

Major Project Review On

LOGISTICS MANAGEMENT FOR LAST-MILE DELIVERY FOR SUPERIOR CUSTOMER SERVICE IN E-COMMERCE

Submitted by

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2K20/DMBA/135

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CERTIFICATE

This is to certify that the Project Report titled “**Logistics Management for Last-mile delivery for superior customer service in E-commerce**” is an original and bonafide work carried out by Ms. Sweta Prasher” of MBA 2020-22 batch and was submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-110042 in partial fulfillment of the award of the Degree of Masters of Business Administration.

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DECLARATION

I, Sweta Prasher, student of MBA 2020-22 of Delhi School of **Logistics Management for Last-mile delivery for superior customer service in E-commerce**” submitted in partial fulfillment of Degree of Masters of Business Administration is the original work conducted by me.

The information and data given in the report is authentic to the best of my knowledge.

This report is not being submitted to any other university for award of any Degree, Diploma and Fellowship.

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ACKNOWLEDGEMENT

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EXECUTIVE SUMMARY

The Indian e-commerce retail business has risen significantly as a result of increased internet penetration, smartphone usage, and language variety on e-commerce platforms. As a result, the e-commerce retail logistics business has expanded rapidly. While expansion has been rapid, the sector faces fundamental problems that it is attempting to address. High-cost pressures, high returns, and insufficient physical infrastructure are some of the difficulties confronting the business.

Web based business retail patterns and progressions, developing client assumptions, and expanded interest for same-day conveyances are modifying how the online business retail store network works. This industry is likewise seeing the development of new plans of action, for example, omni channel retailing and new last mile conveyance procedures like conveyance through neighborhood organizations.

As the quick development of eCommerce energizes purchaser assumptions for quicker, more adaptable conveyance, current and arising conveyance models will battle to endure except if they adjust to a financially savvy conveyance arrangement that permits them to wisely solidify orders into proficient conveyance courses that increment course thickness and drop sizes. Current delivery models must develop to embrace sophisticated analytics, dynamic route optimization, and artificial intelligence in order to give more speed and flexibility in responding within a fluid delivery environment if they are to survive.

The burden on retailers, conveyance suppliers, and their more extensive inventory network to convey more requests quicker and at a similarly lower cost to meet client assumptions is developing in light of the fact that the "last mile" - the last period of the conveyance interaction when the request arrives at the end-client - is the most costly and time-making stride of the satisfaction cycle. This is the primary reason why e-Commerce merchants are investigating methods to optimize their retail operations by using emerging technology and processes to intelligently increase operational efficiency and reduce delivery costs. The aim is to improve the consumer experience by providing relevant information, offering personalized services, and maybe enticing customers to return for more.

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CHAPTER-1: INTRODUCTION

1.1: Background

E-commerce is India's fastest growing and most interesting commercial transaction medium. According to research started by export.gov, a project of the Department of United States of Commerce's International Trade Administration, the e-commerce sector of India is predicted to rise to US\$200 billion by the year 2026, from US\$48.5 billion in 2018. This expansion has been fueled by rising internet and smartphone usage. Customers increasingly expect faster, cheaper delivery as well as more control over their experience. The oppression on retailers, delivery providers, and their wider supply chain to deliver more parcels in short time with less cost to meet customer expectations is increasing because the "last mile" is the ultimate phase of the transport process when the parcel is delivered to the end-consumer, and it is the most expensive and time consuming step of the accomplishment process.

A marketing paradigm shift dubbed "liquid expectations" by Ford, a worldwide design and innovation firm, is influencing the rising need for a smoother, more instantaneous delivery experience. Customer expectations are not just restricted to a single product category; they now span several sectors and experiences. As an outcome, end-consumers are becoming ever more dissatisfied with the level of service given by incumbent delivery providers, and are more susceptible to the allure of disruptive newcomers who can match their needs.

Customers who are always on and tech-savvy are wanting speedier delivery as a result of their experiences. They likewise need more highlights, the greater part of which are equipped at giving them more command over the conveyance interaction. For instance, the capacity to pick and change conveyance windows, track conveyances continuously, and even talk straightforwardly with drivers are choices. These highlights will immeasurably further develop the conveyance experience and will be basic in holding customers when their steadfastness is at an unequaled low. Here, vendors have gone to

the last mile as a critical landmark for customer separation, giving quick, adaptable, and, surprisingly, free conveyance.

To thrive in internet company, you must maintain cost efficiency and great service quality. Focusing on last-mile logistics may help retailers build client loyalty and set themselves apart from the competition. Last-mile conveyance execution has turned into the main part in the connection between E-business retailers and end clients, as it might either fortify or debilitate the bond, which straightforwardly affects the client's reordering decision.

Hence, It's more important than ever for retailers to ensure a seamless and comfortable "last-mile" delivery — the final leg of the trip where a product lands in the hands of a customer. A great last-mile experience engages and maintains customers, according to study, with three-quarters likely to pay more if delivery services are satisfactory.

Retailers and delivery companies face a tremendous challenge in providing a distinct delivery experience while remaining profitable. This is owed to the high cost of moving products, the requirement for improved visibility throughout their supply chains, and continuing margin pressure from severe competition. Overcoming these obstacles may be the difference between these companies having a future or going out of business.

1.1.1: Last mile delivery

It is the last stage in the store network — the exchange of merchandise from the business to the end client. Concentrates on show that in the request satisfaction process, clients put a higher worth on comfort than on anything more. This, combined with the rising percent of generally deals originating from web based shopping, is coming down on ventures to give more advantageous conveyance choices. Be that as it may, giving the ideal client experience relies upon productive, adaptable conveyance activities - which thus depend on having the right framework and cycles set up.

How really does last mile conveyance function?

The center last mile conveyance stream comprises of five significant stages:

- a) Orders are handled through a concentrated framework. Both the shipper and the beneficiary will actually want to follow and comprehend where the request is in the store network subsequently.
- b) The request is steered and shows up at the transportation center point. The primary thought process is to lessen the time it takes to go from the center to a definitive conveyance area (the "last mile").
- c) Delivery task is an essential technique that doles out things a course and the most proficient conveyance strategy. It tends to be mechanized (as in on-request conveyance), manual, or a crossover of the two.
- d) Scan-orders are examined as they pass on the transportation center to keep the framework - and all partners - cutting-edge on the last mile.
- e) The shipment has shown up at its objective, and conveyance has been affirmed.

There are extra advances, for example, getting confirmation of conveyance or client criticism, yet these don't matter to each association. The last mile interaction can occur with both inner and outside armadas There isn't only one method for giving effective last mile conveyance. The cycle for some organizations occurs with inward, outside or the two kinds of armadas. Inner armadas are those that are run and dispatched inside an organization. While this is the less famous choice as a rule, it has been effective in the eatery business (albeit that is likewise evolving today). Inward armadas enjoy a benefit of being effectively open and organizations can change last mile conveyance strategies and techniques rapidly to address client issues.

Outside armadas allude to outsider conveyance suppliers. This incorporates publicly supported armadas, outsider coordinated operations (3PL) organizations, and transportation transporters. Most brands today utilize outsider suppliers to meet their last mile conveyance requests as well as depending on the incredible skill and experience such organizations give. Today organizations with inward armadas frequently go to

transportation transporters when their own armada can't deal with the last mile volume any longer, or on the other hand in the event that they don't need the weight of dealing with the conveyance cycle themselves.

