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# Are E-Commerce Companies Leaking Revenue?

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## Abstract

E-Commerce companies are heavily reliant on physical delivery services to realize their revenues as it is based on the physical delivery of products to the customer. They face many issues and higher costs due to challenges during the 'last mile' of delivery.

The revenue leakage is caused by the inefficiencies as well as improper behaviors of people who work as the 'last-mile' service providers and are responsible for collecting and delivering the goods. This combined with the fact that the vast majority of sales are via the cash-on-delivery method of payment means that significant monies are lost at the very last stage of delivery.

**Keywords:** Decision Table, E-commerce, Last Mile Delivery, Revenue Leakage

## 1. Objectives

E-Commerce companies are making losses (Reddy & Divekar, 2014) in business. The objectives of the study are to examine the delivery stage of the e-commerce business model to analyze the specific factors leading to such losses. Such factors lead to lost revenue, delayed revenue or higher costs and hence significantly reduced profitability i.e. money 'leaking out' of the P&Ls of the selling organization. A conceptual decision Table model has been created to identify the business events and analyze the specific factors leading to revenue leakage.

## 2. Introduction

After centuries of British rule, India achieved her independence in 1947. At that point, our fledgling nation faced a number of challenges including a barely working economy, a low rate of literacy and tremendous poverty. India's economic history consists of two broad phases which are post-Independence (1947-1991) and post-reforms (1991-2018) as a liberal free market economy.

The three engines powering India's economic growth and prosperity after the major economic policy changes (Joshi & Little, 1996) of 1991 were:

- Significantly higher Foreign Direct Investment (FDI).
- Leadership in information technology (predominantly software and business process outsourcing).
- Higher domestic consumption powered by the rapid growth of an increasingly demanding middle class.

Increasing FDI coupled with software expertise created tens of thousands of new jobs which led to the emergence of a newly minted and demanding middle class that in turn led to a rapid growth in domestic consumption. This fueled even more FDI to meet the continually rising demand of consumers. The current Government is aggressively pursuing socio-economic growth of the country via three major steps, namely: 1. "Make in India" to strengthen the capital goods and manufacturing segment in India, 2. "Digital India" to e-connect the country, and 3. GST to promote uniform taxation.

India has one of the youngest populations of the world who are also tech-savvy. Most E-commerce companies have targeted the young and upwardly mobile population who has increasing disposable incomes. Rural areas are

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also coming under their influence thanks on internet access through smart phones and cheap data plans (Singh, 2008). Overpopulated metro cities traffic congestion and convenience have led to an upsurge in online shopping.

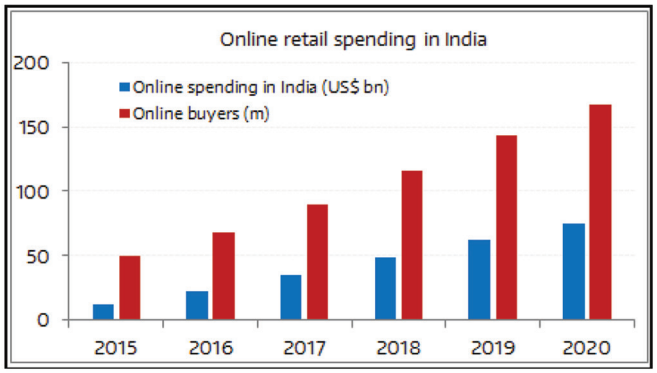
(Shah et al., 2015) State that at the turn of the century, India had about 7 million internet users and this segment has grown at a Compounded Annual Growth Rate (CAGR) of >30 % per year. Today, over 50 million Indians login daily (Figure 1), using over 9GB data per person (Source: www.livemint.com). Given the restrictions in China, India is one of the largest markets globally for social media giants like Facebook and LinkedIn. E-Commerce is moving customers from bricks-and-mortar outlets to online shopping. Manufacturers like Xiaomi have started launching and selling thousands of their products online using instant sales techniques like 'Flash Sale'. India now is home to the second largest Internet population in the world, over 500 million (Source: www.livemint.com) and growing rapidly. This represents a huge potential market for E-commerce companies. Indian Internet users have grown exponentially with the rate being far faster than other countries. The thrust engines of this exponential growth have been a rapidly growing urban middle class population, expansion in rural India, increased consumption propensity, affordability due to lower price of data-enabled handsets, falling prices of data thanks to the telecom disruptions caused by companies like Reliance Jio and the ever increasing awareness of and need for the Internet.

