

# ST3188 COURSEWORK Nespresso Market Research Proposal

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# 1 Executive Summary

The purpose of this research is to help Nespresso maintain its position as a leader in the premium coffee market. Nespresso also cares about customer satisfaction with the services it provides and its results in terms of sustainability. Based on the client brief provided, there are three research aims expected to achieve:

- 1. Research on coffee drinkers' preference for new coffee blend and brewing technologies.
- 2. Identifying pain points experienced by customers (corporate and individual), related to product quality, packaging, and customer service.
- 3. Understand the perception of coffee drinkers on Nespresso sustainability initiatives on pods.

We will determine the research questions based on the research aims. We will do exploratory research by conducting an online focus group to gather information for descriptive research. An online questionnaire would be used in descriptive research to gather primary data needed for a final data analysis. We also propose the sampling methods used in the study and determine the sample size of Nespresso customers and non-Nespresso customers. We have also provided photos of an online questionnaire and some further suggestions for this study.

Statistical techniques used to analyse the data collected from the online questionnaire and interpret results from the analysis related to research aims. Cluster Analysis will be used to derive seasonal preferences of coffee blends and technologies. Multiple Linear Regression will be used to identify factors affecting overall satisfaction related to product quality, packaging, and customer service. Factor Analysis will be used to derive perceptions of Nespresso sustainability initiatives on pods.

In conclusion, our goal is to make useful recommendations for Nespresso based on the analysis to improve its products, services, and sustainability efforts. In order to achieve Nespresso's goal of growing market share in the premium coffee market, offering products that customers are interested in and understanding their perceptions are the key factors.

# 2 Background

Nespresso is owned by the Nestle Group. Nespresso is a brand of coffee capsules with machines and coffee related goods. Nespresso's philosophy is to use a simple way to allow everyone to brew a perfect cup of coffee and enjoy high-quality coffee. Nespresso was founded in 1986, the development of Nespresso's coffee products has changed many people's experiences of espresso. In order to maintain the aroma of coffee and provide customers with a wonderful coffee experience, Nespresso seals high-quality ground coffee in aluminium capsules (Nespresso, 2023). Nespresso wants to gain market share in the premium coffee market, but Nespresso has many competitors in the capsule market such as Keurig, Tassimo, and Maison Du Café (O'Connor, 2023), so Nespresso wants to provide more coffee blend options to prevent customers switching to competitors. Nespresso is concerned about a sustainable future and aims to have a greener future. Nespresso has always committed to sustainability which include responsible sourcing of coffee beans. Nespresso wants to reach net-zero emissions in the production of AAA green coffee by 2030 which will create a sustainable supply of the high-quality coffee (Decarbonisation, 2023). Nespresso is also committed to extend the life of materials by recycling and reusing pods, thereby shaping a waste-free future.

# 3 Problem Definition

Nespresso aims to maintain its leadership in the premium coffee market so need to develop more coffee related products. Nespresso can expand its market share by introducing new coffee blends and brewing systems. Nespresso may attract potential customers by offering more options that meet their satisfaction and retain customers by offering a better brewing system. To address this issue, the research problem focuses on understanding the preferences of coffee drinkers. In order to provide a better experience for customers, Nespresso wants to identify customer satisfaction to understand which areas need improvement or maintenance. To achieve this goal, Nespresso works to identify and solve customers' pain points related to product quality, packaging, and customer service. Improving the overall customer experience based on customer feedback can attract more customers and retain customers by providing them with services and products they prefer. Nespresso has made a lot of efforts in sustainable development in order to create sustainable products, so Nespresso wants to know the perceptions of coffee drinkers about the sustainability of the coffee pods. With this understanding, Nespresso can understand how each region views its efforts and plan strategies based on coffee drinkers' perceptions so that more coffee drinkers can respond to the sustainability of coffee pods, creating a greener future with lesser coffee pod waste.

# 4 Research Aims (RA)

Based on the client brief provided, there are three research aims expected to achieve:

- RA1: Research on coffee drinkers' preference for new coffee blend and brewing technologies.
- RA2: Identifying pain points experienced by customers (corporate and individual), related to product quality, packaging, and customer service.
- RA3: Understand the perception of coffee drinkers on Nespresso sustainability initiatives on pods.