1.1.2: E-commerce Retail Logistics

1.1.2(a): Sector Landscape

Customary coordinated operations specialist co-ops (LSPs), internet business retail arranged strategies specialist co-ops, and hostage strategies arms all serve the online business retail planned operations market. It is generally a hostage market (49% offer), albeit a sizable piece is as yet overwhelmed by new age firms, especially those taking care of web based business retail.

i. Traditional logistics service providers:

With the quick development of the online business area in India, conventional LSPs have started to give online business arranged operations arrangements to stay cutthroat. Most have particular B2B and B2C activity capacities. Their ongoing laid out network, along with their insight and abilities in India, has permitted them to acquire around a fourth of the piece of the pie in the e-retail coordinated operations area. However, in order to serve their clients, e-commerce businesses require a particular degree of capability and service. Due to the limited technology capabilities of incumbent traditional third-party logistics (3PL) providers, e-commerce oriented LSPs and captive logistics arms of significant e-commerce merchants have emerged.

ii. E-commerce retail focused logistics service providers:

Committed LSPs for online business retail have joined the market as of late, using an innovation driven approach that permits the organizations to grow up, stay productive, nevertheless give cutthroat rates to clients. These organizations control around 28% of the market. Individual players are broadening their tasks, reach, and abilities at a fast

rate. In most recent couple of years, there is a high expansion in interests in new companies and vital collusions with e-retailers.

iii. Captive logistics arms:

In-house strategic arms of huge e-retailers actually execute more than 70% of the conveyances of their particular e-retailers. Not exclusively are the hostage arms of e-retailers guaranteed of huge in-house volumes, these hostage arms have now begun effectively offering types of assistance to other outer e-retailers. Further, with regards to complex and additionally high worth shipments, for example, gems and furniture, e-retailers rely upon their particular hostage calculated arms for conveyances. This has driven the players to catch almost a portion of the piece of the pie (~49 percent). E-retailers are putting tremendous aggregates in their hostage strategies arms to increment limit, grow offices and reach, recruit more labor supply and set up satisfaction places container India to take care of expanding requests of both, in-house as well as outer clients.

1.1.2(b): E-commerce Retail Logistics Activities

Items bought web-based go through various strides before they are conveyed to clients. Beginning with first mile coordinated factors, which involves getting things from

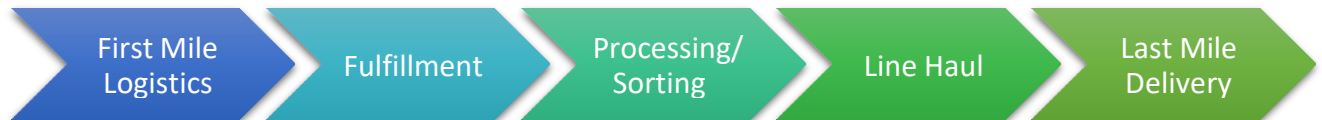


Figure 1.1: Flow of order in supply chain

venders and carrying them to the e-retailers' satisfaction place or directly to the mother stockroom, contingent upon the satisfaction model,i.e., inventory-led or marketplace.

Things in the stock drove model are moved to the satisfaction community without bundling/naming, though items in the commercial center model are completely pressed and shipped off a distribution center for stockpiling. Following first mile coordinated operations is satisfaction, which involves picking and bundling things once a request is put on the web. Following satisfaction, things are moved to 3PL handling habitats for handling/arranging in

view of the conveyance area and are associated further in the store network through line pull contingent upon the last conveyance objective. Line pull includes interfacing the principal supply focus with the fundamental interest community, through surface or air. Surface or aircraft pull is subject to travel time and cost framework. Aircraft pull is 3-4X costlier than the surface line pull, in any case, has lower travel time. As of late 3PLs have begun surface express developments for committed development between two focuses, with a more limited travel time than the typical surface line pull development. This is trailed by last mile conveyance which includes dispatch and transportation of items from the mother center points to the conveyance center points, from where they are sent out to the clients. This leg is reliant upon the labor supply and foundation regarding number of conveyance center points, conveyance vans and bicycles.

1.1.3: CONCEPTUAL FRAMEWORK OF LAST-MILE DELIVERY

1.1.3(a): The Problem of Last-Mile

Last mile conveyance, in basic terms, is the development of merchandise from the last transportation center to the last conveyance objective. The focal point of last mile is to convey items to end purchasers straightaway with most minimal expenses, subsequently advancing effectiveness and upgrading consumer loyalty. Last mile conveyance, today, is where, customer connections are made. Keep going mile conveyance, then again, is an immense test in a shifted country like India for firms like web based business, which require conveyance from a distribution center to clients. Numerous advancements have become typical, like money down, fast returns, and no-cost EMI, however different impediments remain. The key gatherings participated in Last-Mile coordinated factors are: Retailers, Last Mile specialist co-op and the Customer. Some of the time, the actual retailer do the Last mile conveyance while certain retailers re-appropriate this progression to the current Third Party Logistics.

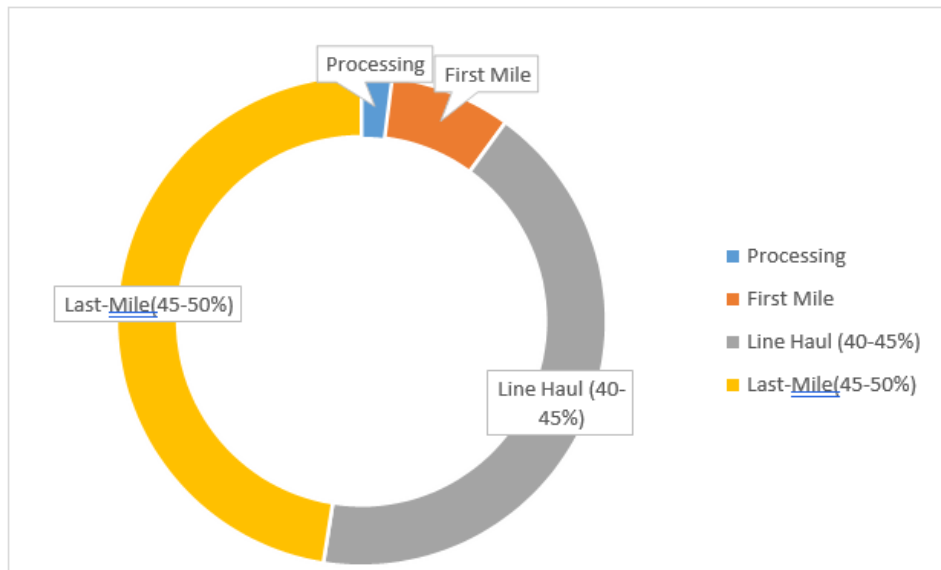


Figure 1.2: E-commerce Retail Transportation Cost Split



Figure 1.3: The Order-Delivery Cycle

Major Challenges:

While thinking about why the 'last mile' conveyance is so expensive and incapable, it has been figured out that the fundamental reasons are:

A. No Real Time Visibility & Customer Friction:

Clients need full, continuous perceivability of their orders including the specific season of conveyance. As of now status shows out for conveyance yet has not ongoing feed. A definitive on-request experience is accomplished by combining state of the art improvement innovation. Constant following has become one of the essential specialized accomplishments utilized by various stages. Clients that have ongoing observing know

about the situation with their conveyance and consequently don't want to grumble.

B. Missed Delivery:

According to reports, for each 100 conveyances, the conveyance individual makes 140-150 visits. These gets expanded in the event of modest communities and country regions. Explanations behind this can be rescheduling or recipient not accessible, and so forth.

Client fulfillment is guaranteed by keeping the client informed with convenient updates all through the conveyance interaction. Warnings on the shipment, travel, and conveyance of their request assist with ensuring that the client is accessible at that point and area of conveyance.

Other possible solutions:

•Helpful Digital Lockers: A computerized storage at an areas like nearby market a state or kirana stores, will permit the clients to get the bundle according to their comfort. A scanner tag can be utilized to open the storage and get the package in a no problem at all way. This won't just assistance in lessening the rescheduling costs yet will likewise offer adaptability to clients.

•Premium Scheduled Deliveries: Customers are prepared to pay additional charges in the event that the conveyance space is according to their comfort. So conveyances can be booked with the ideal time allotment or by taking earlier meeting with clients.

C. Address Issues & Customer Nuances:

Middle region covered by a pin-code in India is 90 sq.- km which might contain up to 1,000,000 families. Furthermore there are house numbers and milestones which are either wrong or befuddling. Figuring out the location is opportunity consuming and continuous calling to clients for headings frequently aggravates them. Inability to precisely find a location prompts failures in related methodology, for example, course arranging, finding the closest satisfaction community, and finding conveyance accomplices.

Moreover, client characteristics, for example, restricted entrance, non-adaptable conveyance plans, etc affect last-mile conveyance.

As of now, the conveyance accomplices need to depend on help from adjacent individuals or calling the client to get the location which brings about exercise in futility. This can be disposed of by utilization of live area utilizing GPS.