Indian E-Commerce business in 2017 was worth USD 38 billion dollars (Source: www.ibef.org). The growth over the years for most part has been spectacular though not linear (it was 180% in 2015, but only 12% in 2016). India has moved from a savings-oriented economy to a consumption-based economy. E-Commerce business in India will cross USD 50 billion by 2019 as per forecasts (Figure 1).

The study attempts to focus on the different components of the e-commerce business model and identify processes which are potential sources of major financial losses**.**

## 3. Literature Review

E-commerce is considered to be an advanced stage of evolution with developed countries whereas developing countries are at a comparatively nascent stage. Developed countries have evolved into a phase of advanced strategic




Source: Forrester forecast, Asia Pacific Business Standard

**Figure 1.** Online retail spends numbers in India.

decision making using complex algorithms, artificial intelligence tools and bots.

(Agatz, 2008) remarked that the number of dedicated models up to now is quite small and there is potential for significant contributions in all areas and that a tiny set of models explicitly address the multi-channel nature of many of today's Internet retail companies. (Burt and Sparks, 2003) posit various scenarios of the impact of Internet on traditional retail.

(Colla & Lapoule, 2012), posit that in France, fierce competition and restrictions on planning have pushed large grocery retailers using established business model formats (convenience stores, supermarkets and hypermarkets and) to start innovative e-commerce offerings to increase sales. Interestingly, many 'bricks and mortar' experiments in online retailing of groceries have not been successful, financially (Cliquet, 2008). French operators seem to be struggling with different approaches to business. With the click and drive model, consumers place orders online and get their deliveries at the pick-up point ('drive-in to the store' concept) (Fernie et al., 2010); (Durand & Senkel, 2007). **Quite a few large French grocery retail businesses have invested heavily into 'click and drive' format business models to avoid delivery to customer locations thus avoiding significant costs associated with the "last mile" by transferring the delivery responsibility to the customer**; but they still have to deal with a novel as well as difficult business model with a number of logistical and marketing challenges. In the 'click and drive' business model they identified five critical factors that impact success of the business. These are business strategy, relationship marketing, procurement, e-marketing, logistics and customer services. They have highlighted that

price for 'click and drive' for e-commerce should be lower than home delivery, as the full delivery cost of the "last mile" is borne by the consumer himself.

(Ovum, 2016) posit that the E-Commerce customer's basic expectation is a seamless shopping experience and hence retailers will have to create different methods to differentiate their offerings. As a result of its huge 'consumption-based' population, India has become a preferred destination for all e-commerce companies across the globe such as Amazon, Alibaba etc. in addition to Indian companies like Flipkart and Snapdeal.

(Panagariya, 2000) conclude that e-commerce offers tremendous opportunities to businesses globally. Initially, the gains are likely to accrue in developed countries but over time, developing countries shall benefit more. This is because, measured over a short time period, developing countries do not have the retail infrastructure that can take full advantage of enhanced connectivity. But over the years they can skip many stages in the development of the internet and information technology through which developed countries have had to transition.

(Mitra, 2013) posits that Electronic commerce represents a paradigm shift because *'disruptive'* innovation radically changes the tried and tested traditional ways of doing business. (Kuthiala, 2013) posits that India needs to be competitive in e-commerce and it is necessary to set up a dedicated task force to follow international trends and standards so that Indian industry can leap-frog legacy countries and use E-Commerce to re-engineer its processes and operations thus generating competitive advantage. USA and Europe have used governmental support to take such initiatives.

(Reddy & Divekar, 2014), (Singh, 2002) described that the challenges of Indian e-commerce companies and the measures taken by them to overcome these. **They concluded that Cash On Delivery (COD) and Logistics and Shipment services are the most critical challenges impacting e-commerce companies in India**. (Vasanth Kiran, 2013) posits that the future of Indian E-commerce is very bright and increasing internet users have powered its growth especially among the rising middle class. Online business has created a new sales channel in the selling structure of India in online retailing as well as travel. However, such businesses cannot rely entirely on online sales.

Mobile commerce (M-commerce) is the next growth platform for Indian businesses. With the increase in the number of mobile phones and rising use of debit and credit cards, M-commerce will drive significant growth in times to come. With payment wallets like Paytm and secure banking interfaces, millions of consumers do not require physical wallets as virtual wallets and UPI capabilities on mobile phones have effected a 'sea-change' in customer habits. QR codes and NFC technologies enable transaction completion in seconds while increasing loyalty at merchant locations.

Most researchers have identified that the major challenges lie in the supply chain of E-commerce companies, few of them have identified it as a huge operational cost, some of them have identified it as supply chain challenges but none of them have researched about 'last mile' delivery losses. This study focuses on this research gap.