# 5 Research Questions & Hypothesis (RQ & RH)

#### For RA1, the research questions are:

- RQ1.1: What are some seasonal preferences of new blends and brewing technologies?
   For RQ1.1, the research hypothesis is:
  - RH1.1: E.g. Cluster 1: Iced sweet coffee frappe for summer and pods auto replenishment.
- RQ1.2: What is the profile for each cluster?

For RQ1.2, the research hypothesis is:

• RH1.2: E.g. Profile in cluster 1 are people below 35 years old in Europe.

#### For RA2, the research questions are:

- RQ2.1: What are the significant factors affecting customer satisfaction?
  - For RQ2.1, the research hypothesis is:
    - RH2.1: The significant factors are coffee quality, pods quality and response speed (Green, 2021).
- RQ2.2: How much impact are each of these significant factors?
  - For RQ2.2, the research hypothesis is:
    - RH2.2: E.g. For individual customers, every one-point increase in coffee quality will increase the customer satisfaction by 5.2 points.
- RQ2.3: Is there a difference in overall satisfaction between corporate and individual customers?
   For RQ2.3, the research hypothesis is:

- RH2.3: The mean score for overall satisfaction is higher for corporates than individual customers.
- RQ2.4: What are some pain points in these significant factors?

For RQ2.4, the research hypothesis is:

RH2.4: Climate change will affect growth of coffee beans (Perfect Daily Grind, 2017)

#### For RA3, the research questions are:

 RQ3.1: Based on the perception of coffee drinkers, can the perceptions of these sustainability initiatives on pods be grouped into major components?

For RQ3.1, the research hypothesis is:

- RH3.1: The perceptions of these initiatives can be bundled into three factors and in line with the concept of Recycle, Reuse and Reduce.
- RQ3.2: Is there a difference in perception score for these categories between customers and non-customers?

For RQ3.2, the research hypothesis is:

- RH3.2: E.g. For Recycle and Reuse components, customers score much higher than non-customers.
- RQ3.3: Is there a difference in perception score for these components across the five geographic zones?

For RQ3.3, the research hypothesis is:

RH3.3: E.g. LATAM scored very low in Recycle component.

# 6 Addressing Nespresso's Business Objectives Through Market Research

Identifying the new coffee blends and brewing technologies that each cluster prefers (RH1.1) and determining the profiles of each group (RH1.2) allows Nespresso to better understand the needs of coffee drinkers. By understanding what is needed in the market, Nespresso is able to launch innovative products based on specific seasonal demands. Nespresso can introduce new and different products to different target markets to reach out to different coffee drinkers. For example, there is a cluster under the age of 35 in Europe who like to drink iced sweet coffee frappe during summer and like a machine with pods auto replenishment. Nespresso can produce pods and machines that meet the preferences

and recommend products through its website to target them. This allows Nespresso to attract more coffee drinkers to buy its products and keep existing customers, thereby growing its market share.

Understanding significant factors influencing customer satisfaction (RH2.1) – coffee quality, pods quality and response speed can provide a better experience for customers. If the hypothesis is validated, factors of overall customer satisfaction have a positive impact which indicates that as the rating of the factors increases, the overall customer satisfaction also increases (RH2.2). This will give Nespresso a clear understanding of customer experience levels. Identifying and resolving these pain points is crucial for Nespresso to improve overall customer satisfaction (RH2.4). Understanding the important factors that impact customer satisfaction for both corporate and individual customers can lead to a better enjoyable customer experience (RH2.3). This information is valuable in making product development and customer experience strategies decisions to maximize overall customer satisfaction.

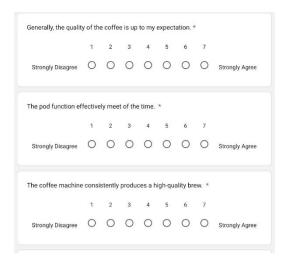
Sustainability of pods is the goal of Nespresso for commitment to environmental responsibility. The research hypothesis (RH3) provides insights into how sustainability initiatives are perceived, differentiating between customer and non-customer perceptions, and examining regional differences. Understanding why certain regions have responded less enthusiastically to the 3Rs can provide valuable insights for Nespresso. By exploring cultural and other factors and implementing targeted strategies, Nespresso can promote sustainable practices effectively. This insight is crucial for Nespresso to effectively communicate its commitment to sustainability, strengthen its brand image and attract environmentally conscious consumers.