D. Low Volume Density:

Small vendors and driver-cum-owners account for 70% of the last mile logistics industry. According to a Shadowfax assessment, this unorganised sector is plagued by supply chain inefficiencies, which maintain the ecosystem's average utilisation at a low of 35%. These inefficiencies may be classified into three categories: ineffective route design, inefficient space usage, and concentrated demand at peak periods.

Wasteful courses bring about ineffectively overseen time and fuel consumptions for the organization, as well as unnecessary deferrals for the buyer. By considering a large number of factors, Route Optimization moves past this hindrance. Calculations guarantee that drivers complete most conveyances at all measure of time and consuming minimal measure of fuel by processing factors like: driver accessibility, area closeness, conveyance windows, traffic conditions, neighborhood guidelines, least and greatest request load, weight limit, and so forth.

1.1.3(b): Cases in Point- The Indian Scenario

Since its inception, India's e-commerce business has gone a long way and continues to acquire pace and value. The E-commerce sector is being driven by causes like as rising internet access and smartphone penetration even in rural area, tier 1 and tier 2 cities, a concentration on advertising, digital payment methods, and the population's fast changing aspirational requirements. At present, more than half of all e-commerce shipments are bound for cities/towns other than the traditional metropolises. With the growth in transactions, logistics is no longer only a supporting role, but rather an important differentiator in customer service. Operations in web based business retail is extending to address the issues of the business, and it is a vital driver of improvement.

Dissimilar to in different areas where strategies is just a help work, coordinated factors in the online business area is a significant switch in expanding client bliss and a fundamental facilitator of the internet business retail industry's development. As per a KPMG investigation named 'India's web based business retail coordinated factors improvement story,' the strategies business remarkable to web based business retailing in India was assessed at USD0.46 billion out of 2016 and is supposed to increment at a CAGR of 48% throughout the following five years, arriving at USD2.2 billion by 2020.

In light of a thorough report, it has been proposed that the viability of last mile conveyance relies vigorously upon five key choices. These choices incorporate office area choice: number of dispersion focuses; stock choice: stock in every office; stock approach; transportation strategy: number of vehicles, course arranging, limit of vehicles and planning; and appropriation choice.

With the rising smartphone and internet penetration over the previous decade, the Indian e-commerce market has grown at an exponential rate. For the previous several years, e-commerce has grown at a rate of 30 percent every year. The three cities of Bengaluru, Mumbai, and Delhi account for 40% of all e-commerce orders. This results in a huge number of shipments, which has an impact on delivery efficiency, especially in the absence of a technical system. This has resulted in several novel solutions to the last-mile challenge. Some of the better instances in the Indian setting are as follows:

Amazon's I Have Space

Amazon has been a pioneer in mastering the art of making customers happy with-it logistics management especially for the Amazon Prime customers. One of the main reasons behind Amazon's success in India has been due to its solid delivery strategy at the heat of which is it's last mile connectivity program: "I Have Space (IHS)".

IHS was sent off in 2015 with an experimental run program focusing around 2,500 neighborhood mother and-pop stores. Right now, this creative conveyance program has organization with more than 20,000 kirana stores in around 350 urban communities

across India. Amazon joined forces with neighborhood mother and-pop stores which included convenience store proprietors, booth proprietors, versatile embellishments, fix and re-energize businesspeople, supermarket proprietors, vegetable sellers, and so on. These nearby accomplices knew about their areas as well as had a generosity in their neighborhood networks.



Figure 1.4: Amazon India's I Have Space

The I Have Space program is a win-win strategy for both Amazon and the local partner store. The local partner stores required no investments to be a part of this IHS program and in return got an additional source of revenue and an increased consumer traffic in their stores. Under this IHS programmes, the local stores provided pickup and delivery services to customers within a 2–4 km radius of their stores. On an average, the local store partners deliver around 30-40 packages in a day, and are given a fixed amount per delivery.

Myntra's Kirana Delivery Programme

Myntra is using kirana stores as part of its delivery network in order to reach more rural areas as customers from Tier 2 and 3 locations increase and it has found the service to be mutually beneficial. After launching its "Mensa Network" in April 2017, Myntra has now expanded it to cover 9,000 stores across 50 cities across India. About 60 percent of Myntra's pick-ups, deliveries happen through the programme.

The "Kirana Delivery Programme" is an inventive approach created by Myntra to speed up order delivery while also providing a platform for kirana retailers to earn extra money. It is a mutually beneficial concept that has assisted Myntra in increasing client happiness while also improving the standard of life for the proprietors of countless mom and pop retailers around the country. It has also been signed up for by a number of tailors and beauty salon proprietors.

Flipkart

Flipkart, a Walmart-claimed and India-based computerized retailer, in 2019 extended its last-mile conveyance administrations to 27,000 kiranas, or exclusive neighborhood general stores. The power source are spread all through 700 urban communities and 20 states in India. This technique won't just give Flipkart arrive at a huge number of new buyers access extra districts, however it will likewise re-position and once again concoct kirana stores as corner shops from an internet business stance, while likewise furnishing them with another wellspring of income, making it a mutually beneficial situation for everyone.

Likewise, Flipkart expects to supplant almost 40% of its current last mile armada of conveyance vans with EVs by March 2020. By this Flipkart expects to cost efficiencies across its business and furthermore make a biological system for Electric Vehicle reception in India.

For quite a while, internet business was only the demonstration of buying a products on the web. With the conveyance of the item, the association between the e-posterior and the client would reach a conclusion. Flipkart endeavored to address this in 2014 by procuring Jeeves, a carefully prepared player in the after-deals overhauling and establishment market. After-deals backing and establishment were essentially taken care of straight by brands at that point. Flipkart, as an e-rear, genuinely committed to an essential responsibility in this market with the obtaining of Jeeves. It was a stage expected at upgrading client support, in particular the Net Promoter Score (NPS), which reflects how likely a client is to allude Flipkart to another possible client. Jeeves has the market insight and representatives to make the client's establishment experience pleasant. When a purchaser acknowledged conveyance of a machine obtained on Flipkart, Jeeves experts would visit the client's home, set up the apparatus, and show its usefulness, furnishing the purchaser with a straightforward, bother free insight. This fundamental establishment and showing immediately turned into a game-changing business leap forward in India's quickly creating internet business market.

Flipkart bought F1 Info Solutions in 2017, one of India's top hardware administration organizations that particular for the most part in cell phone fix and renovating. With the expansion of Jeeves and F1, Flipkart started to widen its way to deal with purchaser associations past basic buying prospects. To build clients' dedication, Flipkart presented Assured Buyback, a program that permitted clients to sell their old handsets back to Flipkart at a pre-decided rate on the off chance that they decided to supplant or overhaul it, as well as the progressive Complete Mobile Protection program, which offered a scope of advantages that went past standard brand guarantees, for example, fixes all through the item's life-cycle and pickup-and-drop administrations from the client's doorstep.

In the interim, Jeeves and F1 started to fabricate a strong organization of specialists and designers on the ground. Flipkart had the option to focus better on item returns because of expert visits and item approvals. This assisted with alleviating a portion of the misfortunes supported all through the profits strategy. Flipkart spanned a basic hole among on the web and actual business sectors by sending off these client centered drives. Notwithstanding the above drives, Jeeves and F1 laid out an organization of stroll in help

habitats on the off chance that clients needed more support with their merchandise.

Flipkart faced a challenge by entering this troublesome area in 2017 with the send off of 2GUD.com, India's most memorable free stage for revamped items. The restored items area is one of the quickest developing in the country, with the mobiles classification alone anticipated to procure \$4 billion in deals by 2020. Restoration is an enormous, chaotic industry in India, driven by casual entertainers.

