Affective Ambivalence & Its Role in Cart Abandonment

Raghu Tak

Department of Management,
K J Somaiya Institute of Management, Mumbai

Abstract- *Having contradictory attitude, both positive and negative, about anything at the same time is called ambivalence which when we dive deeper to identify which positive or negative emotions are associated with our mental state, we encounter Affective Ambivalence. In our research work, we tried to identify how being ambivalent affects our shopping experience and consequently cart abandonment.*

Since, cart abandonment has been a biggest issue for many ecommerce companies today. With the advent of new technologies and wider internet penetration all around the globe, the number of ecommerce companies is increasing in the industry and so is the global cart abandonment rate. The new technological advances have also been impacting the psychological state of a consumer in a varied manner.

In our research work, we try to study the psychological impact that a consumer have in his/her mind before he/she decides to abandon the cart. One of the prominent psychological aspects we try to study in our research work is "Affective Ambivalence". We based our work on the emotion model proposed by Dr. Paul Ekman and bipolarity of those emotions.

We created a survey in which we asked demographic and cart abandonment questions to everyone and based on the data we received, we studied how respondents rank the negative emotions and the factors associated with them before coming on to the decision of abandoning the cart. Based on such data, we analysed the data and came with the different conclusions and interesting aspects.

Index Terms *- Emotional Ambivalence, Cart Abandonment, Emotion Analysis, Affect Computing*

I. Introduction

India became the second country in the world with regard to active internet users, allowing the internet penetration rate to go up to nearly 45% in 2021(Hootsuite, 2021). With the increase in active users on the internet, the market size of the E-Commerce industry also grew to 22 billion USD in India back in 2018, which is expected to grow to the level of 200 billion USD by 2027 (India Brand Equity Foundation, 2021). With the increasing presence of the internet and e-commerce worldwide, the problem of "Cart Abandonment" has also started taking place. According to the stats released by SaleCycle, the global cart abandonment rate stands at around 85.28% (SaleCycle, 2021).

There are various determinants that push any visitor to abandon the cart on any e-commerce website. Some of the important ones are: Perceived Cost, Entertainment Motivation, Complicated Checkout, Emotional Ambivalence, and Information Overload over the Product (Yusuf et al., 2021). Here in this research we considered "Emotional Ambivalence" only to figure out which emotions play crucial roles in cart abandonment.

Our work is based on the six universal emotions proposed by Dr. Paul Ekman (Ekman, 1992), which are: Happiness, Surprise, Fear, Sadness, Disgust and Anger. The bipolarity of these six emotions was later studied and converted into a hexagon model with emotion-emotion continua traversing in the inner regions and on the perimeter of the hexagon as well (Young et al., 2002).

We segregated these six emotions based on their positivity and negativity studied in An et al., (2017) and categorized "Fear", "Sadness", "Disgust" and "Anger" as negative emotions, and "Happiness" as a positive emotion. However, they concluded that surprise is more of an ambivalent emotion based on having both a degree of positivity and negativity, distributed almost equally in it. It has been proven to be a neutral emotion in Reisenzein et al., (2012) as well. Although Miceli & Castelfranchi, (2015), did conclude that it belongs more on a negative side. However, a study (Mellers et al., 1997) conducted way earlier showed that humans seek surprise in various everyday situations and not all of the time it turns out to be a negative emotion, for instance: winning a lottery, surprise guest visits, getting a birthday gift etc. However, in our research work, we are going to study the positive side of "Surprise" (Pleasant Surprise).

II.   Literature Review

Many consumers usually add products to the shopping cart to compare the prices and organize the products they intend to purchase (Kukar-Kinney and Close, 2010). Another reason people add products to their shopping cart but don't go through the purchase is that they like to wait for the price of a product to go down. These kinds of customers are price sensitive and they hop through different e-commerce websites and search for products that are being offered for sale at a cheaper price. Another kind of shopper just likes to add products to their cart for the sake of entertainment. These kinds of entertainment activities involving shopping carts will give such shoppers a satisfactory experience (Luo, 2002).

Cho (2004) conducted research to understand why people abort an online transaction based on the person's attitude and the amount of time he or she spent on the website. Additionally, the study concluded that past shopping activities along with current activities do have a significant impact on cancelling a transaction.

Objective evaluation occurs before affect-oriented ambivalence, according to Priester and Petty (2001), who divided it into intrapersonal and interpersonal conflicts. Some researchers (e.g., Jonas, Broemer, & Diehl, 2000; Priester & Petty, 2001; Thompson, Zanna, & Griffin, 1995) proposed that the idea of attitudes is quite complicated and a single evaluation cannot suffice to reflect someone's true mental state.

The cognitive dissonance hypothesis (Festinger, 1957) provides a foundation for explaining contradictory attitudes, beliefs, and actions that occur after a product or service has been purchased. It does not take into consideration a consumer's hesitancy before making a purchase. Cho, Kang and Cheon (2006) proposed three types of hesitancy: cart abandonment, shopping hesitation and hesitation to click the final payment button. Individuals who are hesitant to take a decision avoid potential harm to their self-esteem as a result of being judged by others (Fee & Tangney, 2000). Users' reluctance to use self-service technology is explained by anxiety (Meuter, Ostrom, Bitner, & Roundtree, 2003).

