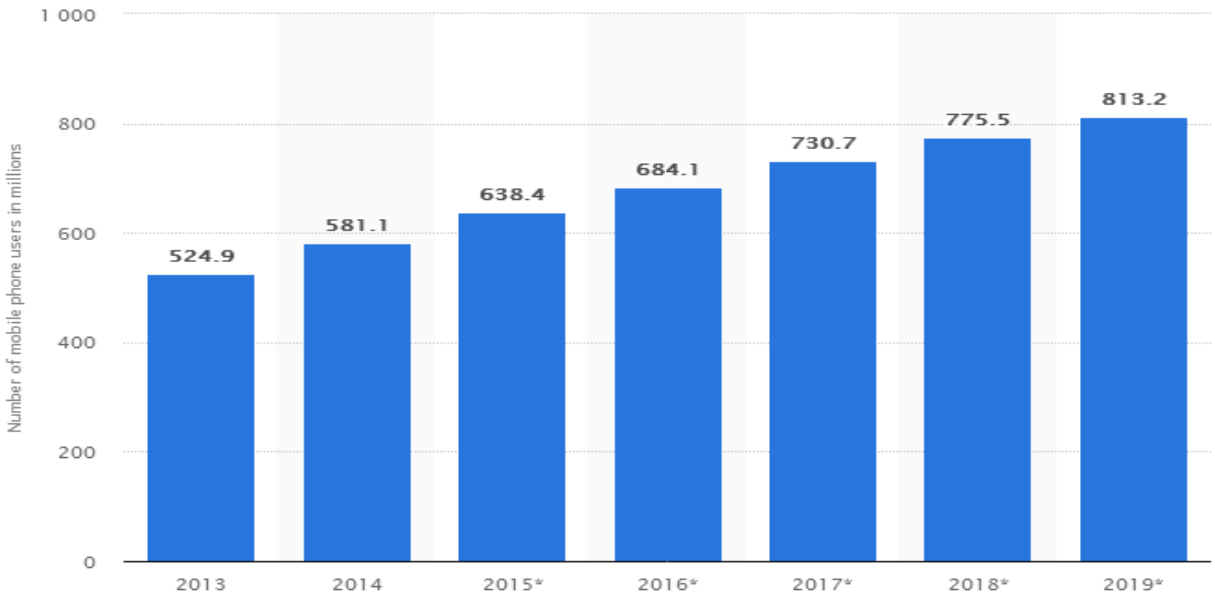
The objective of this study is to device the solution of the feasibility of the adaptation of Mobile EDI. This is an interesting study because it can change the business to business transaction is done with very low cost implementation and small training to the manpower.

The popularity of Mobile is not hidden with us. We can see that almost every person is carrying a smart phone with him. As EDI is the foundation of business-to-business e-commerce (B2B), so it was inevitable that a combination of mobile devices and EDI would be something that companies would start to consider. After all, there are many potential opportunities to improve business processes by integrating mobile devices with EDI document exchange processes. It could be simply enabling someone in your business to be able to create a purchase order or an invoice while he or she is out of the office. Though, this could prove to be rather cumbersome while typing on a smart phone. Anyway, there are more exciting EDI-based opportunities out there with mobile.

Mobile in India

Mobile phone users in India, from 2013 to 2019. For 2017 the number of mobile phone users in India is expected to rise to 730.7 million. In this same year the number of smartphone users in India is predicted to reach 340 million and could reach almost 468 million by 2021. As of the end of 2016, Samsung held the largest share of the smartphone market in India with around 25 percent, followed by Xiaomi and Lenovo and other mobiles.