1.2: Problem Statement

The last stage in the conveyance cycle is when things are sent from an office or circulation focus to the end client or client, which is known as last mile planned operations. With the improvement of internet business deals and need for omnichannel shopping, last mile conveyance has turned into a basic piece of production network the executives. Last-mile conveyance's motivation is to convey more things to clients in an opportune and savvy way. Web based business is one of the main areas in which coordinated operations assumes a part, especially in the last mile. Authorities on the matter agree, the last mile represent 45% of E-business conveyances, which is higher than pulling, gathering, and arranging. In conveyance process, the last mile planned operations stage is the most tedious and exorbitant. Clients at present have a great deal of internet buying choices to look over. Thus, retailers put squeeze on last-mile specialist co-ops to work on their outcomes. To flourish in web organization, you should keep up with cost productivity and extraordinary assistance quality. Zeroing in on last-mile planned operations might assist retailers with building client faithfulness and put themselves aside from the opposition. Last-mile conveyance execution has turned into the main part in the connection between E-trade retailers and end clients, as it might either reinforce or debilitate the bond, which straightforwardly affects the client's reordering decision. Thus, it's a higher priority than any time in recent memory for retailers to guarantee a consistent and agreeable "last-mile" conveyance — the last leg of the excursion where an item arrives in the possession of a client. An incredible last-mile experience draws in and keeps up with clients, as per study, with 3/4 prone to pay more in the event that conveyance administrations are good.

Retailers and conveyance organizations face a huge test in giving a particular conveyance experience while staying beneficial. Conquering these hindrances may be the contrast between these organizations having a future or leaving business.

1.3: Objectives

The report on “Logistics Management for Last-Mile Delivery for Superior Customer Service in e-Commerce” has the overall objective of understanding the importance of Last-Mile delivery, its impact on customer experience and how it can reshape the e-commerce landscape in India.

Considering the overall scope of the report, emphasis has been laid on the following 4 areas which are very essential for superior customer experience and an efficient last mile delivery:

1. Consumers' need for faster and more frequent delivery is growing.
2. The advantages for businesses who provide excellent last-mile delivery services
3. Increases in last-mile delivery have a negative influence on profitability.
4. How can businesses get the last-mile value offer right while minimising risk to their bottom line?

According to a recent Forbes article, today's increasing customer expectations have had a significant influence on store capabilities: "In the late 1990s and early 2000s, home-delivery start-ups prioritised speed over variety: they could deliver a limited number of items swiftly. When it comes to the last mile, today's merchants make more subtle trade-offs between speed, selection, and convenience. The proper mix necessitates a complicated set of trade-offs that vary by product type, consumer demographic, purchasing occasion, and store positioning." The problem for retailers is to locate "the sweet spot," which is when a product matches a customer's expectations while still being priced at or below the customer's willingness to pay.

Finding that sweet spot might be challenging, but rest confident that if the e-retailer fails, the customers will let them know. As a result, customer expectations for delivery speed and flexibility have shifted. Consumers are very much in control, and they show no reluctance to reject a store that does not provide the services they have grown to anticipate or that fails to deliver on time.

1.4: Scope of Study

Web based business has developed to represent a developing extent of retail deals, making eCommerce satisfaction a crucial field for brands and the coordinated factors organizations who convey for them. The COVID 19 pestilence sped up eCommerce maturing with minimal advance notice. The anticipated ascent of eCommerce over the course of the following 5-10 years happened inside the last 6 a year, carrying with it a critical test for online venders: the eCommerce satisfaction process.

With expanded client assumptions for quicker conveyance and more advantageous other options, driving industry members are laying out new guidelines for satisfaction speed, cost, and accommodation. As a result of expanded contest, vendors and commercial centers should move forward and improve their calculated tasks and conveyance capacities. Nonetheless, the expense of last-mile conveyance might be restrictively costly, and delivering firms are attempting to stay aware of record-breaking interest. Settling these issues will decide if retailers and other eCommerce organizations can effectively scale their internet based deals.

Client experience is fundamental in last mile conveyance. Internet business rivalry is wide and steadily extending. Brands and last-mile planned operations suppliers should put resources into an uncommon conveyance experience to support shopper faithfulness.

Take Amazon. The eCommerce behemoth continually increases current standards for shopper assumptions. Notwithstanding the one-day conveyance change, Amazon likewise emerged with 2-hour conveyance on specific items for Prime endorsers. In profoundly serious business sectors, immediate conveyance has turned into a "must" to keep client steadfastness high. We definitely realize that individuals like organizations who give same-day conveyance. As a matter of fact, 57% of purchasers feel that very day conveyance will build their unwaveringness to a specific organization.

Well on the opposite side, there are costs. Amazon felt that building its own inventory network would be more practical than depending on outsider merchants for last-mile conveyances. Customers' favored request satisfaction arrangements are likewise the most

costly for vendors and operations organizations to utilize.

Home delivery is rapidly expanding.

Home conveyances are growing rapidly because of the eCommerce blast, presenting new and unmistakable issues for last mile coordinated factors organizations. Transporting organizations should stay aware of rising client assumptions and fulfill rising buyer requests to keep the two traders and bundle beneficiaries satisfied with their administrations.

The two most significant elements that dealers should consider in their last mile conveyance process today are accommodation and security. An ever increasing number of organizations are offering premium types of assistance, like extra special treatment for their items. White glove conveyance is commonly accommodated high-ticket items or things that are truly immense, and it could include conveyance, establishment, or gathering in the suitable space of your home.

Contactless conveyance: Adding a contactless conveyance choice might support brand dependability and be another client magnet for those searching for this choice.

CHAPTER-2: LITERATURE REVIEW

Paper-1: Yulia Vakulenko, Poja Shams, Daniel Hellström & Klas Hjort (2019), “Online retail experience and customer satisfaction: the mediating role of last mile delivery”, *The International Review of Retail, Distribution and Consumer Research*.

The unprecedented development of online business in various undertakings all through the world as of late has been eminent. In view of the Internet, retailers can connect with additional clients, expand a lot further in the conveyance chain, and boost their assets. In the present economy, client experience has turned into a wellspring of upper hand. This study researches the significance of keep going mile conveyance on the client's web based business experience. A quantitative methodology was utilized, incorporating a study led in Sweden that inspected members' latest online business experience. The last mile conveyance experience, as per the information, intercedes the connection between buyer impression of the web-based buy insight and client joy. These discoveries open the way for future top to bottom concentrate on the financial significance of last-mile conveyance. These discoveries prepare for future top to bottom concentrate on the job of last mile conveyance in the web based business climate, as well as help to e-rears in expanding customer fulfillment.

Paper-2: Marshall Fisher, Santiago GallinoTuck, Joseph (Jiaqi) XuTepper, “Value of RapidDelivery in Online Retailing”, 2016

For online dealers who sell actual things, each exchange has two fundamental parts: the real article and the administrations provided by the business to empower the exchange. In spite of the way that conveyance speed is certainly the main assistance part for online vendors, no exact exploration have been attempted to decide the monetary worth of quicker conveyance for a web-based business. Thus, web firms are constantly faced with a crucial open inquiry: do the advantages of speedier conveyance offset the expenses of more limited conveyance lead time? We look at the impact of quicker conveyance on deals utilizing a semi regular trial including the presentation of another internet based dissemination place (DC), which diminished conveyance time for a significant subset of western U.S. clients of a significant U.S. clothing store. We found that income from affected clients expanded

by around 4% on normal after the new DC opened, with the addition diminishing contrarily with distance from the new serving DC. As per our exploration, the expansion in pay is generally owing to clients putting in additional requests and buying more costly things following the new DC's introduction. Moreover, newly gained clients and inconsistent buys were the customer bunches generally receptive to the conveyance speed improvement. The subsequent DC raised net benefit by 2.2 percent, as per our estimations, in light of the fact that the edge on new deals and a decrease in transportation charges for western clients outperformed the decent expense of working a subsequent DC.