Although an ambivalent person has both positive and negative orientations towards something, he tends to be more influenced by negative orientations and emotions (Kanhouse & Hanson, 1972). Discomfort and aversion are also linked to emotional ambivalence (van Harreveld, van der Pligt, & de Liver, 2009). Discomfort has been demonstrated to have a detrimental impact on satisfaction (Chea & Luo, 2008) and brand perceptions (Chang, 2011).

III.   Proposed Approach

We studied two situations of customers visiting an e-commerce website to buy a particular product:

1.   A customer has a very satisfying and joyful experience with a product he/she purchased in the past, so he/she goes on to buy the product again from the same e-commerce website that delivered his/her product last time.

2.   The customer is surprised to read and hear about a product that everyone is talking about. Everyone is sharing a positive opinion about this particular product. So he/she wants to try this product out and decides to purchase the product online from an e-commerce website that offers it at a lower rate than any other website on the internet.

Situation 1 emerged from the "Happiness" emotion that a customer felt before visiting an e-commerce website and situation 2 emerged from the "Surprise" emotion that a customer felt before visiting an e-commerce website.

For each situation, we created four different scenarios inducing four different negative emotions of the emotion model that results in cart abandonment.

For situation 1, those scenarios are:

1.   Anger: You are anguished by the price being increased this time. Change in prices is usually disliked by the customers (Blinder et al, 1998). Also, a huge chunk of price setters who responded volunteered that such price-changes antagonize their customers (p, 308).

2.   Disgust: You are disgusted this time with a higher estimated delivery time evaluated by the zip code checker on the pre-checkout page. Since, disgust as an emotion is usually evoked due to "disliking an unfamiliar aspect" (Ortony et al. 1990). Now as we can see, here the website delivered the product last time, in-time. This time, however, the higher estimated delivery time created a sense of unfamiliarity in the mind of the visitor that elicited "Disgust" as an emotion.

3.   Sadness: You are sad to find no rewards being offered this time on your repeat purchase. As studied by Lerner et al., 2013 in his research, a good number of sad-state participants preferred immediate rewards rather than waiting 3 months for the same.

4.   Fear: You are afraid of your privacy and security of seeing your credit/debit card information saved without your consent on that website since your last purchase. As concluded by Yang & Forney (2013), security and privacy concerns lead to anxiety which indirectly leads to fear via sadness. This was hypothesized by Mutual Promotion and Mutual Counteraction (MPMC) Theory of Affect (Zhan et al., 2015).

For situation 2, those scenarios are:

1.   Anger: You are anguished by the poor return policy of the website. A retailer's recommendation of a product to the customer comes in the category of external factor that induces a negative feeling of " anger" post purchase based on the unsatisfactory experience of the product (Kim & Wansink, 2011). Hence, if the return policy is poor, the customer is expected to elicit "anger" as a resultant emotion.

2.   Disgust: You are disgusted with the slow responsiveness of a website. As the basic definition of "Disgust" mentions "Bad Taste" of something that you taste for the first time (Olatunji & Sawchuk, 2005). Hence, the first impression of slow responsiveness of any website would surely tend to elicit this emotion.

3.   Sadness: You are sad to see the unavailability of the COD payment method. Since the majority of the Indian audience prefer COD as their preferred payment method, which, if it is unavailable, leads to a sense of anxiety about the new website in the minds of customers. This anxiety directly leads to sadness, which was hypothesized by Mutual Promotion and Mutual Counteraction (MPMC) Theory of Affect (Zhan et al., 2015).

4.   Fear: You read some negative reviews of the product on that particular website. A negative review pushes a customer into a dilemma since his purchasing decision may elicit a negative outcome as well in future. Sternthal and Craig (1974) categorized fear into two types: fear of the physical consequences of action or inaction; and fear of the consequences of social disapproval. Hence, whether to buy (action) or not to buy (inaction), both leads to the customer having a little bit of doubt about the product that further elicits "Fear" in the result.

We then circulate the survey form among our peers and the wider audience to gather the data. In our survey, we asked the respondents to rank the emotion that they feel in both situations from least important to most important. Once we have empirically enough data, we are going to analyse the data to find which ambivalent emotion combination is more pertinent in cart abandonment.

IV.   Questionnaire

The survey form which was circulated among the respondents attracted 470 responses from all over India. We asked respondents questions in two categories:

1.   Demographic Questions
2.   Cart Abandonment Questions

The Demographic Questions were as follows:

