

Design of a Shopping and Marketing Vehicle for E-commerce Businesses

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Abstract

In this digital era, where the economy of the country is growing at a rapid pace, huge amounts of foreign investments are pouring in every second. People are so much addicted to shopping on the internet for food, groceries and even clothing articles.. India being youngest country, the trend and influence over the fashion keep evolving each day. The fashion industry is filled with numerous international brands, e-commerce platform providing various offers and discounts. Trend forecasting predicts that online shopping will be biggest trend over the next 2 year; but when compared to other countries, online shopping is relatively low in the fashion segment, because customers are unsure of the clothing articles "Feel and Fit". Many Consumers prefer retail stores over the online sites for shopping clothes. I feel retail shopping and online shopping need to go hand in hand, this way consumer gains more trust in the online products, this can be achieved with a new platform called "Fashion on Wheels", which acts as bridge between retail stores and online stores. Through this idea, consumer will be able to order online at the same time will also be able to feel and experience the product. The scope of study also includes design of interior, UX/UI design, Marketing and branding. Along with these there is adaptation of software like Photoshop for making 2D concepts, Autodesk Alias and Catia for making 3D CAD models and Key shot for rendering the final vehicle. Also scale down model (1:25) of both interiors and exterior of the vehicle was made using the Sun Board and PU foam respectively.

Key Words: Fashion, E-commerce, Online, Retail, Shopping, Fashion on Wheels

1. INTRODUCTION

In this digital era, everything around us is internet driven, from the food to the clothes worn, all are bought and paid online. In these cases, major percentage of the customer still prefer the old style of retail buying, the strong reason would be, "not ready to compromise for what one pays". Knowing the huge market, a lot of retail brand outlets have made their establishment in the market. A few of the major tycoons in the fashion industry have tried with online platforms and have attained mixed response from their customers. People have identified certain loop holes in the online shopping community. Regular shopping complexes or commonly known as Brick and mortar store provide better shopping experiences and are adapting themselves to the e-commerce world. The question still remains if online shopping is the future or if retail shopping will still continue to exist in the near future. One such way of connecting retail world with online world would be using the concept of "Business on Wheels".

1.1 Introduction to Retail and Online shopping

Shopping in the present era has evolved so much that it has become convenient and effortless for a customer to shop. In fact a person can shop anything, anytime at anyplace and things will be delivered at his doorstep. The history of shopping shows that shopping wasn't a mundane activity. Shopping generally meant an entire days outing with multiple clothing articles purchased for various family members.

Due to the developing economy people got busier and never had time for their family and friends. This is when online shopping came into picture, and people realised the convenience and ease behind it, there was whole new buzz that had been created in the marketplace. It was then well-known retail brands started their own websites and applications.

1.1.1 Evolution of shopping

There were times when the shopkeepers had the best information about the products and had to help the customers with the choice and customer had to wait for their goods to get delivered. That's metropolitan cities started having shopping streets for one product or genre of products. The technology helped people by providing every minute information from product specification to product review. With the convenient return policies and more discounts than retail shops, it became a nightmare for the retail seller to deliver the product.[1]

From 1900's to 1950's, all the sellers had a fair setup every weekend, gradually these fairs started to convert to single brick and mortar stores in later 1950's. 1960's and 1970's, called counterculture period, India had major western influence in food and clothing. During 1980's while brick and mortar stores were gradually developing into smaller supermarkets bulk of electronics from western countries started to flow. The early 2000's saw the invasion of information and computer science, when IT/BT had its word over the youth of the country. World Wide Web started growing, created employment and more industries and India become super labour power. [2] Beyond 2010 Super boom of internet, major scare to retailer.

1.1.2 Business on Wheels

While nobody has a clue about what is next in Business Industry, in USA, there is a new trend. American Mobile Retail Association (AMRA) released a statement stating, Business has new base, which is on wheels. Yes truly, the mobile business industry in America has nearly reached to 1000 trucks across the nation. Many established brands and retail store are hopping themselves to trucks, trailers. [3] Several reasons as to why retail stores are opting for business on wheels, less cost for upfront, ability to brainstorm, more flexibility for

owners and customers, appeal of the experience, fear of missing out and impulsive buying.

According to AMRA, 36% of mobile retailers in the USA hit their breakeven point in under 2 years. There are all possibilities to make this as the next trend in the Indian fashion world.

1.2 Literature Survey

Literature survey involved in understanding various aspects of Indian market, fashion industry, branding, marketing, visual merchandizing and retail space design.

Firstly the term branding is usually connected with customer experience. When a customer performs a business with the company, it creates a certain brand experience. Branding defines company's true representation on what business is and how one's business is to be perceived. The best example is Apple Inc., who have a huge corporate brand and a large number of individual product brands.