# 7 Research Design

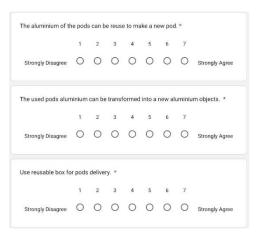
We will use exploratory and descriptive research methods to understand the perceptions of coffee drinkers. We want to gather new preferences of coffee blends from coffee drinkers by using exploratory research methods. Nespresso wants to find out the perceptions of coffee drinkers which require conclusive results, so we need to use a descriptive research method. We are not using causation research in this research as we do not need to prove cause and effect in whole research. Since we are targeting the whole world, the volume is large, so the online survey will be the most suitable. We use an online questionnaire to collect responses on the preferences of coffee drinkers for 4 seasons (Figure 1), pain points that affect overall satisfaction factors (Figure 2) and perceptions of the sustainability of Nespresso coffee pods (Figure 3).



(Figure 1: Example of Questionnaire Questions on seasonal preferences (Semantic Differential))



(Figure 2: Example of Questionnaire Questions on pain points that affect overall satisfaction factors (Likert Scale))



(Figure 3: Example of Questionnaire Questions on pods sustainability (Likert Scale))

We cannot capture the new preferences of coffee blends and machines from literature review so we must get ideas from customers and non-customers. We will do exploratory research by conducting an online focus group to explore and gather ideas into coffee drinkers' seasonal preferences for new coffee blends and brewing technologies. Therefore, only customers and non-customers participate in this survey. Using the semantic differential in RQ1, which aims to discover seasonal preferences of new blends and technologies.

We will use some exploratory research to explore overall customers satisfaction with using Nespresso. Using a Likert scale to explore customers' pain points related to product quality, packaging, and customer service (RQ2). Nespresso has corporate and individual customers, so both customers are required to participate in this survey. We can know what makes customers satisfied and what makes customers unhappy and improve from here. For example, the pod quality is one of the factors that unsatisfied customers. We will need geographic and demographic information of the customers to understand the pain points of pod quality faced by customers, but we assume that databases have this information, so we do not include it in the questionnaire.

We use a Likert scale to understand perceptions of coffee drinkers about pods sustainability (RQ3). We can ask customers and non-customers if they are aware of Nespresso's effort in pods sustainability. These perceptions can be used as variables to derive customer perceptions of sustainability. Based on perceptions of coffee drinkers, the initiatives can be divided into three factors, namely reuse, reduce, and recycle.

For descriptive research, online surveys may suffer from issues such as sampling bias and no access to the internet at certain locations. We still decided to use online surveys because this is a convenient and cost-effective way to reach out to more targeted people and make it easy for participants to respond online and instantly. We also consider quantitative observation techniques as a research method, but it lacks accuracy and is subject to researcher bias.

Nespresso customers and non-Nespresso customers are invited to participate in an online focus group discussion. Participants are invited via email, and they will receive information about the discussion topic and an allocated time schedule for their respective online sessions. Online focus group sessions provide a flexible platform for participants and are less time consuming compared to face-to-face interviews. Participants are more willing to participate in online focus groups as they could join the discussion at their own convenience. After participating in the focus group, participants will reward with additional gift cards as an incentive. To resolve potential research design errors, we have put in place 2 moderators for the focus group study to reduce any potential interviewer or participant errors and reduce the chance of non-response.

#### 8 Fieldwork & Data Collection

## 8.1 Sampling Methodology

Our online questionnaire target population is all the coffee drinkers who drink coffee regularly. The sampling frame is a list of email addresses of Nespresso and non-Nespresso coffee drinkers, which is provided by Nespresso's customer database and external access panel customer databases.

Probability sampling methods would be the most preferred sampling scheme since the sampling frame is easily obtained. This research design is most probably conclusive in nature. Hence, there is a necessity to use probability sampling.

The target population will be all coffee drinkers in the world so we could geographically cluster coffee drinkers based on the general election boundary. A cluster sampling can be adopted, treating each election cluster as a clustering scheme. In this method, Nespresso can randomly select regions (strata) and interview the selected coffee drinkers. This sampling method is easy to implement because the information of coffee drinkers is available in the database and allows us to obtain an appropriately segmented sample size. This method is also cost efficient and least time-consuming.

