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Can anchors cause variations in endowment decisions? A survey study

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Abstract

Humans have bounded rationality and are their thought process is affected by various cognitive biases. Individuals create their own 'subjective reality' from their perception of the input. Two such biases are the endowment effect and anchoring bias. The former elucidates on how humans value the objects they own more than similar products in the market and prefer to retain it due to the pain of losing it. The latter

throws light on how human decisions are affected by the initial piece of information provided to them. This study aimed to find out if an anchor information could affect endowment decisions taken by people. It was done by conducting a survey to use empirical evidence to find out the same.

Keywords: Electrophysiologic, Endowment Effect, Anchor Information, Encyclopaedia

1. Introduction

1.1 Area of study

Behavioural economics is a relatively new school of economic thought. It encompasses a number of strands such as decision theory, consumer behaviour, economic psychology, psychological economics, new institutional/transaction cost economics (Earl, 1990)^[1]. The history of this subject is much longer than a majority of its proponents perceive. If judged completely from advanced reviews and Daniel Kahneman and Chip Heath stated in Thaler's book 'Misbehaving', readers will believe that it was Thaler who invented behavioural the subject. These claims, however, sharply vary from the perspective offered by Baddeley in 2013 who goes back to the 18th century contributions by Adam Smith and David Hume (Earl, 2016)^[2].

In humans, cognitive information is processed in System 1 and System 2. System 2 requires humans to conduct effortful, deliberate, and demanding mental activities. However, System 1 operates automatically, quickly, intuitively, without consuming much time, with little or no efforts. The heuristic approaches that we adopt when we do not have time to deliberate is- System 1. They are intuitive and simple. However, it is possible that these approaches would lead into a trap of cognitive biases. There is an existence of bounded rationality in human beings. Due to this, they cannot decide rationally and fall into the trap of cognitive biases (Murata, 2014)^[3].

1.2 Research problem

To find out if anchors can cause variations in endowment decisions using empirical evidence collected after conducting a survey.

1.3 Scope

- The survey study was conducted online.
- It was restricted to Indian residents (particularly in urban setups).
- It was limited to 216 subjects.
- The products used in the study were restricted to the gadgets (possessed/not possessed by the subjects) - Bluetooth headphones/ air pods and Bluetooth speakers.

1.4 Limitations

- Sample selection bias- when subjects were chosen for the study
- Lack of previous studies on- how can anchors affect endowment decisions.

1.5 Objectives

The study has the two following objectives.

Objective 1

To empirically test if endowment effect exists in decisions taken by asking the participants if they are willing to trade the products they already own with a similar product in the market (If they value the products, they own more than similar products in the market.

Null hypothesis (H₀)

Willingness to trade does not change when people are endowed with a certain product

Alternate hypothesis (H₁)

Willingness to trade changes when people are endowed with a certain product

Objective 2

To test if anchor information causes/does not cause a variation in endowment decisions.

Null hypothesis (H₀): Anchor information does not cause variations in endowment decisions.

Alternate hypothesis (H₁): Anchor information causes variations in endowment decisions.

2. Methodology

The research was conducted through an online survey. The participants were divided into three groups namely Group I, II and III based on presence or absence of anchor information favouring the variables (Table 1).

Table 1: Anchor information provided for each group

Group	Anchor Information
I	No anchor information was provided
II	Anchoring information was provided- In favour of Bluetooth headphones/air pods
III	Anchoring information was provided- In favour of Bluetooth speakers

Each of these groups were further divided into 3 subgroups- a, b, and c. These were based on the possession of the variables (Table 2).

Table 2: Description of each subgroup

Subgroup	Description
a	Bluetooth headphone/air pods owners were asked if they are willing to trade them for a Bluetooth speaker.
b	Bluetooth speaker owners were asked if they are willing to trade them for Bluetooth headphone/ air pods.
c	If they do not own either, they were asked if they are willing to buy Bluetooth headphones/air pods or Bluetooth speakers.

The following table mentions the number of respondents who took up the survey-

The number of subjects in each subgroup, the total number of subjects per group and the number of subjects for the study in total.

Table 3: Number of respondents- subgroup wise and groupwise total

Group number	Subgroup A	Subgroup B	Subgroup C	Total
I	26	24	24	74
II	23	26	26	75
III	26	22	15	63
				216

3. Theory (Literature review)

Endowment Effect

In classical economics, it is assumed that humans are completely rational, equipped with cognitive strategies and neural mechanisms. This allows them to maximise their utility. Nonetheless, this is not in agreement with the concord among social scientists that people’s behaviour is systematically inconsistent with their rational self-interest. The doctrine of rational choice is violated in many varied situations such as choosing between safe and perilous options. They base their preferences on various arbitrary factors. Many researches have proved that decision makers feel the pain of losses more strongly than the pleasure of gains that are equally sized (Tversky & Kahneman, 1981) [4]. “Endowment effect” is a well-known phenomenon of irrational decision making.