Marketing is an exchange process between the company and the customers. Because of marketing, people are able to connect and identify with the brand or product. It is important to check out the strategy in market which plays a vital role in success and failure of the company. Important steps in market strategy are to decide on the target audience, understand their need, create a psychological process, connect with them and assess and repeat. Advertising and promotion are branches of the marketing. [4]

Visual merchandizing is used as a prominent technique commonly in the fashion industry to grab the attention of the buyers and create the interest of buying. It is a way of enticing many customers into the store through creative window. There are different ways of visual merchandizing, exterior and interior, under which are various aspects such as store front, window display, store layout, landscaping, color and lighting. [5]

1.3 Summary of market study

The study was conducted on economic growth of India and growth of retail market in India. Investment on international brands in India is growing rapidly. The study also explained the enormous increase in internet users, which has led to 220 million online transactions, out of which 60 million transactions are in online fashion segment. These studies clearly show there is a huge market for fashion and it keeps growing in India. [6]

1.4 Summary of brand and product study:

The study clearly shows heterogeneity in India's population leading to drastic change in their likes and dislikes. These day brands define the socioeconomic status of an individual. Hence people are more conscious about their selection of clothes. When researched regarding the top brands opted by people, it varies with respect to various aspects such as gender, products, e-commerce websites, brand associations, fashion designer and much more. The top 10 brands used by men and women were listed along with frequently shopped clothing item. Also the top most visited e-commerce websites were noted. [7]

1.5 Summary of consumer study

In this study, all the aspects related to behavior of consumer, psychology of consumer in the retail shop are discussed. Every Customer is not alike, his likes and dislikes change geographically and are influenced by income, occupation, age and much more. The psychological behavior of customer included study of colors, social sense of people, aesthetics and appearance. Further consumers were classified into three categories as primary consumer, secondary consumer and tertiary consumer. Primary consumer buys products in the vehicle while the secondary consumer sells the products/brand and tertiary consumer is who provides space for the business, depending on consumer's level on connection with the final product.

2 PROBLEM DEFINITION

This study mainly aims to provide solutions for two categories of costumers, Ecommerce business and buyers, to develop better exposure of market for various brands and to enhance costumer to brand interaction by developing a new platform to connect retail and online shopping experience known as "Fashion on wheels".

3 METHODOLOGY

The methodology involved in solving the problem are:

- To design a new platform, which connects both retail and online shopping of clothes
- To conduct literature survey, market study, brand study, consumer study and trends of current fashion market
- To conduct a ethnographic study to understand the people's problem better and near
- To analyse ethnographic data and generate quality function deployment
- To develop an appearance model of the final concept
- To carry out user validation on the model

3.1 Ethnographic study and Online Survey

Online survey was conducted to reach out to the maximum number of audience and to understand their views. Hence a set of questions were created and online survey was conducted. A total of ninety-one candidates participated the in online survey and their answers were analysed.

Seventeen people both men and women from various occupations, interest and ages were studied for their fashion habits. Questions related to their fashion habits in retail and online platform were asked.

3.2 Quality Function Deployment (QFD)

QFD was performed for fashion vehicle with respect to retail store. In which various factors like customer requirements were exterior and inter aesthetics, dressing room, comfort, collection of apparel, offers, eased of billing, crowd management, fashion accessories, types of consumer and location were taken into account. Whereas the technical requirements were color, graphic design, logo, size of hoardings, outlook, lighting, store layout, number of props, dressing rooms, no. of mirrors, ventilation, no. of sitting areas, drinking water, space for luggage, no. of brands, variety in items, size and color, billing sections, billing staff, help desk, quality of

apparel, size of store, ratio of accessories, salary of consumer, occupation, frequency, crowd, place of shopping and timings.

Result of the QFD gave rise to three main priorities such as store specifications, services and demographics. Using these priorities product design specifications were formulated as shown in Table 1.

Table 1: Product Design Specifications

Factors	Specifications
Store Layout	Loop Layout
Entry/exit	Entrance in the front and exit at the back
Modularity in Design	Two floors
Size of the Vehicle	Length:12100mm, Width:2500mm Height: 4800mm
Dressing room	1 for men, 3 women
Collection of Apparel	10
Stock of Size/Color	S, M, L, XL, XXL
Ratio of men: women	4:5
Location	IT Campus, Localities, Apartment blocks, Shopping Streets
Timings	11am to 7pm 4pm to 8pm
Crowd Management	Radio frequency identification billing Mobile Wallet billing
Color of Vehicle	Scheme of the company
Window Display	Outside on the sides

3.3 Concept Generation

Based on the parameter generated in QFD, the following concepts are generated.

3.4 Concept 1

Concept 1 is shown in Figure 1 and is designed to function like a trailer. Uniqueness of the concept is that, it is free from space constraints unlike other concepts. The trailer can be attached to any pickup truck and the exterior of the trailer has long running glass, making the concept more open.