Paper-3: Tze-Hsien Liao, Ching-Jui Keng, "Online shopping delivery delay: Finding a psychological recovery strategy by online consumer experiences", *Computers in Human Behavior* Volume 29, Issue 4, July 2013

While thirty years of examination have incredibly added to a superior information on the client web based business experience, data on internet business conveyance methods is scattered and rather limited. The conveyance methodology was featured as a significant quality calculate starter concentrate on the client internet business experience. It shows that the degree of consumer loyalty can fluctuate between the phases of online retail checkout and after conveyance, exhibiting that conveyance affects complete buyer fulfillment. Following thirty years of exploration, we have a divided and incredibly restricted information on the connection between conveyance techniques and the internet business experience. Existing exploration, be that as it may, uncovers a connection between the client's examination of the web-based insight and their experience once a bundle shows up. Dependable conveyance has been referred to as a wellspring of shopper esteem in online business. On-time conveyance, cost, and add up to conveyance have all been distinguished as signs of shopper fulfillment and dependability to an internet business website. Mental disharmony created by conveyance defers impacts clients' impression of the web based buying experience. Since clients see a web based business experience comprehensively, an unfortunate conveyance result might impact all out consumer loyalty and future purchaser collaborations with a specific e-retailer. Think about the accompanying model: A buyer buys a thing on the web yet is disappointed with the conveyance experience, notwithstanding an immaculate internet buying experience. Accordingly, clients might change to other internet business locales to forestall future help disturbances. A very much

planned web-based buy experience is remembered to consider client conveyance prerequisites and may consequently decidedly affect the last mile conveyance process, as the e-retailer is the entertainer who chooses which conveyance choices the purchaser can browse.

Paper-4: Gregory R. Heim, Kingshuk K. Sinha, “Operational Drivers of Customer Loyalty in Electronic Retailing: An Empirical Analysis of Electronic Food Retailers”, 2001

This study takes a gander at the connection between client unwaveringness and the request obtainment and request satisfaction procedures utilized by online organizations. The review test contains information from 52 internet based food stores. Subsequent to adapting to the dealers' item classifications in light of plan adaptability, the discoveries of our relapse examination exhibit that three request obtainment factors — site route, item data, and value — and three request satisfaction factors — item accessibility, practicality of conveyance, and simplicity of return — have a significant relationship with client devotion. These attributes, in plummeting request of their different commitments to expanding customer faithfulness, are as per the following: simplicity of return, idealness of conveyance, site route, item accessibility, cost, and item data.

CHAPTER-3: RESEARCH METHODOLOGY

The experimental research design along with the descriptive is adopted to conclude the inferences of hypothesis testing and research.

The study is centred on evaluating the hypothesis and study obtained from the literature review to determine the impact of last mile delivery on the behavior on consumer behavior.

- To understand how delivery time impacts loyalty of consumers.
- To understand how better delivery service impacts consumer shopping behavior.
- To understand how customers reacts over their shopping experience.

3.1 Theoretical Framework

The theoretical framework emphasizes the connection between dependent and independent variables. The distinction between dependent and independent variables is significant in both comparative studies and regression analyses. The possibility, degree of willingness, and tendency of customers to acquire a product or service within a given time period is referred to as buying intent, also known as buyer or purchasing intent. A buyer's intent to buy can be demonstrated in a variety of ways that you can track, including demographics, previous purchases from the site, and the delivery service they have received from particular site. By explicitly questioning survey respondents about their purchasing intentions, we were able to determine this.

The research project is based on a combination of both primary data and secondary data. The main source of data for the research project will be through secondary research available online. The secondary data will be used for an in-depth analysis of the current problems being faced by the e-retailers in winning the Last-Mile challenge in the Indian E-Commerce sector and how these problems are being tackled. The secondary data will also allow to get insights into the current models being used by companies like Amazon,

Flipkart, Dunzo etc to enhance customer satisfaction.

In order to collect the primary data, a questionnaire was floated to garner response from customers to get an insights on customer expectations from e-commerce deliveries. The sample size is presented here is for 100+ people. The primary data will help us understand the customer's point of view and how companies can use technology and efficient last-mile operation to provide superior service experience to the customers and thus ensure customer loyalty and customer retention.

3.2 Tools of Data Collection

In order to collect the data about the impact of product visuals, we will collect the data through questionnaire (method: google forms) which also including the experimental questions.

3.3 Sampling technique

A sample size of 112 respondents will be employed for the study, which will be done using a basic random sampling technique, in order to generalise the findings in the particular sector. All of the respondents and their purchasing habits are unique to India's demographics.

3.3.1 Measures

The questionnaire consists of 12 questions, where 6 questions collect data based on intentions and descriptive study and the other 6 questions is based on experimental analysis. Some questions are based on photo, where the respondents answer the question based on the photo presented to them for experiment purpose.

The questionnaire clearly mentions the non-considering of price as variable in decision making and personal data of respondents is not collected to remove personality biasness from the research.

The questions are based on multiple choice and Likert scale ranges from 1 to 5, where 1 refers to unaffected and 5 refers to highly affected behaviour.

Customer satisfaction benefits from a great last-mile delivery service, which can hence lead to the following benefits:

- i. Loyalty increases when faster delivery choices are made accessible.
- ii. Increased readiness to pay for speedier delivery
- iii. Higher monthly spend
- iv. More frequent purchases.

In addition to this, survey reports from KPMG, IBEF and data from company websites was also used, which helped us analyse and present a clear picture about the topic.

CHAPTER-4: ANALYSIS AND RESULTS

4.1: Primary Research Analysis

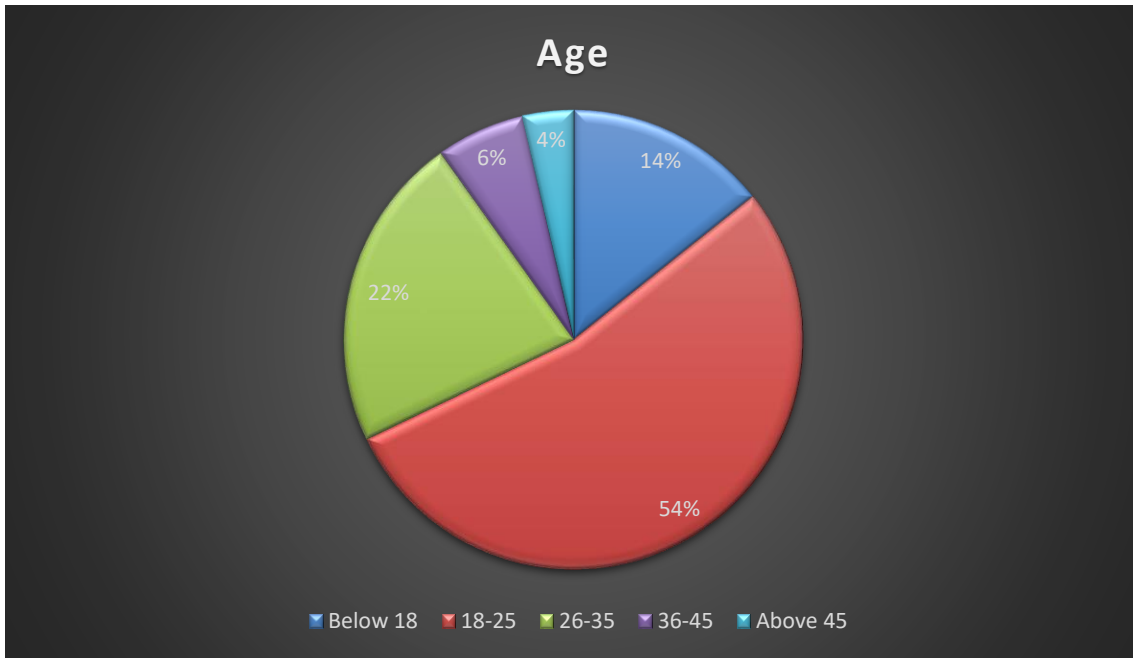


Figure 4.1: Division of Age groups in survey

Analysis

1. From this pie chart, we can see different age groups participated in the survey.
2. Most of the people, who participated in the survey, are from the age group 18-25. And their participation rate is 54%.
3. People above the age 45, have the least participation.