Thaler fabricated the phrase ‘endowment effect’ which talks about the following - things that are owned by one are valued higher than similar goods that are not held in endowment. The probable gain of the person who does not own the goods from acquisition is generally lesser than the owner’s probable loss due to sale (Reb & Connolly, 2007) [5]. Endowment effect means- the tendency to place more value on goods in ownership. It is an anomaly that infracts the reference-independence assumption of the theories of rational choice. This effect is oftentimes interpreted as the sequel of loss aversion, which is one of the fundamental aspects of the prospect theory (Kahneman & Tversky, 1979) [6]. If a person owns an object initially, the likelihood of losing it is seen as a relatively larger loss and if one does not, the prospect of acquiring it is a relatively smaller gain. The outcome of Thaler’s reiterates this theory. The study was carried out in 1980. Half the students in a class (in Cornell University) were presented with coffee mugs and allowed to trade these with the students who did not receive them. The students who owned the mug fixed their minimum prices of sale very large and the students who were not fortunate enough set their maximum propositions for the good too low. Due to this, many trades did not clear (Reb & Connolly, 2007) [5].

The following is the study conducted by Loewenstein and Kahneman in 1991 [18]. The attractiveness of all the six gifts were ranked by the subjects. Towards the end, the subjects were asked to choose between a pen and two chocolate bars. The pen was favoured by around 56% of those endowed with it. However, only around 24% of the respondents (who were not endowed with the pen) chose a pen. Although the pen was not rated high for attractiveness, 56% of those endowed with it chose a pen because of the pain of losing it.

Endowment effect is considered a violation of standard rational choice by economists. Decision makers who are rational ought to be impassive between retaining the good they have at the moment and trading it for an item of equal value. However, real decision makers’ preferences are heavily influenced by ownership in many situations (Lakshminaryanan *et. al.*, 2008) [7].

Anchoring Bias

Behavioural economics is mainly based on judgemental heuristics (or mental shortcuts) that many people count on reflexively (Belsky & Gilovich, 1999) [8]. The characteristics of heuristics are automatic, intuitive, and it is a fast system which lessens the difficult job of analysing probabilities and forecasting values to comparatively easier judgemental

operations. These rules of thumb frequently lead to severe and systematic flaws like biases and fallacies in making decisions (Tversky & Kahneman, 1974) ^[9]. The ideology of heuristics was raised initially by Simon. He proposed a behavioural model of rational choice that supports a finite rationality, where decisions are extracted through dynamic adjustment on external and internal factors (Furnham & Boo, 2010) ^[10].

However, the anchoring-and-adjustment heuristic was introduced by Kahneman & Tversky (1974) ^[9].

The anchoring effect is the inordinate influence on people who make decisions to base their decision on initially presented value. According to research by Kahneman and Tversky, the subjects were asked to give an estimation of the percentage of African countries in the United Nations. This was given in reference to a range of numbers that were randomly generated (ranging from 0-100). Participants were asked to consider if the actual answer was lower or higher than the reference value presented before the absolute judgement was being made (Kahneman & Tversky, 1974) ^[9]. For instance, researchers have probed into this effect by asking subjects the following questions- distance of the Mississippi river (McElroy and Dowd, 2007) ^[11], the freezing point of vodka (Epley and Gilovich, 2001) ^[12] and the annual mean temperature of Germany (Mussweiler and Englich, 2005) ^[13].

Various electrophysiologic studies have been conducted on anchoring effect too, showing how subjects answer differently when making decisions.

Studies from many domains show the vigorous influence of the anchoring effect (Furnham & Boo, 2010) ^[10].

This research paper studies if a piece of anchor information provided to people could cause any variations in their endowment decisions. The participants were asked questions based on the gadgets they use through an online survey. The gadgets that were chosen in particular are Bluetooth headphones/ air pods and Bluetooth speakers.

Why gadgets?

A report by McKinsey Global institute: "Digital India-Technology to Transform a Connection Nation" said that India is one of the fastest and largest growing market for digital consumers. (The Times of India, 2019) ^[14]. The consumer demand for speakers and headphones are rapidly increasing. The market is growing steadily. The global sale of soundbar speakers is forecasted to touch 7.54 billion USD by 2022 and the shipments of headphones across the globe touched 400 million units in the year 2019, which was sequeled by a steady upward growth (Liu, 2020) ^[15].

