

## Revisiting the Endowment Effect: A Behavioural Economics Perspective

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### Abstract

This study investigates the presence of the endowment effect, quasi-endowment and status quo bias effect among university students, assessing their implications for the Coase Theorem. Using experimental and hypothetical scenarios administered via online surveys, the study measures asymmetry in willingness-to-accept (WTA) and willingness-to-pay (WTP), resistance to change in pre-assigned choices, and the psychological influence of temporary ownership. Results confirm a significant endowment effect: WTA consistently exceeded WTP for consumer goods like books and concert tickets, particularly among older male participants. Status quo bias was observed in exchange scenarios and budgeting choices, with 84.3% of participants preferring to retain initially assigned goods and many opting to maintain existing spending patterns despite environmental changes. The quasi-endowment effect showed mixed results; extended trials increased WTP for subscription services, while minimal exposure had negligible influence. These findings highlight systematic deviations from classical economic assumptions of rationality and fungibility. The influence of ownership, loss aversion, and reference dependence underscores the need for incorporating behavioral insights into economic models and public policy, particularly in contexts involving consumer valuation, compensation schemes, and market design.

**KeyWords:** Endowment Effect, Behavioural Economics, Willingness-to-pay, Willingness-to-accept, Status Quo Bias and Bilateral Bargaining.

### Introduction

Standard economic theory assumes that individuals are rational agents who make utility-maximizing decisions, and that the valuation of an object should be consistent regardless of whether a person owns it or not. Within this framework, a good's value is independent of the endowment status of the individual. However, behavioural economics challenges this assumption through the concept of the *endowment effect*, which describes a cognitive bias wherein people assign more value to goods merely because they own them (Thaler, 1980; Kahneman, Knetsch, & Thaler, 1990).

A familiar example is illustrative: consider an individual who has owned a bicycle since childhood. If someone offers to buy it, the owner may be reluctant to sell it, not because of its market value, but due to emotional attachment and the perception of loss. If the individual agrees to sell, the asking price is likely to exceed the buyer's offer. This asymmetry in WTA and WTP reflects *loss aversion*, a foundational concept in behavioural economics which states that losses loom larger than equivalent gains (Kahneman & Tversky, 1979).

The phenomenon was notably demonstrated by Kahneman et al. (1990), whose experiment at Cornell University involved distributing coffee mugs to some participants and then observing their reluctance to exchange the mugs for money or another item. Those who received the mugs required a significantly higher price to sell them than non-owners were willing to pay. This created a systematic WTA-WTP disparity, directly contradicting the predictions of the Coase Theorem (Coase, 1960), which argues that in the presence of clear property rights and negligible transaction costs, resource allocation will remain efficient irrespective of the initial ownership. However, if preferences are reference-dependent-as posited by behavioural theorists-then the Coase theorem fails to hold (Camerer & Loewenstein, 2004).

Several explanations for the endowment effect have been proposed. Ownership creates emotional attachment (Lerner, Small, & Loewenstein, 2004), increases psychological inertia (Gal, 2006), and causes individuals to be hesitant to transact on what they perceive to be unfavourable terms (Weaver & Frederick, 2012). Additionally, Shu and Peck (2011) argue that people perceive ownership as an extension of the self, thereby increasing the perceived value of possessions.

The endowment effect is also associated with the *status quo bias*, a tendency to prefer the current state over change, first studied by Samuelson and Zeckhauser (1988). Their research explains this bias through three mechanisms: rational decision-making under transaction costs, cognitive misperceptions such as anchoring and loss aversion, and psychological commitment, including sunk cost fallacies and regret avoidance. The *anchoring effect*-where an initial value becomes a reference point for future decisions-further supports these behaviours (Tversky & Kahneman, 1974).

Additionally, the *IKEA effect*, proposed by Norton, Mochon, and Ariely (2012), shows that individuals value products more highly when they have contributed to their creation. In a similar vein, Heyman, Orhun, and Ariely (2004) introduced the *quasi-endowment effect*, whereby individuals in online auctions overbid for items they do not yet own but to which they feel psychologically connected. This was demonstrated in online bidding scenarios where participants increased their bids over time, unable to relinquish the object due to an imagined sense of ownership.