Mobile Phone Users in India



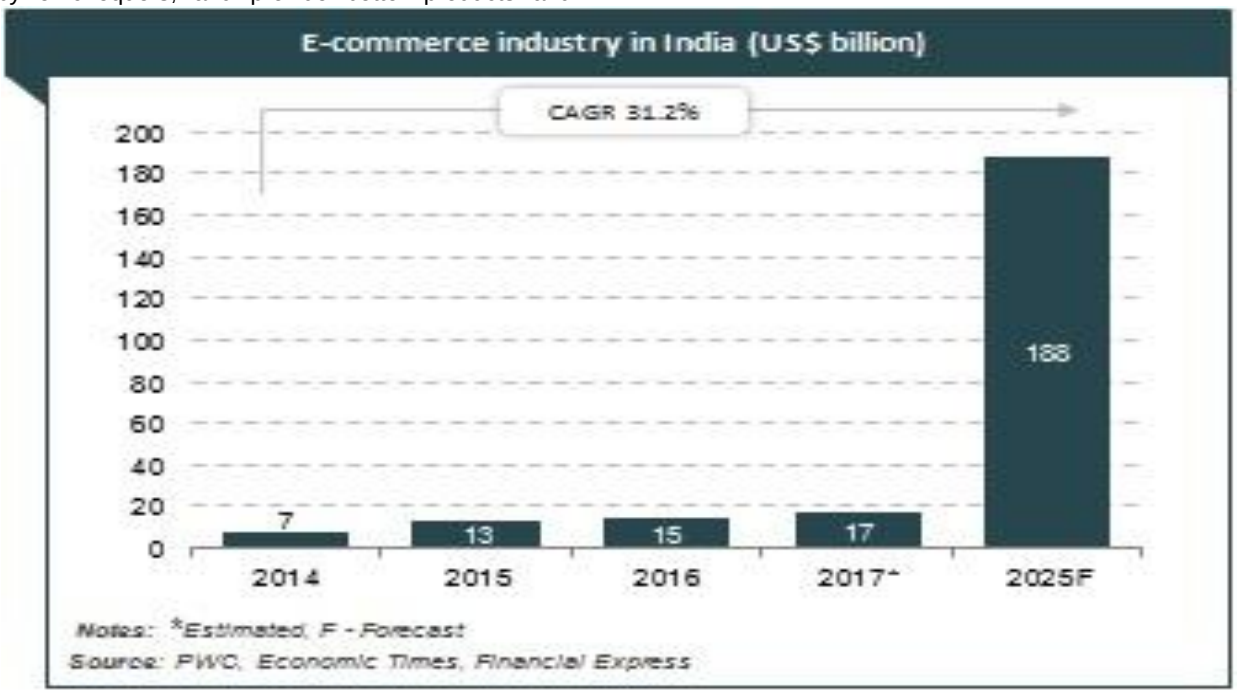
The number of smartphone users in India is estimated to reach 299.24 million, with the number of smartphone users worldwide forecast to exceed 2.3 billion users by that time. The number of smartphone users worldwide is projected to amount to nearly 2.7 billion by 2019. It is expected that, by 2017, almost a third of the total global population will use a smartphone. Due to China's rapid growth, the country has become a distant leader in the smartphone market, leaving the U.S., which previously held the top position, far behind. Smartphone users in China already accounted for 38 percent of the country's population in 2015. By 2019, almost half of the population in China is projected to use a smartphone. These figures are impressive, considering China is the most populous country in the world. For 2019, the number of smartphone users in China is estimated to amount to nearly 675 million. India, the second most populous country in the world, has passed the United States in number of smartphone users in 2017. Around 223 million people in the U.S. are using smartphones in 2017, compared to 340 million in India. Despite this increase in volume, the U.S. still has a higher smartphone penetration rate than India. The smartphone penetration rate in India is forecast to reach more than 28 percent by 2018, a penetration rate that the U.S. already reached in 2011. By 2017, the smartphone penetration rate in the U.S. is expected to total 68.4 percent. Samsung is the leading smartphone vendor in India, followed by Xiaomi and Lenovo.

Growth of E-Commerce in India

E-commerce industry been directly impacting the micro, small & medium enterprises (MSME) in India by providing means of financing, technology and training and has a favourable cascading effect on other industries as well. The total size of e-Commerce industry (only B2C e-tail) in India is expected to reach US$ 101.9 billion by 2020.

Technology enabled innovations like digital payments, hyper-local logistics, analytics driven customer engagement and digital advertisements will likely support the growth in the sector. With the increase in the number of electronic payment gateways and mobile wallets, it is expected that by the year 2020, cashless transaction will constitute 55 per cent of the online sales. The growth in e-commerce sector will also boost employment,