Endowment effect will be empirically tested by asking if the participants are-

- If they own Bluetooth headphones/air pods - are they willing to trade the Bluetooth headphones/air pods for Bluetooth speakers.
- If they own Bluetooth speakers – are they willing to trade the Bluetooth speakers for Bluetooth headphones/ air pods.
- If they do not own either (Bluetooth headphones/air pods) – which one would they prefer to buy.

This will be further tested with a piece of anchor information- to check if any information in favour of Bluetooth headphones/ air pods and Bluetooth speakers would influence endowment decisions.

- The anchor information in favour of Bluetooth headphones/air pods describe the positive aspects of the product such as – completely wireless: hand free and hassle-free experience, personalised music experience, noise cancellation features, very handy and compact, aesthetic appeal, air pods have good brand value.
- The anchor information in favour of Bluetooth speakers describe the positive aspects of the product such as – powerful thump when listening to music, easily portable, social experience with music (especially for social gatherings, events, ceremonies), no installation requirements, low power consumption, hands free mobile experience, ALEXA- being the talking encyclopaedia.

4. Group-wise results and discussion

A) Intra Group Comparison

Group I

Data

In this group, no anchor information was given. This group would address the Null hypothesis of Objective I-

Null Hypothesis (H₀): Willingness to trade does not change when people are endowed with a certain product

Alternate Hypothesis (H₁): Willingness to trade changes when people are endowed with a certain product

There were three subgroups-

- Subgroup a- The respondents who owned Bluetooth headphones/ air pods.

The respondents were asked if they are willing to trade Bluetooth headphones/ air pods for Bluetooth speakers. The total number of respondents in this subgroup were 26.

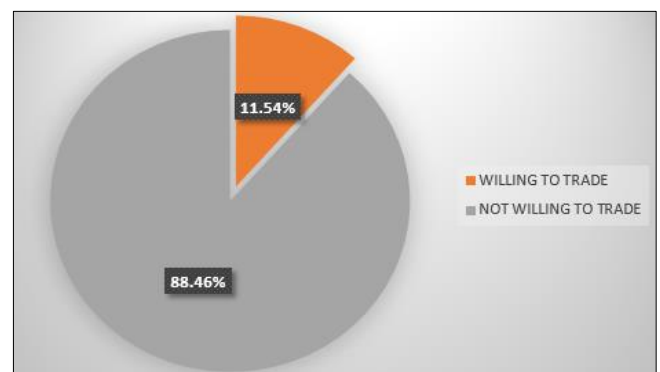


Fig 1: Pie chart representing respondent's willingness to trade- Subgroup a (Group I)

- Subgroup b- The respondents who owned Bluetooth speakers.

The respondents were asked if they are willing to trade Bluetooth speakers for Bluetooth headphones/ air pods. The total number of respondents in this group were 24.

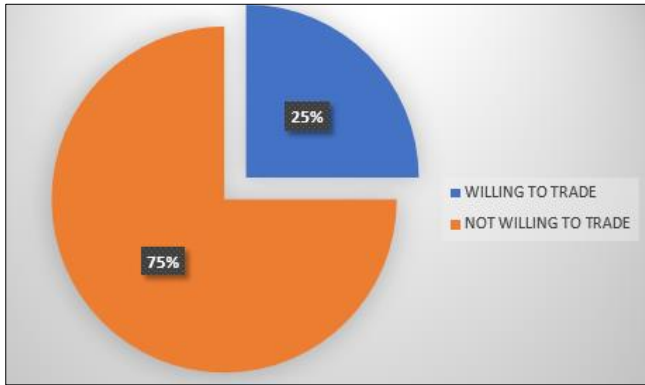


Fig 2: Pie chart representing respondent’s willingness to trade- Subgroup b (Group I)

- Subgroup c- The respondents who did not own either- Bluetooth headphones/air pods or Bluetooth speakers.

The respondents were asked which one they are willing to buy, since they do not own either. The total number of respondents in this group were 24.