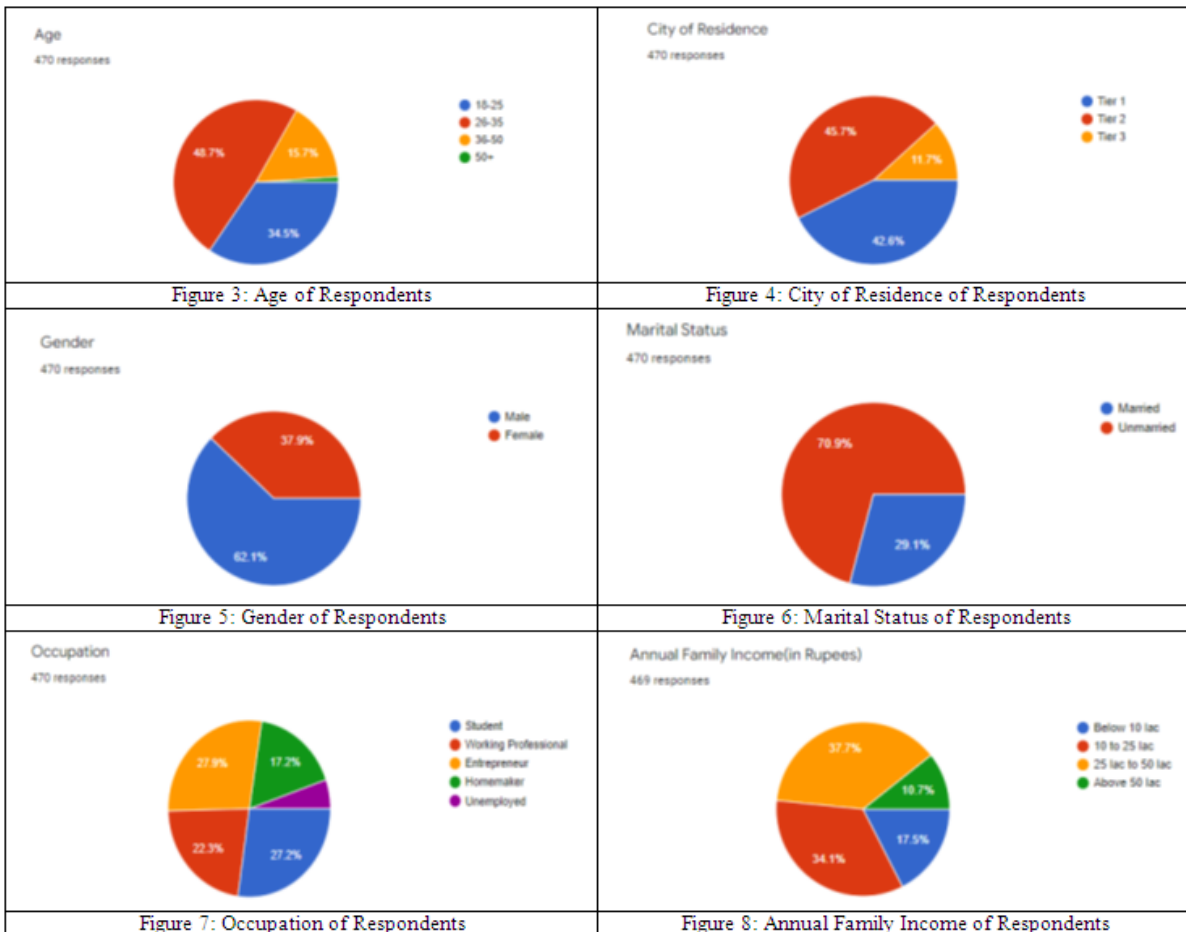|			
a.	Name	b.	Age
c.	Email	d.	City of Residence
e.	Gender	f.	Marital Status
g.	Occupation	h.	Annual Family Income

The Cart Abandonment Question was based on the situations that we mentioned in Chapter 2. We asked respondents to imagine two different situations and asked them to rank the negative emotions that they would feel; the figures of both are shown below:

Figure 1: Situation 1 (You had a very positive experience with the product in the past)

Figure 2: Situation 2 (You are surprised by the extremely positive reviews this new product is getting everywhere & you want to try it out)

We also mentioned the importance of their choices. We considered 1 as less important and 4 as most important.

V.   Response summary

Now we are going to see the summary of data that we received. When we see the "Demographic" responses, we can see that most of the respondents in our data belong to the age group of "26-35", which was about 49%. The age group from which we received the least responses was the "50+" (about 1.1%). We received maximum responses from the respondents belonging to "Tier 2" cities (about 46%) and we received minimal responses from the respondents belonging to "Tier 3" cities (about 12%). Moreover, about 62% of respondents were "Males" and the rest of them were "Females". Also, about 71% of respondents were "Unmarried" and the rest of them were "Married". We received 28% of responses from the "Entrepreneurs" and almost the same number of responses from "Students". The least percentage of respondents was "Homemakers", which was about 5%. Additionally, most of our respondents were financially stable and they belonged to the group of people whose family income belongs in the range of "25 to 50 lac". However, the least percentage of respondents belonged to the income group of "Below 10 lac".

Figure 3: Age of Respondents

Figure 4: City of Residence of Respondents

Figure 5: Gender of Respondents

Figure 6: Marital Status of Respondents

Figure 7: Occupation of Respondents

Figure 8: Annual Family Income of Respondents

Now we are going to see the "Cart Abandonment" responses that we received from the respondents.

Happiness: You had a very positive experience with the product in the past.

Read the above passage carefully before submitting your response in this question.
Rank the emotion affecting you most to abandon the cart (1 being less important and 4 being most important).

Figure 9: Happiness Induced Ambivalence

Surprise: You are surprised by the extremely positive reviews this new product is getting everywhere and you want to try it out.