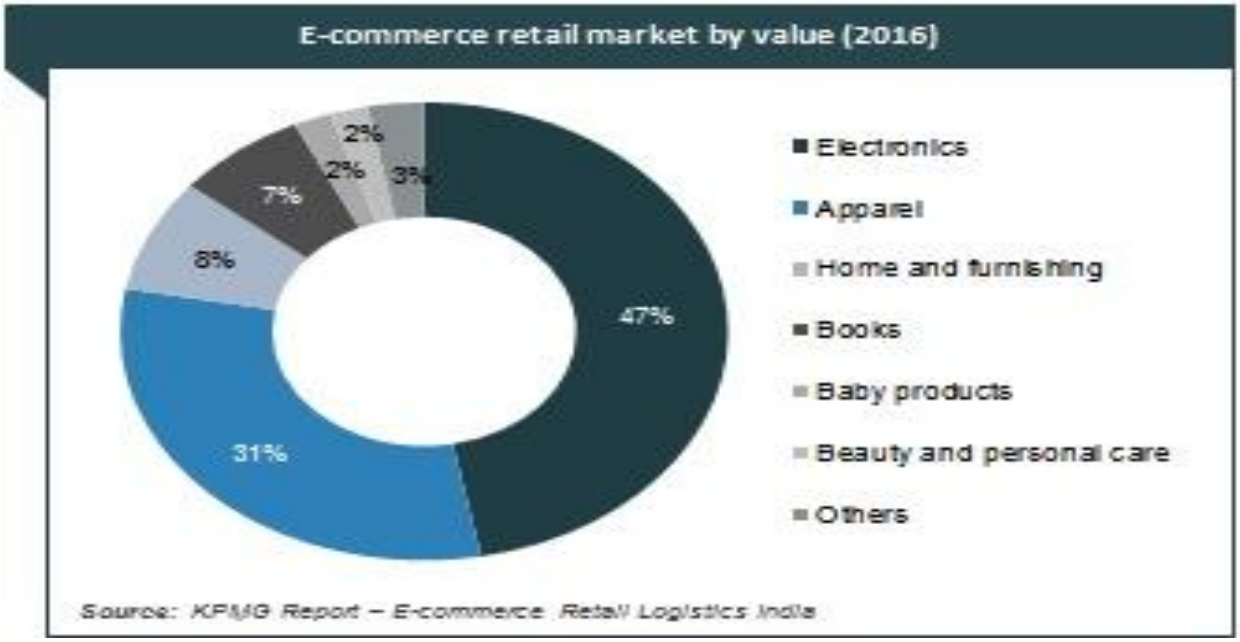
increase revenues from export, increase tax collection by ex-chequers, and provide better products and services to customers in the long-term.



Indian Market Size

Total online spending, inclusive of domestic and cross border shopping, is expected to increase by 31 per cent year-on-year to Rs 8.76 trillion (US$ 135.8 billion) by 2018. Cross border shopping by Indians touched Rs 58,370 crore (US$ 9.1 billion) in 2016, and is expected to by 85 per cent year-on-year in 2017. The top 3 countries preferred by Indians for cross-border shopping in 2016 were USA (14%), UK (6%) and China (5%).

The Indian consumer internet market is expected to grow by 44 per cent year-on-year to touch US$ 65 billion in 2017, up from US$ 45 billion in 2016. Online travel agents account for the largest market share (70 per cent) in the internet consumer market, while the remaining 30 per cent is occupied by horizontal e-tailing, fashion, furniture, grocery, hotel, food tech, cab aggregators, education technology, and alternative lending among others.



The internet industry in India is likely to double to reach US$ 250 billion by 2020, growing to 7.5 per cent of Gross Domestic Product (GDP), with the number of mobile internet users growing to about 650 million and that of high-speed internet users reaching 550 million.5 About 70 per cent of the total automobile sales in India, worth US$ 40 billion, are

expected to be digitally influenced by 2020 as against US$ 18 billion in 2016.

Mobile EDI – A Supply Chain Approach

Mobile EDI solutions appeared as a comfortable instrument for using electronic data interchange in full power. Unfortunately, mobile EDI applications were not prior when developers were thinking about successful EDI implementation. However, as EDI grows and develops, the need for comfortable control instruments becomes urgent.

Earlier it was difficult to imagine that one can control the full supply process with the help of mobile application. But today it is obvious that remote control is easier and more efficient for a modern business person. Check out delivery status or complete a purchase order being in a traffic-jam is a very, very positive feature, isn't it? The result of such constantly growing needs is a fast development of mobile EDI applications. However, the size of mobile devices became a stumbling block – not all operations are easy to monitor on a small screen. Tablet computers played their positive role – a compact take-with-you device with enough screen area. Good alternative to stationary computers, laptops and mobile phones.

Mobile devices made many companies develop their own corporate mobile applications allowing their trading partners interact easily. Supply chains became "mobile-addicted" and this raises mobile EDI applications development.