Despite the growing literature in Western contexts, research on the endowment effect in India remains limited. One notable study by Anagol, Cole, and Sarkar (2018) investigated IPO lotteries in India, finding that recipients were more likely to retain randomly allocated shares, reflecting endowment-driven risk aversion. However, empirical studies on consumption goods, WTP-WTA disparity, and virtual ownership effects in India are scarce.

Therefore, the present study aims to investigate whether the endowment effect causes a significant divergence between WTP and WTA among Indian university students, and whether this undermines the assumptions of the Coase theorem. The study also explores gender and age group differences, the presence of status quo bias, and the implications of quasi-endowment effects in digital environments.

## Literature Review

The disparity between a consumer's WTP and WTA has been a central theme in behavioral economics, particularly in the context of the endowment effect. While early studies attributed this gap primarily to ownership, more recent literature has explored variations such as the IKEA effect, quasi-endowment, and psychological ownership, suggesting that even mere association can invoke valuation biases.

Strahilevitz and Loewenstein (1998) explored how prior ownership affects valuation and found that people demanded significantly higher prices for items they previously owned, even if they no longer possessed them. In contrast, current ownership duration had a marginal effect on selling prices, while the time since loss did not significantly influence valuation. Their findings indicate that the sense of loss can persist even after physical detachment from an object.

Lerner, Small, and Loewenstein (2004) examined the role of emotions in the endowment effect using film-induced mood variations. Sadness reversed the endowment effect by lowering selling prices, whereas disgust neutralized it entirely. Neutral conditions reaffirmed the original findings by Kahneman, Knetsch, and Thaler (1990), showing a consistent presence of the effect under emotionally neutral states.

Weaver and Frederick (2012) found that reference points, such as the context in which an item is offered (e.g., supermarket vs. movie theatre), significantly influence consumer valuation. This supports the idea that price expectations are anchored in situational contexts. Carmon and Ariely (2000) also demonstrated that sellers attach higher value to an item because of the perceived loss of associated benefits, rather than just market value. This was particularly evident in their NCAA basketball ticket experiment, where sellers priced tickets at nearly 14 times the buyers' offers.

Regret has been posited as a driver of WTA-WTP disparity. Knetsch and Sinden (1984) found that participants were reluctant to sell lottery tickets, likely due to fear of future regret. This was corroborated by Bar-Hillel and Neter (1996), who found that anticipated regret prevented participants from trading tickets, emphasizing the role of emotional forecasting in economic decisions.

Brown (2005) suggested that WTA-WTP disparities stem not from the endowment effect per se, but from loss aversion and transactional motives such as profit-seeking. Similarly, Simitizky, Liu, and Gneezy (2020) proposed a "Pay-to-Keep" model and found  $WTA > PTK > WTP$ , indicating that endowment valuations may reflect subjective attachment more than rational loss aversion.

Cultural factors also influence the endowment effect. Maddux et al. (2010) found that individuals with independent self-construals, common in Western societies, exhibited stronger endowment effects compared to those with interdependent identities, typical in Asian cultures.

Technological interfaces can also alter perceived ownership. Brasel and Gips (2014) discovered that touchscreen interfaces elicited higher WTA values than mouse or touchpad users, suggesting that tactile interaction fosters quasi-ownership. This aligns with Peck and Shu's (2009) findings that both physical touch and imaginative visualization of objects enhance perceived ownership. Their follow-

up study with Peck, Barger, and Webb (2013) found that haptic imagery—mental simulations of touch—could replicate the effects of real tactile experience.

The anchoring effect also plays a role in valuation judgments. Ariely et al. (2003) found that arbitrary anchors, such as the last two digits of a social security number, influenced willingness to pay. Participants with higher numbers bid significantly more, demonstrating that initial anchors shape future decisions. This effect was replicated in policy-oriented experiments by Bernecker (2014), who used mobile numbers to influence respondents' views on environmental spending.

Status quo bias is another cognitive distortion related to endowment. Shi et al. (2018) found that consumers remained loyal to specific smartphone brands due to cognitive lock-in and brand-specific learning. Yen and Chuang (2008) showed that emotional states influenced preference for the status quo, with happy individuals more likely to stick to prior choices. Li et al. (2009) extended this to financial decision-making, where negative emotions increased reluctance to switch investment options.