Read the above passage carefully before submitting your response in this question.
Rank the emotion affecting you most to abandon the cart (1 being less important and 4 being most important).
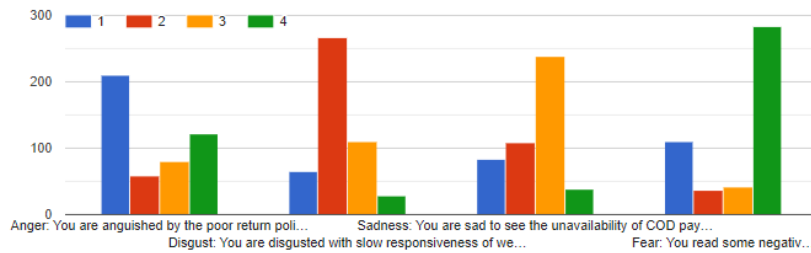
Figure 10: Surprise Induced Ambivalence

We are going to divide the rankings into two segments:
1.   Important (Rank 3 and 4): Here Rank 3 can be termed as "Somewhat Important" and Rank 4 can be termed as "Most Important"
2.   Unimportant (Rank 1 and 2): Here Rank 1 can be termed as "Somewhat Unimportant" and Rank 4 can be termed as "Most Unimportant"

The numerical data for the "Happiness Induced Ambivalence" is given below for each negative emotion:

Rank	Number of Respondents
1	272
2	51
3	82
4	65

Table 1: Responses for HIA "Anger"

Rank	Number of Respondents
1	65
2	261
3	112
4	32

Table 2: Responses for HIA "Disgust"

Rank	Number of Respondents
1	59
2	126
3	249
4	36

Table 3: Responses for HIA "Sadness"

Rank	Number of Respondents
1	74
2	32
3	27
4	337

Table 4: Responses for HIA "Fear"

The numerical data for the "Surprise Induced Ambivalence" is given below for each negative emotion:

Rank	Number of Respondents
1	211
2	58
3	80
4	121

Table 5: Responses for SIA "Anger"

Rank	Number of Respondents
1	65
2	267
3	110
4	28

Table 6: Responses for SIA "Disgust"

Rank	Number of Respondents
1	84
2	109
3	239
4	38

Table 7: Responses for SIA "Sadness"

Rank	Number of Respondents
1	110
2	36
3	41
4	283

Table 8: Responses for SIA "Fear"

The numerical data for the "Surprise Induced Ambivalence" is given below for each negative emotion:

Sr. No.	Negative Emotion(NE)	Most Unimportant(1)	Somewhat Unimportant(2)	Somewhat Important(3)	Most Important(4)
1	Anger	272(58%)	51(11%)	82(17%)	65(14%)
2	Disgust	65(14%)	261(56%)	112(24%)	32(7%)
3	Sadness	59(13%)	126(27%)	249(53%)	36(8%)
4	Fear	74(16%)	32(7%)	27(6%)	337(72%)
	Table 9: Response Summary for "Happiness Induced Ambivalence"				

Sr. No.	Negative Emotion(NE)	Most Unimportant(1)	Somewhat Unimportant(2)	Somewhat Important(3)	Most Important(4)
1	Anger	211(45%)	58(12%)	80(17%)	121(26%)
2	Disgust	65(14%)	267(57%)	110(23%)	28(6%)
3	Sadness	84(18%)	109(23%)	239(51%)	38(8%)
4	Fear	110(23%)	36(8%)	41(9%)	283(60%)
	Table 10: Response Summary for "Surprise Induced Ambivalence"				

VI.   Results & Interpretation

As we can see in Figure 9, people who are revisiting the same E-Commerce website to buy the product that gave them a satisfactory experience in the past, tend to abandon the cart "Most Importantly" due to the "Fear" that evokes most due to the privacy concern. Similarly, in figure 10 we can see that people who are buying a new product that is creating a surprisingly positive buzz in the market from a new website that offers this product at the cheapest rate on the market tend to abandon the cart "Most Importantly" due to the "Fear" again that evokes from the negative review of the product that they read on internet.

We will now define a computational model to quantify the results and to see if our observations hold this conclusion.

$$\text{Ambivalence(i)} = \frac{\sum_{j=1}^{4} \text{NR(i,j)} * \text{Imp(i,j)} * \text{W(i,j)}}{TR * \sum_{j=1}^{4} \text{Imp(i,j)}}$$

Where,

- Ambivalence(i) is the Ambivalence score of ith emotion in Table 9 or Table 10
- Imp (i,j) is the jth Importance Factor of the ith emotion in Table 9 or Table 10
- W(i,j) is the jth weight of the ith emotion in Table 9 or Table 10
- NR(i,j) is j^{th} number of respondents for the ith emotion in Table 9 or Table 10
- TR is the total number of respondents, which in our data was 470.