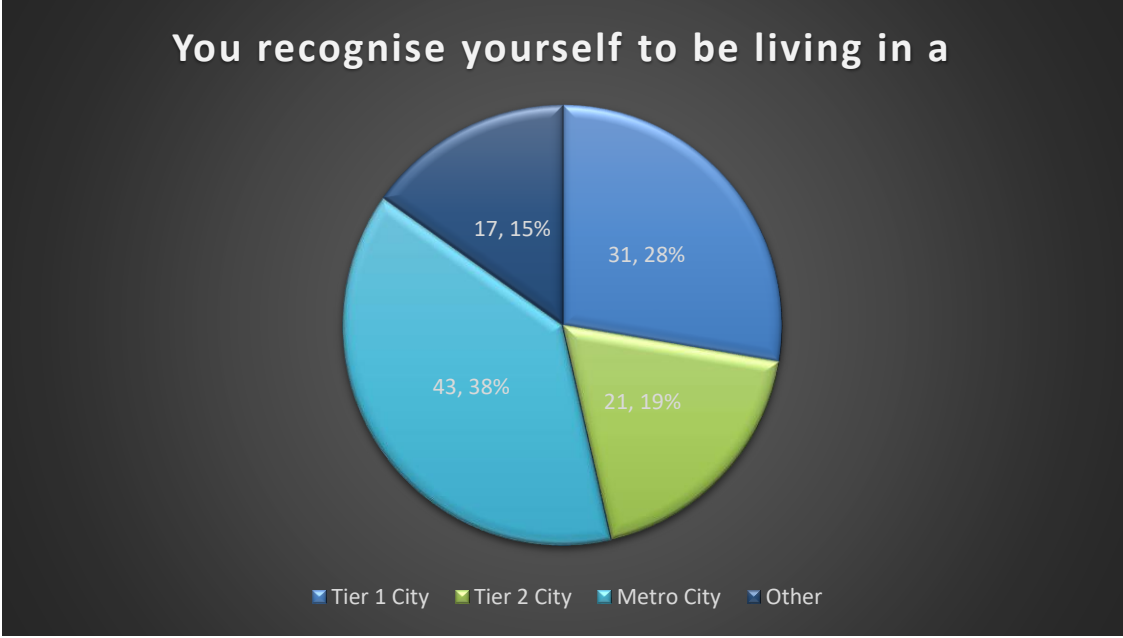


Figure 4.2: City wise distribution of survey group

Analysis

1. From this graph, we can see the geographical diversification of survey group.
2. Most of the people belong to Tier 2 city, with the percentage of 43%.

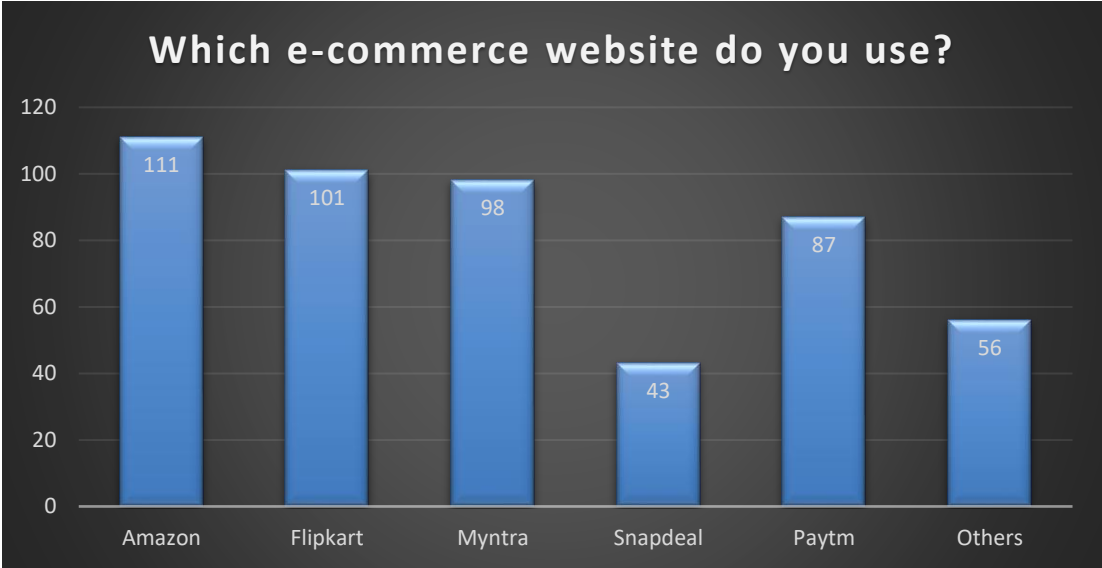


Figure 4.3: People using websites for shopping

Analysis

1. From the following graph, we can see that most of the people purchase from Amazon followed by Flipkart and Myntra.
2. Almost every person who participated in the survey is the customer of Amazon.

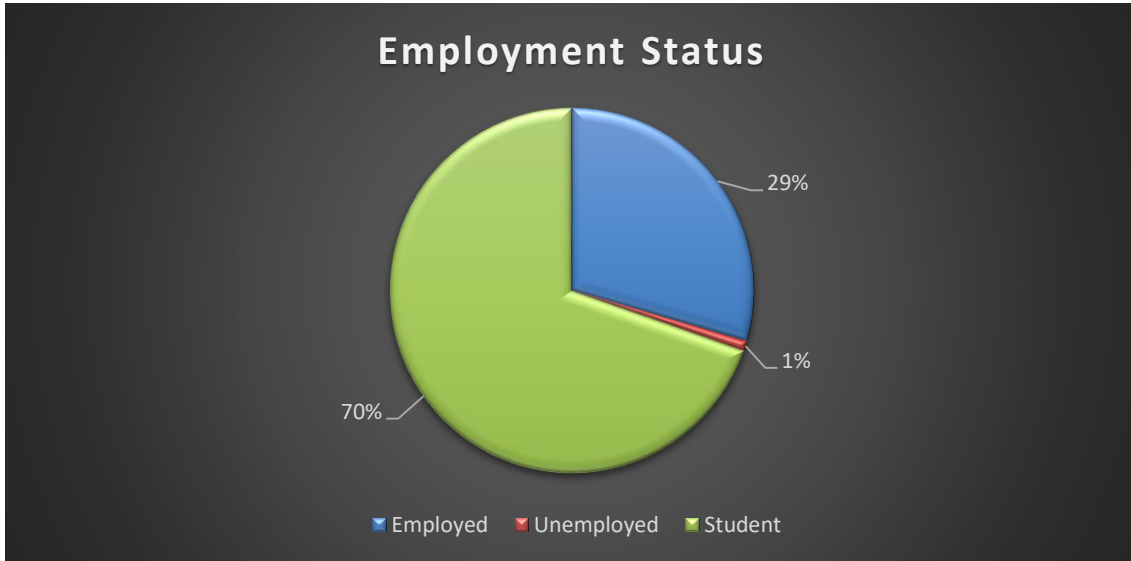


Figure 4.4: Occupation wise division

Analysis

1. Mostly participants of this survey group are students.
2. About 70% participants are students.
3. 29% are employed.
4. 1% are unemployed.



Figure 4.5: Frequency of online shopping of survey group

Analysis

1. Mostly participants do online shopping once a month.
2. Then 33% shop online once a week.
3. Only 8% participants shop less than once a month,



Figure 4.6: Importance of delivery service in online shopping

Analysis

1. Mostly people prefer the good delivery service.
2. From the graph, we can see about 75% people give importance to good delivery service.



Figure 4.7: Satisfaction of customers with delivery services

Analysis

1. From the graph, we can interpret that about 90% people share their positive experience with their friends and family.
2. And about 88% people are more willing to try new offerings from the retailer.
3. But only 40% people share their positive feedback on social media.



Figure 4.8: Relation between delivery time and loyalty of customers.

Analysis

1. From the graph we can interpret that about same-day delivery increases the loyalty of customers.
2. But as the time of delivery increases, loyalty of customer decreases.