In conclusion, the literature demonstrates that the endowment effect is influenced not just by ownership, but by a complex interplay of emotions, cultural values, psychological associations, and contextual anchors. While much of this research originates from Western contexts, there remains a significant gap in the literature regarding cultural, age, and gender-specific influences, especially in non-Western countries like India. This study aims to address these gaps by exploring the endowment effect in a more diverse socio-cultural setting.

### **Methodology and Data**

The present study seeks to examine key behavioral economic phenomena—specifically, the endowment effect, status-quo bias, and quasi-endowment effect—within the context of Indian university students aged 18 to 28 years. The specific objectives of this research are:

1. To evaluate the endowment effect among university students by examining asymmetry in willingness-to-accept (WTA) and willingness-to-pay (WTP).
2. To investigate the presence and extent of status-quo bias in decision-making among university students.

The study adopts an experimental research design. Experimental scenarios simulate conditions of ownership and choice to evaluate decision-making biases. A purposive sampling technique was employed to select participants. The sample comprised 51 students aged between 18 and 28 years, representing various Indian universities; of these, 13 were male and 38 were female. The sample was selected based on availability and willingness to participate, consistent with non-probability sampling methods appropriate for exploratory behavioral research.

As the study was conducted using an online questionnaire (via Google Forms), no specific physical setting was required. This allowed for broad geographic participation across institutions. Participants were approached individually, briefed about the study, and encouraged to respond honestly. Confidentiality and anonymity were assured.

The questionnaire was structured into three sections to assess key behavioral economic biases. The first section focused on the **endowment effect**, where participants imagined being buyers or sellers of items (e.g., a book or concert ticket) and reported their WTP or WTA. It also included scenarios involving bilateral bargaining-where participants decided whether to trade an endowed object-and compensation versus mitigation preferences in hypothetical loss situations. The second section examined **status-quo bias**, evaluating choices related to maintaining existing conditions, such as budgeting or living arrangements. The final section assessed the **quasi-endowment effect**, where participants' WTP was measured after developing a sense of psychological ownership, particularly in situations involving price increases.

This structured design enabled the study to explore how ownership-real or imagined-and preference for the current state influence economic decision-making among university students. Simple descriptive statistics are used to interpret the status quo bias and endowment effect in decision-making, as they help summarize behavioral patterns and highlight deviations from rational choice theory.

## Results and Discussion

This section is divided into three parts to examine whether the endowment effect among university students violates the Coase Theorem. First part investigates the disparity between students' average WTP and WTA. Second part explores whether students exchange the objects initially assigned to them. Third part assess whether students opt for mitigation of a problem/replacement of a product over compensation.

### Willingness-to-accept (WTA) Vs Willingness-to-pay (WTP)

To examine the disparity between students' average WTP and WTA, participants were asked to assign monetary values to items such as a *Game of Thrones* book and a concert ticket. The study replicated the experimental design used by Kahneman et al. (1990, 1991), where individuals were randomly assigned roles as owners (sellers) or non-owners (buyers) of the same commodity. Consistent with previous findings, it was hypothesized that participants would assign higher values when acting as owners compared to when they were buyers. Additionally, the study compared responses across age groups to identify which group reported the highest WTP and WTA, with the expectation that students aged 23-28 would value the items more highly. A gender-based comparison was also conducted, with the assumption that male students would exhibit a higher WTP for both items.

**Table 1: Average WTP and WTA for *Game of Thrones* Book**

Category	N	Mean WTA (₹)	Mean WTP (₹)
<b>Overall</b>	51	315.68	297.76
<b>Gender-wise</b>			
Female	38	318.42	291.72
Male	13	307.69	315.38
<b>Age-group &amp; Gender-wise</b>			
Female (18–22 years)	18	280.15	295.24
Male (18–22 years)	7	340.81	286.73
Female (23–28 years)	20	352.85	288.57
Male (23–28 years)	6	269.04	300.81