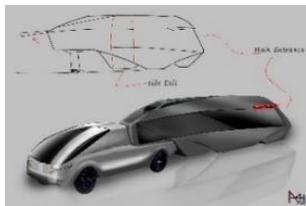


Fig 1: Concept 1

3.5 Concept 2

Concept 2 is shown in Figure 2 and is designed to look brittle and long. The uniqueness of the concept is that it has mirror like structures on the sides which act like advertisement screens as well as window display.

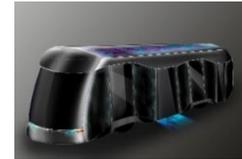


Fig 2: Concept 2

3.6 Concept 3

Concept 3 is shown in Figure 3. The uniqueness of the concept is, it is an Autonomous vehicle, which can run driver less. The structure of the vehicle is completely glass. It has single entry and exit is at the back.

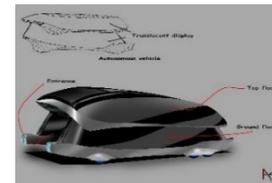


Fig 3: Concept 3

3.7 Concept 4 (Selected Concept)

Concept 4 as shown in Figure 4 is based on double decker concept. This design looks more practical and concentrates more on the space and store layout. It has long running LED screen around the bus which makes it look wrapped.



Fig 4: Concept 4 (Selected Concept)

4 RESULTS AND DISCUSSIONS

The concepts were subjected to valuation using Pugh's Matrix technique. The concepts were evaluated for the requirements in PDS. The highest scoring concept was chosen as the final concept.

4.1 System Level Design

Further the interior design was done for the same considering floorplan, products to be displayed and shelves design for the selected concept.

Since the fashion bus is connected through the application on your cell, (Myntra) it is important to understand the function of the bus. Basically, the fashion bus will be scheduled for display at various location and timings as obtained through ethnographic study. The complete information regarding the bus and its process is available in the Mobile Application. Just by selecting Myntra RUNWAY option in the mobile App, all the information such as store locator, items sold, photos of the bus, and timings will be seen. Apart from this, special option will be available during the purchase of any item in the App. By selecting the Available at Myntra Runway option, the customer will be able to directly go

to the Myntra Runway (fashion bus) halted within 5Km range from his locality and shop it. The costumer will also avail option wherein if he/she misses the delivery or he/she is a working employee, they can directly go to the Myntra runway (Fashion bus) placed near his locality and show the ordered QR code and collect their order. They can also try on the dress in the Myntra Runway, if not satisfied due to size/colour/quality can exchange the item on the spot or can wait search for exchange if available in the bus or can wait for it. The bus also has various billing options such as online pay-out, where the buyer can directly scan the code on the clothing article and pay the amount through Mobile Wallets. Radio Frequency Identification, RFID, being the other option will be available for the easy billing.

5 EROGONOMICS

Three main parameters were considered for designing the interior of the bus, and the exterior of the bus was designed based on the parameters of the Volvo 8400 bus. Vertical upward arm reach from floor - It was used to design the height of the roof in the bus and it was designed for 2438mm which is close to Maximum percentile of human male.

Upper position height - It was consider to design the height of the shelves, so that average height human could reach and it was designed for 2220mm, maximum percentile of human combined.

Maximum body Breadth (relaxed) - was consider to design the breadth inside the bus and it was designed for 1500 mm, which is double the dimensions of maximum percentile human male.

6 CONCEPT REFINEMENT

3D model of the finalized concept is made using Autodesk Alias and the interior of the model was created using Catia Software as shown in figure 5 & 6. In key shot rendering software, required materials for different parts were applied to obtain metal finish and more. Various environmental effects and reflection were applied to the model to obtain real life effect to the vehicle.



Fig 5: Rendered exterior model

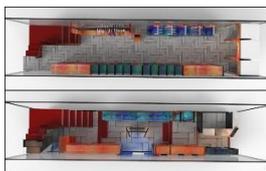


Fig 6: Rendered interior model

6.1 Prototyping

Prototyping of interior and exterior were carried out separately as shown in Figure 7 and Figure 8. The model was built on a scale of 1:25. Materials such as Polyurethane foam for exterior model and Sun board, Acrylic sheets and LED lights were used for interior.



Fig 7: Scale down appearance model (exterior)



Fig 8: Scale down appearance model (interior)

7. CONCLUSION

A platform which connects retail shopping and online shopping is called “Fashion on wheels” and the Fashion bus is named as “Runway”. Retail shopping and online shopping need to go hand in hand. This way consumer gains more trust in the online products. This can be achieved by connecting retail and online business with the help of a new platform called “Fashion on Wheels”. Basically, this acts as a bridge between retail stores and online stores. Through this idea, consumer will be able to order online and at the same time will also be able to feel and experience the product. This newly designed platform helps in developing a better exposure of market for various brands and enhances customer to brand interaction, because through this platform the brands can get closer to the consumer than before and also brand can empathize their customers more.

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