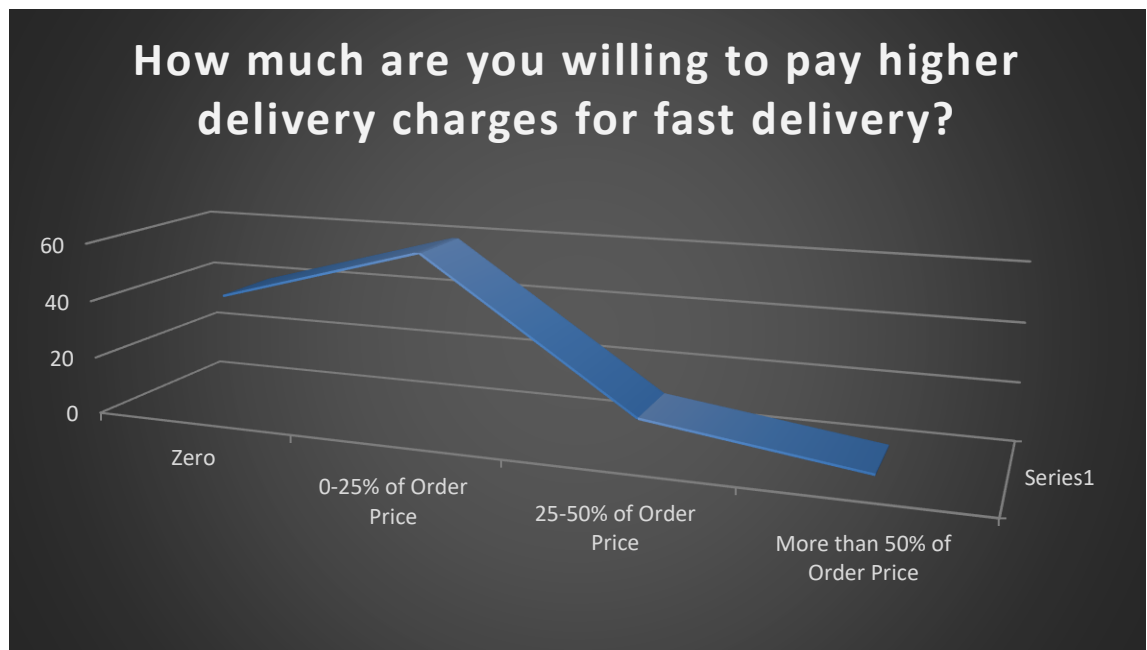


Figure 4.9: Willingness of customers to pay for fast delivery

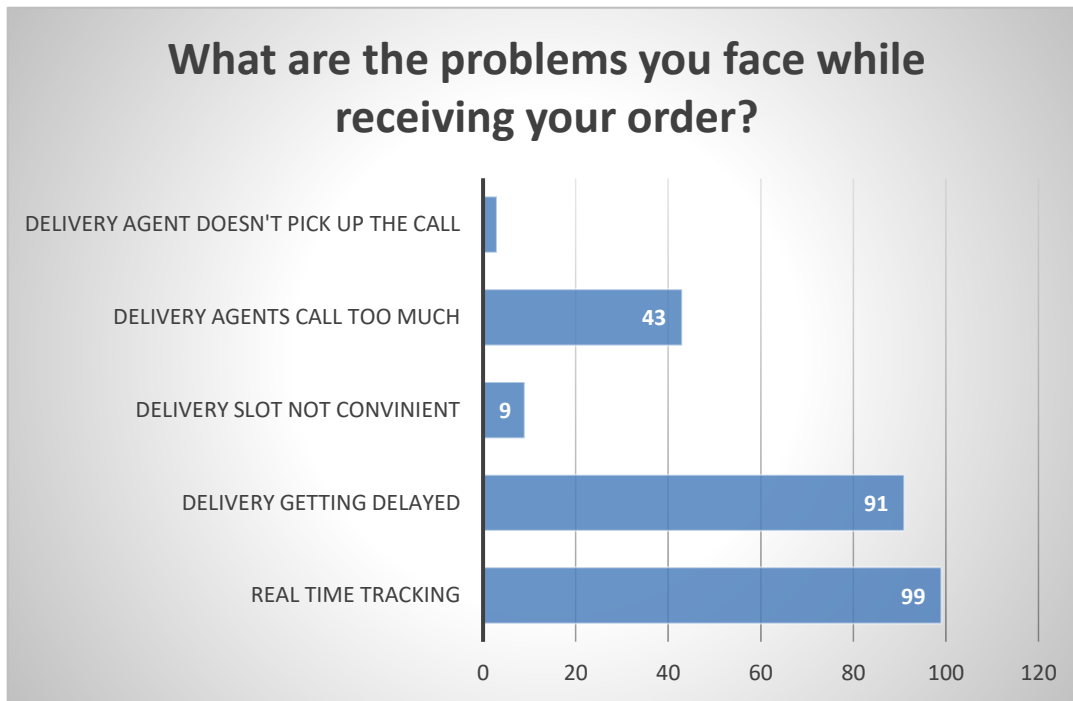


Figure 4.10: Problem faced by customer while receiving orders.

Analysis

1. Most of the people face the problem of real time tracking of their orders.
2. After that the problem people face is of delayed delivery.
3. In very few cases, delivery agents doesn't pick call.

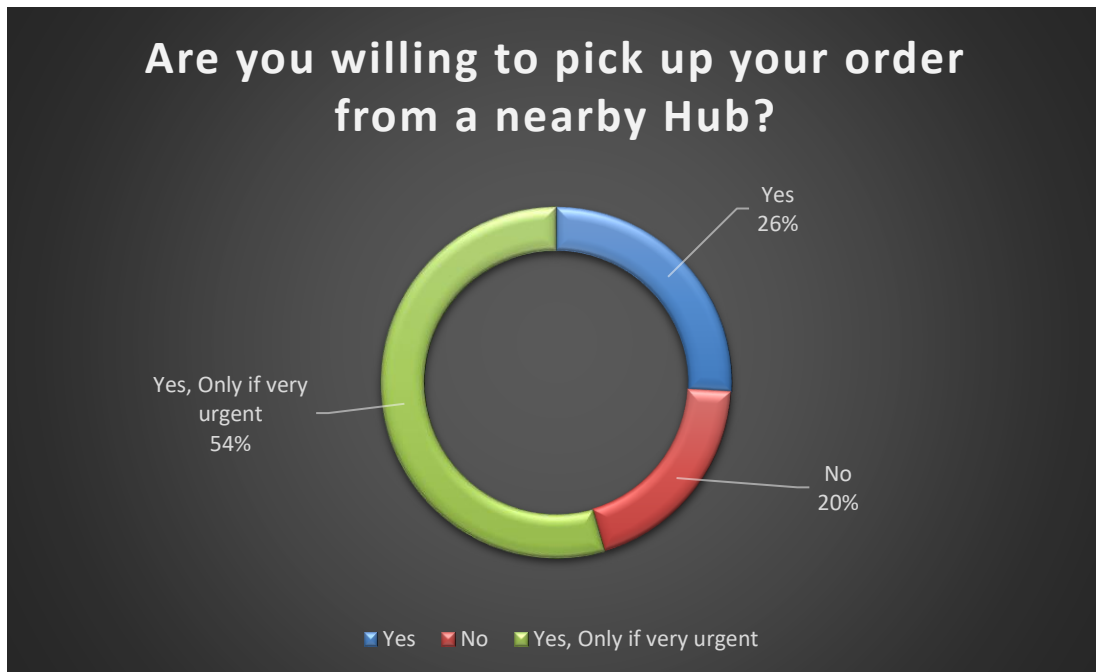


Figure 4.11: Percentage of division of interested customers to pick from nearby hub

Analysis

1. From this graph, it can be interpreted that only 26% people are ready to pick the order from nearby hub.
2. But when necessary, 54% are willing to pick up their order from nearby hub.

4.2: Primary Research Results

From the Primary Research that was done by floating a Google From the following major observations were made:

- Amazon, Flipkart were the two most used e-commerce platforms, being followed by Myntra and Paytm.
- Around 38% of the respondents used online shopping at least once a month. Only 8% of the respondents used online shopping less frequently.
- More than 50% respondents felt that Delivery service was the most important factor while purchasing online.
- After a good delivery service experience, almost 90% of the respondents were willing to share the positive experience with their friends and family, and also were willing to try other products from the same retailer. Also, around 75% of the respondents, were willing to increase their spend with the retailer after a positive delivery experience. More than 40% of the respondents were even willing to purchase paid delivery memberships from the e-retailer.
- Same day delivery was the most preferred option among the 112 respondents, with almost 62% of them agreeing that a same day delivery option will make them more loyal to the e-retailer.
- More than 50% of the respondents were willing to pay 0-25% of the order price as a delivery fees for a faster and more convenient delivery slot.
- More than 75% of the respondents were also willing to use the Buy Online, Pickup In Store (BOPIS) option. With more than 50%, only willing to pick up from the nearest hub in case of an emergency.
- With regards to the last mile logistics, most respondents faced problems during the final step of the delivery process. Almost all of the respondents felt that not having a preferred delivery slot was the main problem while receiving the orders.