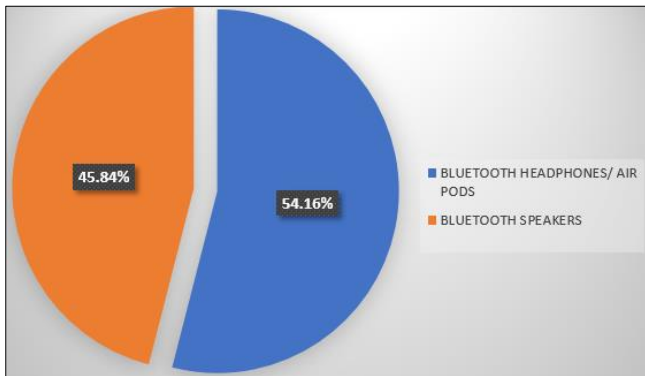


Fig 3: Pie chart representing preference of respondents in buying devices (Bluetooth headphones/air pods or Bluetooth Speakers) - Subgroup c (Group I)

Analysis using T-Test

The t score is the ratio between two groups and the difference between the groups. When the t score is larger, the difference between the groups is larger. When the t score is smaller, the difference between the groups is smaller.

- A large t score implies- the groups are more different than each other.
- A small t score implies- the groups are more similar to each other.

(Glen)

A two-tailed probability t-test was conducted for all the subgroups.

Subgroup a

Null hypothesis (H₀): There is NO significant difference between the percentage of respondents willing to trade and not willing to trade- Bluetooth Headphones/ air pods for a Bluetooth speaker.

Degrees of freedom: 25

Calculated t-value	Table t-value(5% level of significance)
6.138	2.060

The calculated t-value is greater than the table t-value. Hence, H₀ will be rejected: there is a significant difference between the percentage of respondents who are willing and not willing to buy.

Subgroup b

Null hypothesis (H₀): There is no significant difference between the percentage of respondents willing to trade and not willing to trade- Bluetooth Speakers for a Bluetooth headphones/air pods.

Degrees of freedom: 23

Calculated t-value	Table t-value(5% level of significance)
2.828	2.069

The calculated t-value is greater than the table t-value. Hence, H₀ will be rejected: there is a significant difference between the percentage of respondents who are willing and not willing to buy.

Subgroup c

Null hypothesis (H₀): There is no significant difference between the percentage of willing to buy Bluetooth headphones/ air pods and Bluetooth Speakers.

Degrees of freedom: 23

Calculated t-value	Table t-value(5% level of significance)
0.409	2.069

The calculated t- value is lesser than the table t-value. Hence, H₀ will be accepted: there is a significant difference between the percentage of respondents who are willing to buy a Bluetooth headphones/ air pods and Bluetooth speakers.

Note: Statistical tables were used to find the Table t-values (C. Dougherty, 2001 & 2002) [17].

Interpretation

The results can be explained using the endowment effect backed up by a similar study conducted by Loewenstein and Kahneman (1991) [18]. The results of the survey conducted with Bluetooth headphones/air pods and Bluetooth Speakers, were similar.

When endowed with Bluetooth headphones/ air pods 88.46% of the subjects preferred to retain their device. However, only 45.84% of other subjects preferred Bluetooth headphones/ air pods. Similarly, when endowed with Bluetooth speakers 75% of the subjects preferred to retain their device. However, only 54.16% of the other subjects preferred Bluetooth speakers.

According to the results of the t-test.

- In subgroup a: There was a significant difference between the people willing to trade their Bluetooth headphone/ air pods and not willing to trade the same. The subjects preferred Bluetooth headphones/ air pods more than Bluetooth speakers because the subjects were endowed with the former.
- In subgroup b: There was a significant difference between the people willing to trade their Bluetooth speakers and not willing to trade the same. The subjects preferred Bluetooth speakers more than Bluetooth headphones/ air pods because the subjects were endowed with the former.

The results from subgroup a and b can be attributed to the endowment effect, which states that people prefer the things they are endowed with and mostly would not indulge in trading the good due to the pain of losing it.

- In subgroup c: There was no significant difference between their preference between buying a Bluetooth headphone/ air pods and Bluetooth speakers when they were not endowed with either of the products. The subjects had almost an equal preference between the devices when not endowed with it.

Hence, the H_0 of Objective 1 will be rejected. From the results of Group I, it can be concluded that willingness to trade changes when people are endowed with a certain product.

Group 2

Data

In this group, anchor information was given in favour of bluetooth headphones/air pods.

The useful features of the device were highlighted on, in the anchor information. The features were- portability, compactness, comfortable usage (wireless), personalized music experience, noise cancellation features.

The subjects were given the anchor information to test if the information could cause variations in endowment decisions. In this group, subjects were given anchor information in favour of Bluetooth headphones/ air pods, hence the Null hypothesis would be the same as Objective II.

Null hypothesis (H_0): Anchor information does not cause variations in endowment decisions.