So the following matrix gives a weighted average score for all the ambivalence combinations:

Category	Combination	Score
Happiness Induced	Happiness, Anger	0.053
	Happiness, Disgust	0.099
	Happiness, Sadness	0.124
	Happiness, Fear	0.227
Surprise Induced	Surprise, Anger	0.052
	Surprise, Disgust	0.083
	Surprise, Sadness	0.119
	Surprise, Fear	0.179
Table 11: Quantified Score of all the Ambivalence Combinations		

As we can see (Happiness, Fear) is the most prominent ambivalent combination due to which people tends to abandoning the cart, followed by (Happiness, Sadness). The least preferred ambivalent combination to abandon the cart were (Happiness, Disgust) & (Happiness, Anger) in the "Happiness Induced" category.

Also, in the "Surprise Induced" category, (Surprise, Fear) is the most prominent ambivalent combination due to which people tend to abandon the cart, followed by (Surprise, Sadness). The least preferred ambivalent combination to abandon the cart were (Surprise, Disgust) & (Surprise, Anger).

Based on the scores of all 8 combinations, we can say that (Happiness, Fear) is the most prominent ambivalence felt by users to abandon the cart. That means, a user revisiting a particular website to buy a product he is satisfied with will abandon the cart most probably due to security or privacy concerns, followed by the user abandoning the cart due to a negative review he read either on the internet or on a website he is visiting for the first time to buy a positively renowned product in the market which he had never used.

Figure 11 defines the changes in the ranks of every negative emotion in our emotion model. The less the variation, the more constant the interpretation is. Hence, we can see that "Anger" & "Fear" are the two emotions with less variability than the rest of the two emotions in the "Happiness Induced Ambivalence"
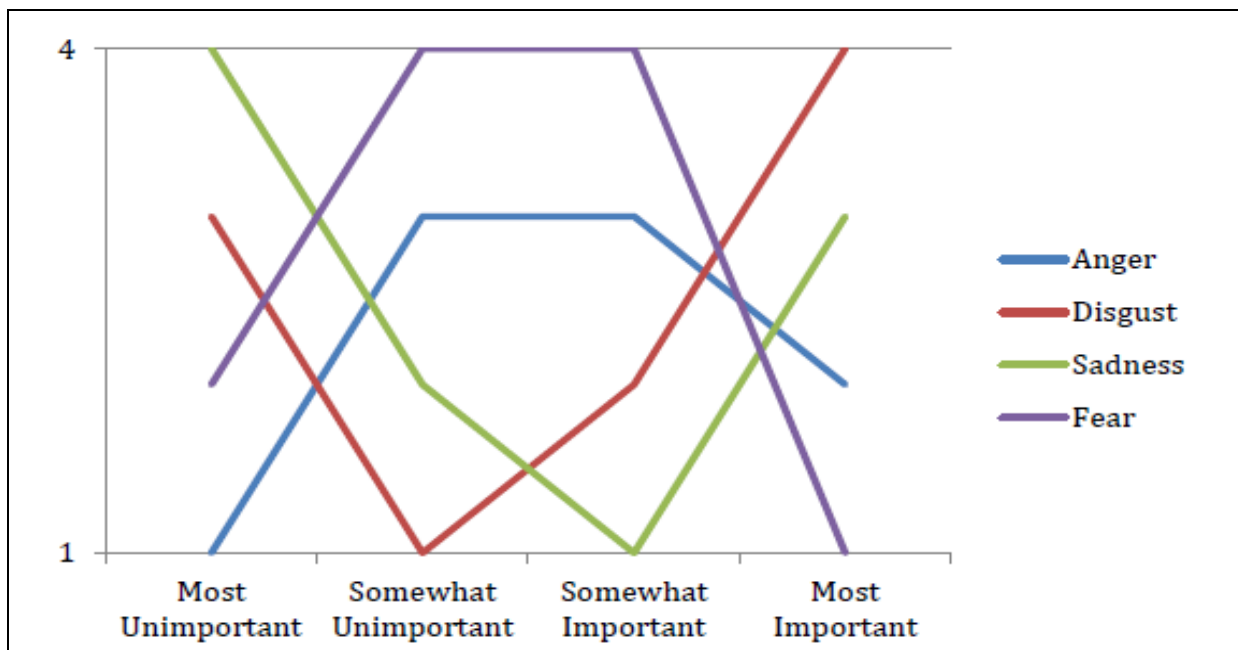