The Table 1 presents a comparison between average WTA and WTP across gender and age groups for a consumer good (e.g., *Game of Thrones* book). Consistent with the *endowment effect* as discussed in Kahneman et al. (1990, individuals typically value an object more once they own it, resulting in higher WTA than WTP. This pattern is generally observed in the data, though with nuances across subgroups. On average, participants' WTA (₹315.68) exceeds their WTP (₹297.76), reflecting the endowment effect -a tendency to demand more to give up an item than they are willing to pay to acquire it. Female students reported a slightly higher WTA (₹318.42) than males (₹307.69), suggesting greater reluctance to part with the good. Interestingly, male students exhibited a higher WTP (₹315.38) than females (₹291.72), which is somewhat counter to standard findings and could suggest stronger preference intensity or market familiarity among male respondents. Among younger females (18–22), WTP (₹295.24) was close to their WTA (₹280.15), indicating a lower endowment effect and possibly less attachment or fewer ownership biases. For younger males (18–22), WTA (₹340.81) significantly exceeded WTP (₹286.73), showing a strong endowment effect, possibly due to overvaluation of owned goods or loss aversion. Among older females (23–28), a notable gap exists: WTA is ₹352.85 while WTP is ₹288.57. This aligns with behavioral insights that valuation gaps widen with age and experience, as older individuals may perceive the good as more meaningful or irreplaceable.

These patterns support the behavioral economics proposition that ownership increases subjective value. However, the age-gender interaction reveals that the endowment effect is not uniform-it may be influenced by familiarity, emotional attachment, and individual preferences, echoing insights from experimental literature on reference dependence and loss aversion.



Table 2: Average WTP and WTA for Concert Ticket

Category	N	Mean WTA (₹)	Mean WTP (₹)
<b>Overall</b>	51	2154.41	2055.88
<b>Gender-wise</b>			
Female	38	2167.76	2044.08
Male	13	2115.38	2090.38
<b>Age-group &amp; Gender-wise</b>			
Female (18–22 years)	18	2076.40	2041.67
Male (18–22 years)	7	1953.57	2017.85
Female (23–28 years)	20	2250.00	2106.25
Male (23–28 years)	6	2770.84	1875.00

The Table 2 presents the average WTA and WTP for a concert ticket among participants, disaggregated by gender and age. The average WTA (₹2154.41) slightly exceeds the average WTP (₹2055.88), suggesting the presence of a modest endowment effect—participants demand more to give up a ticket than they are willing to pay to acquire one. Both male and female students reported similar valuation patterns. Female participants had a marginally higher WTA (₹2167.76) and a slightly lower WTP (₹2044.08) than males (WTA = ₹2115.38, WTP = ₹2090.38). This indicates that gender differences in valuation were minimal in this context. Among younger participants (18–22 years), the difference between WTA and WTP was relatively small across both genders. Female students in this age group had a WTA of ₹2076.40 and a WTP of ₹2041.67, while males reported WTA at ₹1953.57 and WTP at ₹2017.85, indicating near symmetry and a weaker endowment effect. In contrast, among the older cohort (23–28 years), a clearer disparity emerges. Female participants continued to show a typical endowment pattern with WTA (₹2250.00) exceeding WTP (₹2106.25). Notably, male students in this group had a significantly higher WTA (₹2770.84) compared to a relatively lower WTP (₹1875.00), suggesting a stronger endowment effect possibly influenced by perceived ownership value or emotional attachment.

The findings reaffirm that WTA tends to exceed WTP, a hallmark of the endowment effect. However, the effect is more pronounced in older male participants, while younger participants of both genders display more aligned valuations. These results are consistent with behavioral insights on reference dependence and ownership-induced valuation differences.

#### Bilateral Bargaining Experiment and *Endowment Effect*

To examine the dynamics of bilateral bargaining, participants were presented with a hypothetical scenario in which they had to decide whether to exchange a book they were initially endowed with for another book of the same price or retain their original book. The experiment aimed to study the endowment effect, which reflects people's preference for keeping possessions they already have. Out of 51 participants, **43 (84.3%) chose not to exchange the book they were given**. This means that **most people preferred to keep their original item**, even though they had the option to switch.

This strong preference suggests that individuals tend to stick with what they already have-a **behavior known as the status quo bias**. Based on this high proportion, we can confidently say that people are **significantly more likely to stay with their initial choice**, rather than trade it for something else.

### Mitigation vs. Compensation: Evaluating Preferences in Loss Contexts

Participants were presented with a hypothetical dilemma: in order to prevent outsiders from dumping garbage in their neighborhood playground, they had to choose between two policies-(1) a permanent solution that would completely stop garbage dumping (mitigation), or (2) accepting a compensation of ₹5,00,000 while allowing the dumping to continue.