Alternate hypothesis (H_1): Anchor information causes variations in endowment decisions.

There were three subgroups-

- Subgroup a-The respondents who owned Bluetooth headphones/ air pods

The respondents were asked if they are willing to trade Bluetooth headphones/ air pods for Bluetooth speakers. The total number of respondents in this subgroup were 23.

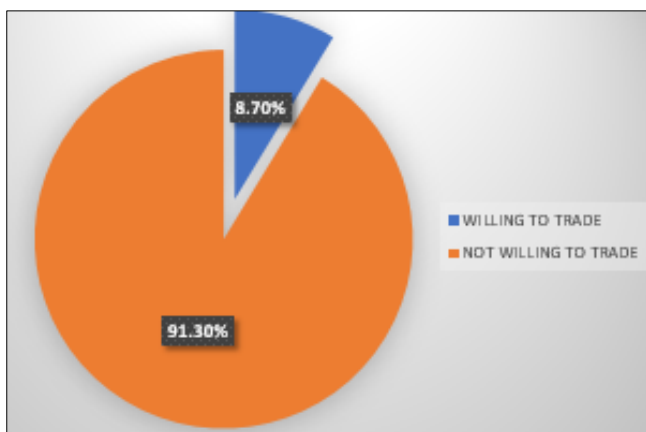


Fig 4: Pie chart representing respondent’s willingness to trade- Subgroup a (Group II)

- Subgroup 2-The respondents who owned Bluetooth speakers.

The respondents were asked if they are willing to trade Bluetooth speakers for Bluetooth headphones/ air pods. The

total number of respondents in this subgroup were 26.

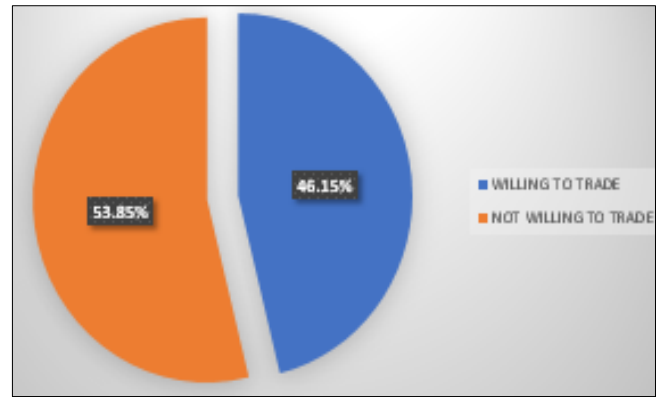


Fig 5: Pie chart representing respondent’s willingness to trade- Subgroup b (Group II)

- Subgroup 3- The respondents who did not own either- Bluetooth headphones/air pods or Bluetooth speakers.

The respondents were asked which one they are willing to buy, since they do not own either. The total number of respondents in this group were 26.

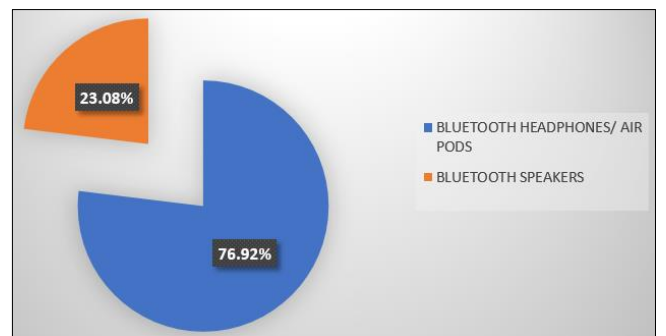


Fig 6: Pie chart representing respondent’s preference to buy (Bluetooth headphones/air pods or Bluetooth speakers) - Subgroup c (Group II)

Analysis using T-Test

A two-tailed probability t-test was used.

Subgroup a

Null hypothesis (H_0): There is no significant difference between the percentage of respondents willing to trade and not willing to trade- Bluetooth Headphones/ air pods for a Bluetooth speaker.

Degrees of freedom: 22

Calculated t-value	Table t-value(5% level of significance)
7.030	2.074

The calculated t-value is greater than the table t-value. Hence, H_0 will be rejected: there is a significant difference between the percentage of respondents who are willing and not willing to trade.

Subgroup b

Null hypothesis (H_0): There is NO significant difference between the percentage of respondents willing to trade and not willing to trade- Bluetooth Speakers for a Bluetooth headphones/ air pods.