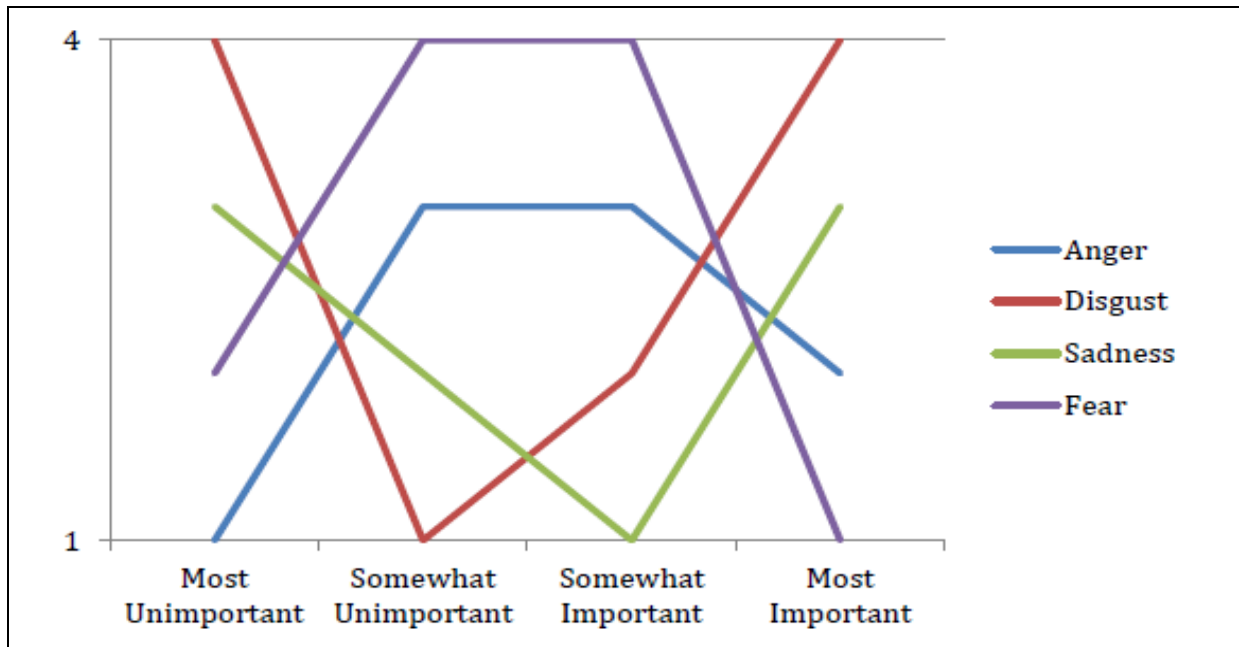Figure 11: Bump Chart of Happiness Induced Ambivalence

Figure 12: Bump Chart of Surprise Induced Ambivalence

Similarly, in figure 12 we can see that "Anger" & "Fear" are the two emotions with less variability than the rest of the two emotions in the "Surprise Induced Ambivalence".

Test Statistics[a,b]

	HIUAnger	HIUDisgust	HIUSadness	HIUFear
Chi-Square	7.383	6.614	1.823	11.450
df	3	3	3	3
Asymp. Sig.	.061	.085	.610	.010

a. Kruskal Wallis Test
b. Grouping Variable: Age

Test Statistics[a,b]

	SIUAnger	SIUDisgust	SIUSadness	SIUFear
Chi-Square	1.139	8.289	1.228	2.164
df	3	3	3	3
Asymp. Sig.	.768	.040	.746	.539

a. Kruskal Wallis Test
b. Grouping Variable: Age

Test Statistics[a,b]

	HIUAnger	HIUDisgust	HIUSadness	HIUFear
Chi-Square	1.854	3.287	1.387	2.010
df	2	2	2	2
Asymp. Sig.	.396	.193	.500	.366

a. Kruskal Wallis Test
b. Grouping Variable: CityofResidence

Test Statistics[a,b]

	SIUAnger	SIUDisgust	SIUSadness	SIUFear
Chi-Square	3.376	2.844	4.854	.046
df	2	2	2	2
Asymp. Sig.	.185	.241	.088	.977

a. Kruskal Wallis Test
b. Grouping Variable: CityofResidence

Test Statistics[a,b]

	HIUAnger	HIUDisgust	HIUSadness	HIUFear
Chi-Square	5.025	.001	1.586	1.761
df	1	1	1	1
Asymp. Sig.	.025	.980	.208	.184

a. Kruskal Wallis Test
b. Grouping Variable: Gender

Test Statistics[a,b]

	SIUAnger	SIUDisgust	SIUSadness	SIUFear
Chi-Square	.370	.062	.139	.119
df	1	1	1	1
Asymp. Sig.	.543	.803	.709	.730

a. Kruskal Wallis Test
b. Grouping Variable: Gender

Test Statistics[a,b]

	HIUAnger	HIUDisgust	HIUSadness	HIUFear
Chi-Square	21.270	2.786	2.785	18.791
df	1	1	1	1
Asymp. Sig.	.000	.095	.095	.000

a. Kruskal Wallis Test
b. Grouping Variable: MaritalStatus

Test Statistics[a,b]

	SIUAnger	SIUDisgust	SIUSadness	SIUFear
Chi-Square	9.670	1.514	1.357	10.188
df	1	1	1	1
Asymp. Sig.	.002	.219	.244	.001

a. Kruskal Wallis Test
b. Grouping Variable: MaritalStatus

Test Statistics[a,b]

	HIUAnger	HIUDisgust	HIUSadness	HIUFear
Chi-Square	70.892	19.870	7.399	94.006
df	4	4	4	4
Asymp. Sig.	.000	.001	.116	.000

a. Kruskal Wallis Test
b. Grouping Variable: Occupation

Test Statistics[a,b]