This was followed by the unavailability of real time tracking of the orders, which led to lack of transparency and uncertainty in the receiving the order. This also led to more calls from the delivery agents which was another cause of inconvenience for the respondents.

4.2: Secondary Research Analysis and Results

The online business retail area is extending at a twofold digit rate. With development comes gigantic potential for extension. Late innovation progressions are projected to cause massive changes in how shipments are conveyed in the last mile. Last-mile conveyance players are using innovation and new plans of action to work on cost and time productivity.

Creative last mile conveyance instruments are being conceived to meet the exceptional requirements of India's quickly creating B2C industry. Ordinarily, two things travel last-mile conveyance development:

•Client assumptions: Customers have confounded assumptions concerning adaptability, (for example, re-directing and yet again booking), speed (like same-day/24 hour conveyance), conveyance cost, and package security.

•Cost unconventionality: High bombed conveyance rates, variable volume and volume thickness, detachment of remote spots, request scratch-offs, return orders, and other functional issues raise the unusualness of last mile conveyance costs.

4.2.1 : Last mile delivery – Possible Business models

A. Traditional last mile delivery operations

- Transportation of bundles between the last package arranging/assortment center point and a definitive recipient site, which is by and large a modern

region (B2B) or a private area (B2C and C2C).

- Generally, a low-effectiveness methodology that records for a sizable piece of the whole bundle planned operations cost.

B. Customer pick-up

Coordinated operations firms and web based business retailers are putting resources into close entryway conveyance areas (human or mechanized) where clients might get bundles.

C. Third-party logistics

To increase reach and, in certain situations, service levels, logistics organisations outsource last mile delivery partially or totally to 3PLs.

D. Delivery through retailers

In certain areas, operations organizations are teaming up with nearby retail foundations to convey things to purchasers' homes.

E. Crowdsourcing

Web/mobile-based programme that uses geographically scattered groups of individuals to digitally match demand with supply.

CHAPTER-5: CONCLUSION

The Indian web based business retail business is flourishing, and internet business retail is progressively getting momentum. Web infiltration is expanding, and versatile innovation is probably going to change the game. Since India is a blend of dialects and societies, provincial online business stages in neighborhood dialects and social trade are supposed to influence purchaser dynamic later on. The fame of advanced wallets is projected to proceed. Developing optional pay, expanded utilization of credit and check cards, diminished portable rates, and expanded cell phone use all add to these turns of events.

The calculated requirements of the three-trade retail industry are quickly creating in light of changing business conditions. Regardless of being a creating region, the internet business retail business requires a steady however viable coordinated operations framework to help this enormous industry. Thus, the online business retail operations industry is expected to adjust consistently to fulfill changing organization needs.

Shoppers right now want and expect quicker and more incessant conveyance. This is a major an open door for those organizations that get it appropriately. Nonetheless, providing expanded request doesn't give off an impression of being productive at the present. It simply costs a lot for vendors to supply this interest, and clients are reluctant to pay. Organizations require a thorough way to deal with catch the significant top-line occasion while moderating fringe risk. Such an arrangement needs the legitimate brilliant innovation, the right circulation model, novel techniques to compel, and the ability to get together with clients. Organizations can conquer the financial matters problem at the core of last-mile conveyance in the event that these four objectives are set up.

For a certain something, the last mile is the ongoing accentuation of the client experience - it's the second at which a shop either offers remarkable support to a customer or doesn't. In the present buyer driven retail environment, it just takes one not exactly ideal conveyance to lose a client forever.

RECOMMENDATIONS

Based on our main and secondary research, we determined that having great last-mile logistics management is critical for improving customer experience and, as a result, ensuring customer retention and loyalty. The timely delivery of items to clients is critical to the success of e-commerce enterprises. No sale or discount will be successful unless this is accomplished. Inadequate last-mile delivery can lead to stock buildup and financial loss. The e-commerce business must focus on overcoming this issue, and I believe the basic measures listed below can assist e-retailers in dealing with last-mile delivery issues:

i. GPS Technology:

Clients maintain that the honor should have the option to way their packages continuously. It's presently sufficiently not to refresh a following message with an "out for conveyance" message. The present supporters are becoming acquainted to constant perceivability.

ii. Proper Communication:

Beside following, correspondence innovation keeps clients educated regarding conveyance notices and made aware of any unanticipated deferrals. This could assist with diminishing a portion of the dissatisfaction that accompanies a planned conveyance window that passes without any proof of the expected thing. At the point when a conveyance is close, buyers expect instant messages, messages, and even calls, as well as a subsequent contact once the conveyance has been finished. In any event, when it's horrendous information, ongoing correspondence is esteemed and goes far toward reinforcing purchaser associations.

iii. Route Optimization:

Course improvement is the cycle by which a transportation organization enters conveyance plans, locations, volume, and quite a few different information into an innovative framework, and the framework works out the best course for that day's conveyances. Then, while the driver approaches their business, any changes might be

input into the framework and the course can be straightened out. Course improvement has unquestionably been a unique advantage for an assortment of reasons. From the point of view of a transporter, it lessens how much void kilometers and superfluous stops, assists with keeping away from traffic deferrals and climate events, and tries not to need to close the day with undelivered things staying on the truck. From the viewpoint of a retailer, it guarantees on-time conveyance, permitting vows to purchasers to be met. Also, from the customer's viewpoint, it demonstrates that the conveyance will show up on the predetermined day and time.

iv. Partnership with local mom and pop stores:

On-time and secure conveyance may be troublesome in India since certain addresses are not official, and a few relatives might share a solitary personal residence. Purchase on the web, get available (BOPIS) may lighten a portion of these issues. Clients in metropolitan and country districts might get bundles quicker and all the more dependably by changing over local area offices like kiranas into little dispersion centers, acquiring extra income for retailers and further developing region inclusion for the e-retailer.

v. Use of Technology driven innovations in last-mile delivery:

The pace of innovative change has been very quick. To remain in business, organizations are embracing present day innovation. To stay aware of the speed of computerized trade, innovative headways are changing the web based business strategies and production network business.

With \$1.3 billion in retail innovation supporting got in the second quarter of 2018, last-mile coordinated factors beat the business. This is inferable from fostered countries' initial hug of new independent conveyance strategies, as well as areas of strength for an explanation in light of metropolitan interest and the current high work costs for satisfaction. Drone conveyance, the utilization of self-driving vehicles, self-serving storage spaces, conveyance to mind, and other huge developments have been investigated overall by a portion of the world's driving retailers, including Amazon, Walmart, and 7-Eleven.

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APPENDIX

Primary Research

e-Commerce Delivery Experience Survey

* Required

Name

Your answer _____

Age *

- Below 18
- 18-25
- 26-35
- 36-45
- Above 45

Which e-Commerce Website do you use? *

- Amazon
- Flipkart
- Myntra
- Snapdeal
- Jabong
- Paytm
- Tata CliQ
- Other: _____

You recognise yourself to be living in a *

- Metro City
- Tier 1 City
- Tier 2 City
- Other

Employment Status *

- Student
- Employed
- Unemployed

How often do you shop Online? *

- More than once a week
- Once a week
- Once a month
- Even less frequently
- Other: _____

How important is the delivery service for you while shopping online? *

	1	2	3	4	5	
Least Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most Important

What do you do when you are satisfied with the delivery services? *

- Purchase paid memberships for delivery
- Be more willing to try new offerings from the retailer
- Share positive feedback on social media
- Increase spend with the retailer
- Share your positive experiences with friends and family
- Other: _____

Which delivery option will increase your Loyalty to the retailer? *

- Two hour delivery
- Same-day delivery
- Next day delivery
- Delivery 1-3 days
- Delivery beyond 3 days

How much are you willing to pay higher delivery charges for fast delivery? *

- Zero
- 0-25% of Order Price
- 25-50% of Order Price
- More than 50% of Order Price

What are the problems you face while receiving your order?

- Real Time Tracking
- Delivery getting delayed
- Delivery Slot not convenient
- Delivery agent calls too much
- Delivery agent doesn't pick up the call

Are you willing to pick up your order from a nearby Hub?

- Yes
- No
- Yes, Only if very urgent

Submit