Behavioral economic theory predicts that individuals often favor the prevention of harm (mitigation) over monetary compensation due to *loss aversion*-the idea that people experience losses more intensely than equivalent gains. In this context, the continual dumping of garbage is perceived as a direct loss of environmental quality and community well-being, while the financial compensation may not psychologically offset this loss.

Consistent with this prediction, 46 out of 51 participants (90.2%) opted for mitigation rather than accepting the compensation. Thus, we conclude that people place greater value on eliminating a source of harm than receiving payment for enduring it. This aligns closely with the findings of Jacques (1991), which demonstrated similar preferences for harm prevention over monetary restitution.

A related experiment explored the role of the *endowment effect* by asking participants to imagine that a friend damaged an object they owned. They were then asked whether they would prefer a replacement of the exact item or financial compensation. Based on endowment theory, which suggests that people assign more value to items they possess simply because they own them, it was expected that participants would prefer replacement over compensation. This expectation is grounded in the concept that ownership creates a psychological attachment to the specific object, making an exact replacement more satisfying than a cash equivalent.

**Table 3: Preferences for Replacement over Compensation**

Object	N (Replacement)	% Choosing Replacement
Mug	38	<b>74.50%</b>
Notebook	31	<b>60.78%</b>
Chair	27	52.94%
Gift of Chocolates	26	51.00%
Sweater	25	49.01%
Laptop	15	<b>29.41%</b>

The experiment aimed to examine whether participants prefer **replacement** over **compensation** when personal items are damaged by a friend. The results varied considerably depending on the type of object in question. Notably, **74.5% of participants opted for replacement in the case of a**



**mug**, indicating a strong preference for recovering the exact item rather than receiving money. This behavior aligns with the **endowment effect**, which suggests that individuals assign more value to items they own simply because they own them (Kahneman, Knetsch, & Thaler, 1990). Mugs are often perceived as personal, sentimental objects-frequently associated with routines or emotions-which may intensify this effect and drive a strong replacement preference.

Similarly, **60.78% chose replacement for notebooks**, another item that often holds personal notes or unique use, reinforcing the importance of perceived non-monetary value. In contrast, objects like **chairs (52.94%)** and **gift chocolates (51%)** showed almost evenly split preferences, suggesting that the attachment to these items is weaker or more replaceable. These findings indicate that when the object lacks strong emotional or identity-related connections, individuals become more indifferent between replacement and compensation, consistent with the idea of **reference dependence** (Kahneman & Tversky, 1979), where the reference point (e.g., the specific item owned) only strongly influences choices when the item holds subjective significance.

Interestingly, **only 29.41% of participants chose replacement for a laptop**. These results may seem the low replacement preference for the laptop can be explained through **flexibility and opportunity cost** considerations. Laptops are high-value goods with many specifications; participants may have viewed compensation as a chance to upgrade or personalize their choice, making money more attractive than an identical replacement.

The experiment reveals that preferences between replacement and compensation depend on the emotional and functional value of the item. Participants strongly favored replacement for personal items like mugs and notebooks, reflecting the endowment effect. In contrast, preferences were more balanced for generic items and shifted toward compensation for high-value goods like laptops, suggesting practical considerations override sentimental attachment.

### Status Quo Bias among the Participants

**The study** explored the existence of *status quo bias*-the tendency for individuals to prefer maintaining their current state or decision rather than opting for change, even when change may offer equal or better outcomes (Samuelson & Zeckhauser, 1988). Participants were given a imaginary scenario in which they had to decide whether to maintain the same monthly grocery budget after relocating from **New Delhi to Mumbai**, or to spend more.

It was hypothesized that a significant majority would choose to maintain their existing budget, consistent with the prediction of status quo bias. Out of 51 participants, **27 students (52.94%)** chose to keep the same monthly budget. **This suggests a moderate presence of status quo bias**, as just over half preferred to stick with their existing spending pattern despite the change in location. The result indicates that individuals may exhibit inertia in financial decisions, favoring familiarity and consistency over potential adaptation or optimization.