	SIUAnger	SIUDisgust	SIUSadness	SIUFear
Chi-Square	20.308	7.583	12.056	23.577
df	4	4	4	4
Asymp. Sig.	.000	.108	.017	.000

a. Kruskal Wallis Test
b. Grouping Variable: Occupation

Test Statistics[a,b]				
	HIUAnger	HIUDisgust	HIUSadness	HIUFear
Chi-Square	21.581	6.584	6.425	24.973
df	3	3	3	3
Asymp. Sig.	.000	.086	.093	.000

a. Kruskal Wallis Test

b. Grouping Variable: AnnualFamilyIncomeinRupees

Test Statistics[a,b]				
	SIUAnger	SIUDisgust	SIUSadness	SIUFear
Chi-Square	12.280	1.982	2.071	10.661
df	3	3	3	3
Asymp. Sig.	.006	.576	.558	.014

a. Kruskal Wallis Test

b. Grouping Variable: AnnualFamilyIncomeinRupees

Table 12: Kruskal-Wallis Test for Demographic Aspects – Happiness/Surprise Induced "Negative Emotions"

By looking at the table given above, we can conclude the following points:

1. There is no statistical relationship between Happiness Induced Ambivalence due to "Anger", "Disgust" & "Sadness" emotions and "Age" of a person. However, for "Happiness Induced Ambivalence", which happened due to "Fear", there is a significant statistical relationship with "Age" that can be concluded. Similarly, for "Surprised Induced Ambivalence", we can conclude that only "Disgust" has a significant relationship with the "Age" of a person.

2. There is no statistical relationship between "Happiness Induced Ambivalence" due to any negative emotion and the city of residence. The same thing can be concluded about "Surprised Induced Ambivalence".

3. There is a statistical relationship between Happiness Induced Ambivalence due to "Anger" and "Gender" of a person. Similarly, for "Surprised Induced Ambivalence", we can conclude that there is no significant relationship with "Gender" of a person.

4. There is a statistical relationship between "Happiness Induced Ambivalence" due to "Anger" & "Fear" with the "Marital Status" of a person. Similarly, for "Surprised Induced Ambivalence", the relationship exists between "Anger" & "Fear" with the "Marital Status" of a person.

5. There is a statistical relationship between "Happiness Induced Ambivalence" due to "Anger", "Disgust" & "Fear" with the "Occupation" of a person. Similarly, for "Surprised Induced Ambivalence", the relationship exists between "Anger", "Sadness" & "Fear" with the "Occupation" of a person.

6. There is a statistical relationship between "Happiness Induced Ambivalence" due to "Anger" & "Fear" with the "Annual Family Income" of a person. Similarly, for "Surprised Induced Ambivalence", the relationship exists between "Anger" & "Fear" with the "Annual Family Income" of a person.

VII. Conclusion

As we saw in our work, that fear of privacy plays a crucial role in cart abandonment. A user entering his payment information on a website should be asked for his consent to save his payment information on the website. Since, revisiting a website and finding credit/debit card information saved on the website makes a consumer anxious about the website in the event of re-purchasing.

On a similar note, a consumer purchasing a whole new product from a new website will be anxious to see a negative review of that product on that particular website. Hence, the newly launched websites should focus more on the quality of the products they are selling on their website and improve the services they offer and delivery time to the customer. Since, empirically, these are some of the factors due to which consumers post a negative review of a product on a website.

Also, we have divided the importance into two categories: Important (Most Important, Somewhat Important) and Unimportant (Most Unimportant, Somewhat Unimportant). Therefore, the consumer being sad to see no rewards offered to him on his re-purchase of a product, also plays an important role in cart abandonment. Similarly, a consumer purchasing a product for the first time from a new website, being sadly disappointed to see the unavailability of a COD payment method, pushes him to abandon the cart as well.

Moreover, as we saw, the various demographic factors have statically significant relationships with different negative emotions when it comes to cart abandonment. The most important demographic factor was "occupation" of a person, which has a statistically significant relationship with 3 negative emotions in both situations. Additionally, the ranks of two major negative emotions, "Anger" & "Fear", don't vary as much as the other two emotions.

To conclude, e-commerce companies should first look into their privacy and security policy, the scope of improvement and delivery time and the quality of the product to reduce the cart abandonment rate. We do not say these are the only factors effecting cart abandonment worldwide, since it is a new research area and there are a multitude of factors playing a role. But based on our research, we can conclude that these aspects do play a crucial role in the minds of a consumer visiting or re-visiting a website to purchase a product that he never used or purchase a product that he had used in the past, respectively.

VIII. Future Work

Although our research work does give some fine insights, it also has its own limitations which require more work on this topic. Some of those are:

• The model doesn't consider the neutrality of an emotion and nor does it consider the neutrality in rankings.

• The Ekman model only gives bipolarity of six emotions. For deeper insight, we can base our work on Plutchik's wheel of emotions. This model defines 8 primary emotions and the intensity of those emotions decreases as we move outwards of the primary area and increases as we move inwards towards the centre.

• Our approach didn't take the considerations of valance & mood.

• The data we had was comparatively small. For better insights, we should increase our data and population sample.

Considering all the points, there is a scope for improvement which could be included in future work.