Recently, some successfully implemented mobile EDI apps proved that the supply chain flow can (at least partially) be controlled with a mobile phone. For example, a warehouse staff can scan the barcode on a carton, create an EDI invoice and send it to a customer.The file is being transferred to the receiver; the receiver opens the document or sends it to the accounts payable department. The invoice is paid and further electronic actions and documents are created and sent…Such results of the mobile EDI implementation can reduce time for documents creation and exchange from 1 hour to 15 minutes. In general this can accelerate all supply processes and make them more effective.

Advantages

Real-Time Event Notifications

Employees that receive emails or text messages on tablets or smartphones can proactively react to changing business conditions – no matter where they are – and thus avoid or reduce process bottlenecks, ensure that customer satisfaction is maintained or increased, and therefore help to protect and/or grow revenues. A couple of examples include:

1. Notification via email or text message that an invoice has been received and is ready for approval. The recipient can immediately review and approve the invoice or contact someone at the office to have it approved. Approving an invoice within a certain timeframe can ensure that the company qualifies for any discounts available for early payment.
2. Notification to a buyer via email or text message that an Advance Ship Notice from a supplier has not yet been received. The buyer can immediately contact the supplier to determine the status of the order and decide whether or not alternative order fulfillment sources should be used in order to ensure timely delivery of goods to an end customer.
3. Notification to a supplier via email or text message that an Advance Ship Notice to a customer has not yet been sent. The supplier can investigate the situation and expedite the order fulfillment if
4. Necessary in order to preserve good relationships – and thus revenue – from important customers.

Transaction Status Inquiries

Business people that are out of the office need to know whether a transaction has occurred. For example:

1. The sales person who is on the road needs to know the status of a delivery to a customer. Instead of calling the office to find out the status of the Advance Ship Notice, the sales person can use his/her smartphone or tablet to sign into a portal to find out at any convenient time.
2. The buyer whose supplier has called to inquire about a missing payment can use his/her smartphone or tablet to access a portal to determine if and/or when a remittance advice has been sent.

Visibility to Analytics

Using a smartphone or tablet, buyers (and suppliers) who are in the process of negotiating new contracts can access a portal to display a dashboard showing the supplier's on-time delivery performance or a buyer's payment history over the prior year. These metrics are based on orders, ASNs and invoices exchanged.

Special-Purpose EDI-Related Mobile Apps

Once the key business documents are being exchanged via EDI, new mobile applications are being built to further improve the process efficiency. Here are a couple of examples from the retail sector:

1. The adoption of Direct Exchange (DEX) streamlines the flow of products and information through the supply chain. Using DEX, delivery personnel can scan the barcode of an item into a mobile device to create an electronic invoice. This data is transmitted to the receiver via an in-store docking station. The receiver opens the invoice in the receiving system and scans the delivered goods to verify quantities. After the data is reconciled, the digital invoice is closed and a finalized copy is transmitted back to the supplier system via his mobile device. One US retailer has been able to reduce the duration of each store delivery by 15 to 45 minutes using DEX.
2. Another retailer is leveraging tablets in its warehouse to help improve efficiency of warehouse personnel in dealing with identification and tracking of damaged shipments received, shipments for which there are inaccurate ASNs or ASNS that don't match their purchase orders, and the creation of deductions that should be applied to subsequent invoices as a result of those errors. Using the tablet, the warehouse employee selects the affected purchase order via the PO #,

selects the deduction reason code, enters any comments, attaches photos of any damaged goods, and submits the deduction for processing by the accounts payable system. An approver then determines whether the deduction should be waived or processed. This process not only automates many of the manual tasks associated with deduction management for the buyer, but also aids in the dispute resolution process.

Findings

In summary, it looks like new mobile technologies are already positively impacting the speed and efficiency of business-to-business electronic commerce. And, I believe that we can look forward to many more applications in the future. Maybe now is a good time to think about where mobile and EDI could be used to create positive impact in your company?

Conclusion and Suggestion

But, while you investigate these new opportunities, remember that these are just a couple of examples of new integration requirements for B2B programs. They will add more complexity in the company. Mobile devices made many companies develop their own corporate mobile applications allowing their trading partners interact easily. Supply chains became “mobile-addicted” and this raises mobile EDI applications development. Mobile EDI solutions appeared as a comfortable instrument for using electronic data interchange in full power. Unfortunately, mobile EDI applications were not prior when developers were thinking about successful EDI implementation. However, as EDI grows and develops, the need for comfortable control instruments becomes urgent. Finally it will be always productive.

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