In contrast, the **bilateral bargaining experiment** offered clearer evidence of status quo bias. Participants were asked whether they would exchange a book they were endowed with (*Harry Potter*) for another book of equal value (*Lord of the Rings*). Despite both books being priced

identically, **84.3% of participants (43 out of 51)** chose to keep the book they were initially given. We conclude that **participants significantly preferred the status quo**-that is, the object they already possessed.

This finding supports the **endowment effect**, a key behavioral insight where ownership increases perceived value, and contributes to status quo bias. The reluctance to exchange the book, despite identical value, reflects a cognitive bias favoring the familiar or initially endowed option, even when objectively equivalent alternatives exist. The status quo bias often arises due to **loss aversion**-the idea that potential losses loom larger than equivalent gains-which discourages individuals from switching from a current state to an alternative, even when no real disadvantage exists.

### Quasi-Endowment Effect among the Participants

The **quasi-endowment effect** refers to a behavioral bias where temporary or trial ownership of a good leads individuals to value it more highly, similar to the traditional endowment effect, even though full ownership has not yet occurred. This phenomenon suggests that merely experiencing or using a product can create a sense of psychological ownership, making individuals more likely to purchase or retain it.

To test for the presence of the quasi-endowment effect, **Study** included a series of hypothetical online buying and selling scenarios. In the **first experiment**, participants were asked whether they would purchase a **Netflix subscription** after receiving a **free three-month trial**. According to the theory, it was expected that a majority would choose to purchase the subscription, finding it difficult to part with the service after prolonged use. However, only **15 out of 51 participants (29.41%)** opted to buy the subscription. This result indicating **no evidence of a quasi-endowment effect** in this case. In a second experiment, participants imagined receiving a one-year free trial of Zee5, Voot, and SonyLiv with an Amazon Firestick and were asked if they would pay to continue the subscriptions. **32 out of 51 participants (62.75%)** chose to purchase the package, showing support for the **quasi-endowment effect**. The extended or long term trial and bundled format likely fostered **psychological ownership**, making participants more willing to retain access post-trial.

In a **third scenario**, respondents were asked whether they would buy an everyday item like a **dress or pen** from **Myntra or Amazon**, even if the price had **increased by ₹100**. The idea was to test if prior exposure (e.g., adding to cart or considering the item) would lead to purchase despite the higher cost-a behavioral marker of quasi-endowment. However, only **13 participants (25.5%)** chose to proceed with the purchase. The result indicated that **participants were not influenced by prior virtual attachment or psychological ownership**.

In summary, the findings provide **mixed evidence** for the quasi-endowment effect. While the second experiment showed support, likely due to long trial duration and bundling that fostered psychological ownership, the first and third scenarios showed **no significant effect**, suggesting that mere exposure or hypothetical consideration is insufficient. Thus, **context, duration, and perceived value** are critical in triggering quasi-endowment behavior.

## Conclusion

This study examined the behavioral dynamics of the endowment effect and status quo bias among university students, exploring their implications for the Coase Theorem. Across a series of experiments, the results consistently demonstrated that individuals assign greater subjective value to possessions they already hold, even when faced with equivalent alternatives or opportunities for trade. First, participants' WTA consistently exceeded WTP for both a book and concert ticket, confirming the presence of the endowment effect. This disparity varied across age and gender, with older participants-especially males-exhibiting a stronger valuation gap, likely due to emotional attachment and reference dependence. Second, in bilateral exchange scenarios, the overwhelming reluctance (84.3%) to trade identical goods further confirmed both the endowment effect and a strong status quo bias, highlighting individuals' preference for retaining their initial allocations. Third, participants showed a clear preference for replacement over compensation for personal items like mugs and notebooks, again reflecting ownership-induced valuation. However, this preference weakened for generic or high-value items like laptops, where practical considerations overrode sentimentality. The study also found mixed evidence of the quasi-endowment effect. While extended use and bundling (as in the streaming package case) induced psychological ownership, short trials or mere exposure did not elicit the same effect. Overall, these findings suggest that the endowment effect and status quo bias are pervasive, but context-sensitive. These behavioral tendencies present systematic deviations from the Coasean prediction of efficient exchange, underscoring the importance of psychological ownership and cognitive framing in economic decision-making. Therefore, the study suggests that the influence of ownership, loss aversion, and reference dependence underscores the need for incorporating behavioral insights into economic models and public policy, particularly in contexts involving consumer valuation, compensation schemes, and market design.

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