References

[1]. An, S., Ji, L. J., Marks, M., & Zhang, Z. (2017). Two sides of emotion: exploring positivity and negativity in six basic emotions across cultures. *Frontiers in psychology*, 8, 610.
[2]. Blinder, A., Canetti, E. R., Lebow, D. E., & Rudd, J. B. (1998). Asking about prices: a new approach to understanding price stickiness. Russell Sage Foundation.
[3]. Chang, C. (2011). Feeling ambivalent about going green. *Journal of Advertising*, 40(4), 19-32.
[4]. Chea, S., & Luo, M. M. (2008). Post-adoption behaviors of e-service customers: The interplay of cognition and emotion. *International Journal of Electronic Commerce*, 12(3), 29-56.
[5]. Cho, C. H., Kang, J., & Cheon, H. J. (2006). Online shopping hesitation. *CyberPsychology & behavior*, 9(3), 261-274.
[6]. Cho, J. (2004). Likelihood to abort an online transaction: influences from cognitive evaluations, attitudes, and behavioural variables. *Information & Management*, 41(7), 827-838.
[7]. Ekman, P. (1992). Are there basic emotions? *Psychol. Rev.* 99, 550–553. doi: 10.1037/0033-295X.99.3.550
[8]. Fee, R. L., & Tangney, J. P. (2000). Procrastination: A means of avoiding shame or guilt?. *Journal of Social Behavior and Personality*, 15(5), 167.
[9]. Hootsuite, & We Are Social. (February 11, 2021). Internet penetration rate in India from 2007 to 2021 [Graph]. In *Statista*. Retrieved April 03, 2022, from https://www.statista.com/statistics/792074/india-internet-penetration-rate/
[10]. India Brand Equity Foundation. (August 11, 2021). Market size of e-commerce industry across India from 2014 to 2018, with forecasts until 2027 (in billion U.S. dollars) [Graph]. In *Statista*. Retrieved April 03, 2022, from https://www.statista.com/statistics/792047/india-e-commerce-market-size/
[11]. Jones, E. E. (1972). *Attribution: Perceiving the causes of behaviour*. Morristown, NJ: General Learning Press.
[12]. Kim, J., & Wansink, B. (2011). Interactive Effects of Return Policy Leniency and Recommendations on Post-Consumption Evaluation of Products with Mixed Outcomes. Kim, Junyong, and Brian Wansink (2011)," How Retailers' Recommendation and Return Policies Alter Product Evaluations," Journal of Retailing, 88(4), 528-541.
[13]. Kukar-Kinney, M., & Close, A. G. (2010). The determinants of consumers' online shopping cart abandonment. *Journal of the Academy of Marketing Science*, 38(2), 240-250.
[14]. Lerner, J. S., Li, Y., & Weber, E. U. (2013). The financial costs of sadness. Psychological science, 24(1), 72-79.
[15]. Luo, X. (2002). Uses and gratifications theory and e-consumer behaviours: A structural equation modelling study. *Journal of Interactive advertising*, 2(2), 34-41.
[16]. McDaniel, S. W., & Zeithaml, V. A. (1984). The effect of fear on purchase intentions. Psychology & Marketing, 1(3- 4), 73-82.
[17]. Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, 56(11), 899-906.
[18]. Mellers, B. A., Schwartz, A., Ho, K., & Ritov, I. (1997). Decision affect theory: Emotional reactions to the outcomes of risky options. *Psychological Science*, 8(6), 423-429.
[19]. Miceli, C. (2015). Miceli M., Castelfranchi C. *Expectancy and emotion*.
[20]. Olatunji, B. O., & Sawchuk, C. N. (2005). Disgust: Characteristic features, social manifestations, and clinical implications. Journal of Social and Clinical Psychology, 24(7), 932-962.
[21]. Ortony, A., Clore, G. L., & Collins, A. (1990). The cognitive structure of emotions. Cambridge university press.
[22]. Reisenzein, R., Meyer, W.-U., & Niepel, M. (2012). Surprise. In V. S. Ramachandran (Ed.),Encyclopedia ofhuman behavior(2nd ed, pp. 564–570). Oxford, England: Academic Press.
[23]. SaleCycle. (January 1, 2021). Online shopping cart abandonment rate in 2020, by region [Graph]. In *Statista*. Retrieved April 03, 2022, from https://www.statista.com/statistics/546885/cart-abandonment-rate-region/
[24]. Van Harreveld, F., Van der Pligt, J., & de Liver, Y. N. (2009). The agony of ambivalence and ways to resolve it: Introducing the MAID model. *Personality and Social Psychology Review*, 13(1), 45-61.
[25]. Yang, K., & Forney, J. C. (2013). The moderating role of consumer technology anxiety in mobile shopping adoption: differential effects of facilitating conditions and social influences. Journal of Electronic Commerce Research, 14(4), 334.
[26]. Young, A. W., Perrett, D., Calder, A., Sprengelmeyer, R., & Ekman, P. (2002). Facial expressions of emotion: Stimuli and tests (FEEST). *Bury St. Edmunds: Thames Valley Test Company*.
[27]. Yusuf, L. L., Tamara, D., & Setiadi, N. J. (2021). The Determinants for Shopping Cart Abandonment. *Emerging Markets: Business and Management Studies Journal*, 8(2), 89-107.
[28]. Zhan, J., Ren, J., Fan, J., & Luo, J. (2015). Distinctive effects of fear and sadness induction on anger and aggressive behavior. Frontiers in Psychology, 6, 725.