## 4. Research Methodology

A detailed literature review was carried out to identify various event outcomes. Delivery service outcomes were also collected through focus group interviews with customers and industry leaders. After collecting all the possible event points, a Decision Table has been created to illustrate the reasons for revenue leakage (Figure 3) for a diagrammatic representation of all delivery outcomes and the specific points of leakage of revenue in the process of delivery of goods by the e-commerce companies.

## 5. Business Models of E-Commerce Companies

Most Indian E-Commerce companies operate one of two business models (Jose,2016).

### 5.1 Market-Place Model (This is Preferred by most Companies in India like Flipkart, Snapdeal, Ebay India and Amazon.in)

In this business model the e-commerce company offers a comprehensive technology platform to connect customers with a variety of sellers and facilitates the entire transaction between the two entities. In some cases, the e-commerce company also offers delivery services to customers while in other cases the seller undertakes to deliver with the same technology platform being the 'glue' between both parties. In comparison with the inventory model, margins in this model are lower, volumes are higher.

## 5.2 Inventory Model (This is Preferred by Indian Companies like BigBasket.com)

In this business model, the company purchases good from a variety of sellers and stocks inventory. In addition, it also develops private label brands where they purchase goods from suppliers and sell it under their own or their created brand names. Customers then choose to purchase items from this inventory and delivery services are provided by the e-commerce company. In comparison with the marketplace model, margins in this model are higher and volumes are lower.

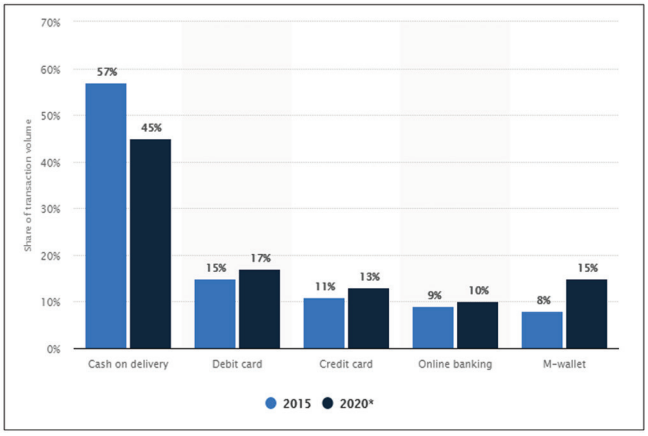
## 5.3 Structural Changes

In 2016, the industry has undergone structural changes in the form of a much higher emphasis on revenue as opposed to Gross Merchandise Value (GMV) which is a term that calculates the total sales for goods sold through a marketplace in a specific time period). GMV is somewhat misleading as it includes the 'pass-through' value of the item whereas revenue is calculated after subtracting the 'pass-through' cost of the item. Low revenue (as opposed to high GMV) and lack of profitability has even led to a reduction in valuation of companies like Flipkart. Secondly, numerous senior leadership exits from companies like Flipkart and Snapdeal have also proved to be a dampener. Thirdly, industry consolidation has started with companies like Myntra, Jabong, ebay India being acquired and a Snapdeal sale being structured with Flipkart (at the time of writing this paper). Fourthly, the government has begun the process of regulating the industry with legislation being passed about the maximum sales achievable from one seller being limited to 25%. Also, the new FDI policy has allowed 100% foreign ownership in E-Commerce companies which operate a marketplace model.

## 5.4 Payment Methods

**Cash-On-Delivery (COD):** Almost 57% (Figure 2) of customers use the Cash-on-Delivery option to make the payment for the purchased item. **Problems in delivery or non-delivery lead to non-receipt of payment in cash (hence revenue leakage). Given such a high percentage of COD payments, last mile delivery problems significantly increase the revenue leakage for e-commerce companies**.

Pre-paid orders via Credit/Debit Cards, Internet Banking or Mobile wallets such as PayTM etc.




Source: www.statista.com

**Figure 2.** Payment methods.

## 5.5 Supply Chain of E-commerce

In India, the supply chain of E-Commerce is both complex and challenging. KPMG (2016) along with CII published a report in 2016 that describes that India's penetration in E-commerce retail logistics is increasing. Indian E-commerce retail markets are one of the fastest-growing market sectors and growth is driven by various factors on both supply side as well as demand side. Increased internet penetration and the growth in smart-phone sales across the country coupled with a rise in the number of urban households, easy payment methods, attractive prices and deals along with convenience, access and variety that online shopping offers, provide significant market drivers.