Degrees of freedom: 25

Calculated t-value	Table t-value(5% level of significance)
0.393	2.060

The calculated t- value is lesser than the table t-value. Hence, H_0 will be accepted: there is no significant difference between the percentage of respondents who are willing and not willing to trade.

Subgroup c

Null hypothesis (H_0): There is no significant difference between the percentage of willing to buy Bluetooth headphones/ air pods and Bluetooth Speakers.

Degrees of freedom: 25

Calculated t-value	Table t-value(5% level of significance)
3.258	2.060

The calculated t-value is greater than the table t-value. Hence, H_0 will be rejected: there is a significant difference between the percentage of respondents who are willing and not willing to buy.

Interpretation

The results from this group can be analysed using the anchoring bias and endowment effect. The anchoring effect refers to the undue influence on people to make biased decisions based on value presented initially (Kahneman & Tversky, 1947).

- **In subgroup a:** There was a statistically significant difference between the subjects willing to trade and not willing to trade Bluetooth headphones/ air pods for Bluetooth speakers. The difference was exceedingly high, around 91.30% were not willing to trade and only 8.70% were willing to trade. The high percentage of subjects willing to trade can be attributed to the anchor provided. The subjects who were endowed with Bluetooth headphones/ air pods valued their device more after reading the anchor information. Hence, less than 10% of the subjects wanted to trade their device.
- **In subgroup b:** There was no statistically significant difference between the subjects willing to trade and not willing to trade Bluetooth speakers for Bluetooth headphones/ air pods. According to the endowment effect, people value the product in their endowment more than similar products in the market. However, when the subjects were provided with an anchor information in favour of another product in the market, few subjects were more willing to trade the device they were in their endowment with another device. In this case, instead of a majority not willing to trade only nearly half (53.85%) of the subjects were not willing to trade the device in their endowment. Hence, when an anchor information was given to the subjects in favour of the other device in the market, more of them were willing to trade than usual. However, 46.15% of the subjects preferred the product in their endowment even after the anchor information was provided to them.

- **In subgroup c:** There was a statistically significant difference between the subjects willing to buy a Bluetooth headphone/air pods and Bluetooth speakers. The subjects were more willing to buy Bluetooth headphones/ air pods (76.92%) than Bluetooth speakers because they were influenced by the anchoring information provided to them that was elucidated on the positive aspects of Bluetooth headphones/air pods.

Group 3

In this group, anchor information was given in favour of bluetooth speakers. There were three subgroups-

- Subgroup 1-The respondents who owned Bluetooth headphones/ air pods.

The respondents were asked if they are willing to trade Bluetooth headphones/ air pods for Bluetooth speakers. The total number of respondents in this subgroup were 26.

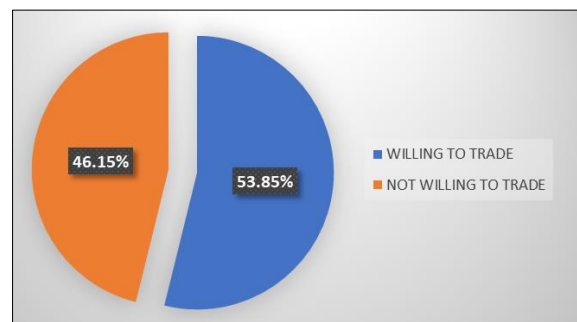


Fig 7: Pie chart representing respondent’s willingness to trade-Subgroup a (Group III)

- Subgroup 2-The respondents who owned Bluetooth speakers.

The respondents were asked if they are willing to trade Bluetooth speakers for Bluetooth headphones/ air pods. The total number of respondents in this subgroup were 22.

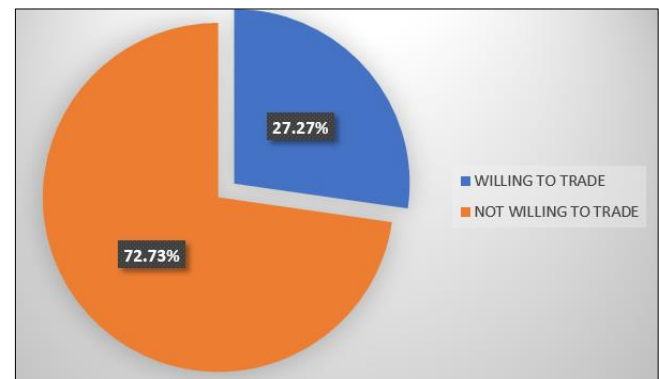


Fig 8: Pie chart representing respondent’s willingness to trade-Subgroup b (Group III)

- Subgroup 3-The respondents who did not own either-Bluetooth headphones/air pods or Bluetooth speakers. The respondents were asked which one they are willing to buy, since they do not own either.