## 5.6 Delivery Service Providers and Last Mile Delivery

Delivery Service Providers (DSPs) are companies or divisions of companies who fulfill the final delivery from the last pick up point to the customer (last mile delivery). This is the delivery carried out by a delivery person to the customer on behalf of the seller or delivery organization i.e. **the last trip in which the deliverer is expected to finally deliver the item to the customer**. The item or packet is picked up by a vehicle/motorcycle-based delivery boy from the dispatch warehouse to be delivered to the customer. The Delivery organization can be an In-house department OR an outsourced third-party organization. Cash On Delivery (COD) being the highest preferred mode of payment, collecting, handling and transferring cash back to the company is a challenge (e.g. Flipkart has a delivery company called E-Kart that provides delivery services for

Flipkart as well as other external customers). This company is making significant losses

There are a number of 'touchpoints' and 'valves' through which the purchased item has to pass in its journey from seller to buyer. Complexities include locations, modes of transport, the need to use multiple transport types for a single delivery, changes of the 'entity-in-charge' including 'relay type' handover from one entity to the other.

## 5.7 Delivery Challenges

According to (CII, April 2016), logistics or delivery service providers face a myriad of challenges in the delivery process. These include

- Taxation at various points for Inter-state taxes such as Octroi. Arguably this should get streamlined with the rollout of GST.
- Internet and Telephone network accessibility especially for 'last-mile' delivery in remote areas.
- Poor infrastructure e.g. roads sometimes forces delivery service providers to take longer routes.
- Indian Railways does not allow partial usage of containers forcing delivery service providers to lease full containers pushing up the cost.
- Lack of coverage in 2 & 3 Tier cities and rural areas.
- Delivery service providers who provide reverse logistics leading to higher costs.
- Track and trace coverage is a major challenge until the delivery boy returns and updates the 'system' Companies like Amazon are innovating with the use of handheld devices that are electronically signed by the customer. But deploying such technologies remains a significant challenge especially in rural areas.
- Lack of skilled manpower as most delivery boys are not formally qualified or trained. This also leads to no upselling during the customer 'delivery touch point'.
- Waiting times on trunk roads such as Golden Hour on the Mumbai-Pune expressway when large delivery trucks are allowed only during specific hours.
- Air cargo in India is not as established as compared to developed countries in terms of cost, efficiency and frequency.

## 5.8 Revenue Leakage

Huge revenue leakage is happening at the bottom of the pyramid (Prahalad, 2009) every day due to inefficiencies as well as improper behaviors by the people who work as the 'last-mile' service providers and are responsible for delivering/collecting the goods, packages or important documents and arte facts such as credit cards or bank statements. **This combined with the fact that the largest percentage of sales are based on COD method of payment means that significant money is lost at the very last stage of delivery**. Such issues lead to lost revenue or delayed revenue or higher costs and hence significantly reduced profitability i.e., money is 'leaking out' of the P&L.

An e-commerce company realizes revenue mainly in two ways. The customer pays at the point of purchase through online payment options or through COD. In both the cases the company has to incur additional cost and sometimes no revenue in case of goods not delivered or returned after delivery which the researchers have defined as revenue leakage. This research paper is an attempt to develop a basic exploratory model to find out the exact amount of revenue leakage of the company due to last mile effect. After detailing all the possible event points, we have created a Decision Table to illustrate the reasons for revenue leakage (Figure 3) for a diagrammatic representation of all delivery outcomes and the specific points of leakage of revenue in the process of delivery of goods by the e-commerce companies.

## 5.9 Delivery Outcomes (Revenue LeakageEvent Points are Marked in Italics)

### *5.9.1 Successful Delivery but Higher Cost and Lower Revenue*

- Delayed delivery after more than 1 delivery attempt and hence higher cost of delivery (hence lower profitability) and delayed revenue accrual.
- Wrong address given to delivery boy but he manages to reach the customer somehow after finding out the correct address.
- Net Loss, Nil revenue
    - Damaged items returned by customer leading to customer refund.
    - Sales Returns: Item received intact but still returned by customer within return policy window.
    - Delivered to friend or neighbor of customer or watchman of the building.

- Delivery boy claims that the item is delivered while the customer claims that he has not received leading to customer refund.

### *5.9.2 Unsuccessful (Non-Delivery) of Goods, Net Loss, Nil Revenue*

- Items lost in transit due to Pilferage, Theft.
- Picked up by delivery boy but not delivered to customer.
- Delivery not accepted by customer due to some reason (e.g. delivery delay).
- Incorrect address on packet.
- Customer not available.
- Delivery boy pretends to deliver but does not actually deliver. Finally, the package is delivered back to the seller.
- Address incorrect.

## 5.10 Further Revenue Leakage

Even with order pre-payment, lots of orders get cancelled due to delivery issues or late deliveries. This results in further costs as people have to get involved in processing order cancellations (people costs) and monies have to be refunded to the customer via the payment collection entities like banks (cost of transaction processing and cost of finance). The extent of the loss is higher as zero revenue is received for the order and further costs are incurred due to the cost of two deliveries (to the customer and from the customer) plus the cost of the refund process.

## 6. Description of Model and Research Findings

The Decision Table logically depicts the binary outcomes of goods delivered or not delivered with the resultant outcomes showing the large number of use-cases which lead to a loss of revenue or increased cost *i.e. leakage of revenue.*

These include:

1. Goods *delivered but delayed* = Higher cost of delivery.

| Service | Delivery Scenario | Delivery Outcome | Causal Entity | Causal Event |
|---|---|---|---|---|
| | | | | |
| | Goods Delivered | *Returned after Delivery* | *Due to Customer* | *Incorrect Goods* |
| | | | | *Damaged Goods* |
| | | | | *Delivery return* |
| | | | | |
| | Goods Delivered | *Returned after Delivery* | *Due to Delivery Service* | *Damaged Goods* |
| Delivery of Goods | | | *Provider* | *Delayed delivery* |
| by the company | | | | |
| | *Goods Not Delivered* | *Items lost in transit* | *Transporter failure* | *Pilferage, Theft* |
| | | | | |
| | *Goods Not Delivered* | *Picked up for delivery* | *Due to Customer* | *Non Acceptance* |
| | | *but not delivered* | | *Non Availability* |
| | | | | |
| | *Goods Not Delivered* | *Picked up for delivery* | *Due to Delivery Service* | *Wrong Address* |
| | | *but not delivered* | *Provider* | *Pretended delivery* |
| | | | | *Missing Address* |

**Figure 3.** Decision Table: Revenue Leakage Model of E-commerce companies in India with Delivery Outcomes (Delivery outcomes with revenue leakage have been marked in italics for easy reference).

2. Goods *delivered but returned* due to delivery service provider issues = Net loss (This represents approximately *10-12% of total sales* and is the largest focus area for e-commerce companies who try their best to reduce it).

3. Goods *not delivered* at all – This should also be an area of focus for companies as it is both non-receipt of revenue as well as incurring of cost for the seller, so it is like a 'double whammy'.

# 7. Conclusions

All the points listed in the findings result in a huge loss to E-commerce companies and the main management lesson here is that all these three areas can be significantly mitigated with sufficient focus and attention. It is interesting to note that Flipkart has recently tightened its return policy on the lines of what we have proposed in our decision table. This combined with the fact that approximately 57% of all Indian e-commerce transactions are based on Cash-on-Delivery (Figure 2) means that in **most non-delivery or delayed delivery cases, cash is not received for the transaction** or even needs to be refunded to the customer in cases of pre-payment. It is interesting to note from the decision table that even some of goods actually delivered, get returned due to Delivery Service Provider issues.

**Given that the E-commerce sector is expected to grow by orders of magnitude, it would augur extremely well if companies can reduce their operations cost and the revenue leakage in their business models and thereby increase their top line as well as improve their bottom line which is the Holy Grail for the entire sector.**

This would then lead to a sustainable business model whereby e-commerce companies would no longer have to depend on investor funding for sustaining their day-to-day operations but would be able to generate enough cash to survive and grow thereby improving their own fortunes as well as the GDP of India. Flipkart has reduced its return policy window from 30 days to 10 on many product categories. It has also completely removed refunds or returns from product categories such as mobile accessories, thereby reducing operational costs. (Source: Economic Times, 21.04.2917). While these may impact Flipkart positively in the short term, they may lead to customer churn especially if better policies are available with competitors.

Many of the problems can be resolved if the delivery personnel can communicate with the intended recipient of the goods prior to attempting delivery or in the event of the recipient not being available. Capturing the contact details of an alternate recipient at the order capture stage itself, even perhaps with a unique token number, would also greatly help. E-Commerce companies need to relook at their systems as well the training inputs provided to the delivery teams. Additionally, deploying and analyzing delivery and communication analytics would provide clear visibility into what needs to be improved.

## 7.1 Future Roadmap and Challenges

In future it may be useful to arrive at the probabilities of each use case that causes revenue leakage to arrive at a rupee or dollar number of revenue leakage for the e-commerce sector. Additionally, E-Commerce companies could be surveyed to analyze actual amounts of revenues lost. Correlation of E-Commerce deliveries with Business growth and GDP can be studied at a country level to understand if these variables have an impact on each other. It may also be useful to estimate the potential GDP not achieved due to such revenue leakage.

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