The total number of respondents in this group were 21.

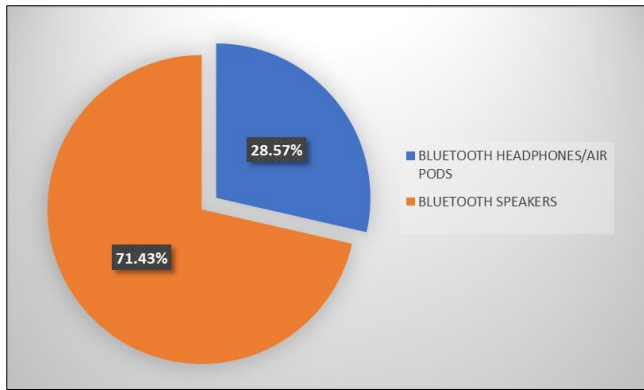


Fig 9: Pie chart representing the respondent’s willingness to buy (Bluetooth headphones/air pods or Bluetooth speakers) - Subgroup c (Group III)

Analysis using T-Test

A two-tailed probability t-test was used.

Subgroup a

Null hypothesis (H₀): There is no significant difference between the percentage of respondents willing to trade and not willing to trade- Bluetooth Headphones/ air pods for a Bluetooth speaker.

Degrees of freedom: 25

Calculated t-value	Table t-value(5% level of significance)
0.393	2.060

The calculated t- value is lesser than the table t-value. Hence, H₀ will be accepted: there is no significant difference between the percentage of respondents who are willing and not willing to buy.

Subgroup b

Null hypothesis (H₀): There is NO significant difference between the percentage of respondents willing to trade and not willing to trade- Bluetooth Speakers for a Bluetooth headphones/ air pods.

Degrees of freedom: 21

Calculated t-value	Table t-value(5% level of significance)
2.394	2.080

The calculated t-value is greater than the table t-value. Hence, H₀ will be rejected: there is a significant difference between the percentage of respondents who are willing and not willing to trade.

Subgroup c

Null hypothesis (H₀): There is NO significant difference between the percentage of willing to buy Bluetooth headphones/ air pods and Bluetooth Speakers.

Degrees of freedom: 20

Calculated t-value	Table t-value(5% level of significance)
2.174	2.086

The calculated t-value is greater than the table t-value. Hence, H₀ will be rejected: there is a significant difference between

the percentage of respondents who are willing and not willing to buy.

Interpretation

The results from this group can be analysed using the anchoring bias and endowment effect. The anchoring effect is the disproportionate influence on decision makers to make biased judgements based on initially presented value (Kahneman & Tversky, 1947).

- **In subgroup a:** There was no statistically significant difference between the subjects willing to trade and not willing to trade Bluetooth headphones/air pods for Bluetooth headphones/ air pods. According to the endowment effect, people value the product in their endowment more than similar products in the market. However, when the subjects were provided with an anchor information in favour of another product in the market, few subjects were more willing to trade the device they were in their endowment with another device. In this case, instead of a majority not willing to trade only nearly half (53.85%) of the subjects were not willing to trade the device in their endowment. Hence, when an anchor information was given to the subjects in favour of the other device in the market, more of them were willing to trade than usual. However, 46.15% of the subjects preferred the product in their endowment even after the anchor information was provided to them.
- **In subgroup b:** There was a statistically significant difference between the subjects willing to trade and not willing to trade Bluetooth speakers for Bluetooth headphones/air pods. Nearly three quarters (72.73%) were not willing to trade and only 27.27% were willing to trade. The high percentage of subjects willing to trade can be attributed to the anchor provided. The subjects who were endowed with Bluetooth headphones/ air pods valued their device more after reading the anchor information. Hence, only nearly quarter of the subjects wanted to trade their device.
- **In subgroup c:** There was a statistically significant difference between the subjects willing to buy a Bluetooth headphone/air pods and Bluetooth speakers. The subjects were more willing to buy Bluetooth speakers (71.43%) than Bluetooth headphones/ air pods because they were influenced by the anchoring information provided to them that was elucidated on the positive aspects of Bluetooth speakers.

Hence, from the results of subgroup b and c, the null hypothesis (H₀) of Objective II will be rejected. It can be concluded that anchor information causes variations in endowment decisions.

B) Inter Group Comparison

▪ **Subgroup a**

The subjects were not given anchor information in Group I; they were given anchor information in favour of Bluetooth headphones/ air pods in Group II and anchor information in favour of Bluetooth speakers in Group III.

▪ **Group I (no Anchor information) vs. Group II (Anchor information in favour of the device in endowment)**

88.46% of the subjects were not willing to trade in Group I and 91.30% of the subjects were not willing to trade in

Group II. There was a very minimal percentage change of 2.84% between the two groups.

When anchor information was provided in favour of the product that the subjects already possessed (Bluetooth headphones/air pods), the change in percentage of willingness to trade did not change much. This could be attributed to the fact that the subjects already valued their device more irrespective of the anchor, due to endowment effect.

▪ **Group I (no Anchor information) vs. Group II (Anchor information in favour of the other device in the market)**

88.46% of the subjects were not willing to trade in Group I and 46.15% of the subjects were not willing to trade in Group III. There was of nearly. The subjects not willing to trade in Group III was nearly half of that of the subjects not willing to trade in Group I.

When anchor information was given in favour of the other product in the market, there was a tremendous change in the percentage of subjects who were not willing to trade their devices. This could be attribute to the fact that their willingness to trade was influenced by the anchor given in favour of the other product (Bluetooth speakers) in the market. Nearly half of the subjects were willing to trade Bluetooth headphones/air pods for speakers because their decision was influenced by the anchor information.

▪ **Subgroup b**

The subjects were not given anchor information in Group I; they were given anchor information in favour of Bluetooth headphones/ air pods in Group II and anchor information in favour of Bluetooth speakers in Group III.

▪ **Group I (No Anchor information) vs. Group II (Anchor information in favour of the other device in the market)**

75% of the subjects were not willing to trade in Group I and 53.85% of the subjects were not willing to trade in Group II. There was a difference of nearly 21.15% in between the two groups.

When anchor information was given in favour of the other product in the market, there was a significant change in the percentage of subjects who were not willing to trade their devices. This could be attributed to the fact that their willingness to trade was influenced by the anchor given in favour of the other product (Bluetooth headphones) in the market. Nearly half of the subjects were willing to trade Bluetooth headphones/air pods for speakers because their decision was influenced by the anchor information.

▪ **Group I (no Anchor information) vs. Group III(Anchor information in favour of the device in endowment)**

75% of the subjects were not willing to trade in Group I and 72.73% of the subjects were not willing to trade in Group III. There was a very minimal percentage change of 2.27% between the two groups.

When anchor information was provided in favour of the product that the subjects already possessed (Bluetooth

speakers), the change in percentage of willingness to trade did not change much. This could be attributed to the fact that the subjects already valued their device more irrespective of the anchor, due to endowment effect.

▪ **Subgroup b**

The subjects were not given anchor information in Group I; they were given anchor information in favour of Bluetooth headphones/ air pods in Group II and anchor information in favour of Bluetooth speakers in Group III.

▪ **Group I (No Anchor information) vs. Group II (Anchor information in favour of Bluetooth headphones/ air pods)**

In Group I, 54.16% of the subjects preferred to buy Bluetooth headphones/ air pods, whereas in Group II, 76.92% preferred to buy Bluetooth headphones/ air pods. There was a significant percentage increase of 22.76%.

When the subjects did not own either of the devices, nearly half of them preferred Bluetooth headphones/air pods when no anchor information was given and when anchor information was given in favour of Bluetooth headphones/ air pods, more subjects wanted to buy it because they were influenced by the anchor and their purchase decision favoured Bluetooth headphones/ air pods.

▪ **Group I (No anchor information) vs. Group III (anchor information in favour of bluetooth speakers)**

In Group I, 45.84% of the subjects preferred to buy Bluetooth speakers, whereas in Group III, 71.43% preferred Bluetooth speakers. There was a significant percentage increase of 25.59%.

When the subjects did not own either of the devices, nearly half of them preferred Bluetooth speakers when no anchor information was given and when anchor information was given in favour of Bluetooth speakers, more subjects wanted to buy it because they were influenced by the anchor and their purchase decision favoured Bluetooth speakers

5. Conclusion

When subjects were asked if they are willing to trade the device in their endowment with similar devices in the market, a majority of them we not willing to trade the device they owned due to the pain of losing it and because they valued it more than similar devices available in the market. Hence, Willingness to trade changes when people are endowed with a certain product.

When subjects were asked if they were willing to trade the device in their endowment, after being provided with an anchor in favour of either one of the devices, their decisions were affected by the anchor information provided to them. Their decisions seemed to favour the device which the anchor information talked in favour, of. Hence, Anchor information causes variations in endowment decisions.

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