The non-probability sampling technique is ideal for qualitative research designs. Therefore, we use judgemental sampling to select the participants of the focus group and it is low cost and convenient to conduct.

#### 8.2 Sample Size Determination

We want to understand the coffee drinkers' preference for new coffee blends and brewing technologies by constructing a confidence interval to identify the size of each group with a particular preference. We propose a significance level of 5% ( $\alpha$  = 0.05), a precision level within  $\pm$  0.05 of the true population proportion (e = 0.05) and a proportion ( $\pi$ ) of 0.5 to get the largest sample size n value. We use the following formula to determine the sample size:

$$n \ge \frac{Z_{\alpha}^2 \left(\pi(1-\pi)\right)}{e^2}$$

$$n \ge \frac{1.96^2 \, (0.5(1-0.5))}{0.05^2} \approx 385$$

We also want to understand Nespresso customers' attitudes towards services and products provided by Nespresso by constructing a confidence interval to estimate average customer satisfaction related to product quality, packaging, and customer service. We propose a significant level of 5% ( $\alpha$  = 0.05), a worst-case scenario of precision level (e = 1) and a standard deviation of 20 ( $\sigma$  = 20) in which the overall satisfaction score is from 1 to 100 to get the sample size value.

$$n \ge \frac{Z_{\frac{\alpha}{2}}^2 \sigma^2}{e^2}$$

$$n \ge \frac{1.96^2 (20)^2}{1^2} \approx 1537$$

Based on the client brief, Nespresso would like to obtain a sample size of at least 5000 existing customers around the world. The sample size values are lower than the minimum suggested sample size of 5000 for Nespresso customers, so we can use 2021 Europe Nespresso market share of 41.93% (Nespresso Capsules Market, By Geography, 2023), the proportion of coffee drinkers at 12.6% (Wise, 2022) and assume a 15% response rate to the online questionnaire to calculate the appropriate sample size for Nespresso and non-Nespresso customers.

#### For non-Nespresso

Since Nespresso market share is 41.93%. So, it needs to have 58.07% of the responses from access panels.

Final Sample Size from access panel =  $0.5807 \times 5000 \approx 2904$ 

$$non-Nespresso = \frac{Final\ Sample\ Size\ of\ Access\ Panel}{Incidence\ Rate\ \times Completion\ Rate} = \frac{2904}{(0.126\ \times 0.5807)\times 0.15} \approx\ 264596$$

#### For Nespresso

Final Sample Size from access panel =  $0.4193 \times 5000 \approx 2093$ 

$$\textit{Nespresso} = \frac{\textit{Final Sample Size of Nespresso Customers}}{\textit{Incidence Rate} \times \textit{Completion Rate}} = \frac{2093}{1 \times 0.15} \approx 13954$$

Therefore, we would expect 264596 non-Nespresso customers and 13594 Nespresso customers to receive an online questionnaire by email to help complete the research proposal.

# 9 Data Analysis

#### 9.1 Cluster Analysis (CA)

We recommend using CA to address RQ1. The coffee features preferences for four seasons in the questionnaire will be used as variables in the CA model. We will cluster coffee drinkers based on their

preferences for coffee blends and technologies to derive main preference features of coffee. We use Hierarchical Clustering through the Ward's procedure to determine the number of clusters and cluster centroids. Ward's procedure generates clusters that minimise within-cluster variance. We first compute the means to form the cluster centroid and calculate the squared Euclidean distance to the cluster means. We combine the smallest increase in cluster variation. Agglomerative clustering presented by dendrogram which will group the more similar data point into a cluster and the gaps between different clusters will be far away from each other. We will examine the SPSS result for Agglomeration Schedule, Icicle, Dendrogram and Cluster Profile to indicate the number of clusters. We will conduct four CAs for four seasons, so that we can identify seasonal preferences which allow us to analyse and profile the cluster based on these seasonal preferences by using Ward's Method Table.

#### 9.2 Multiple Linear Regression (MLR)

To address RQ2, we recommend using MLR. Factors that affecting overall satisfaction will be used as independent variables in the MLR. We can explore variables with scatter plots to describe the relationship between dependent and independent variables.

```
Overall \ \widehat{Satis} faction
= \beta_0 + \beta_1(Coffee\ Quality) + \beta_2(Pod\ Quality) + \beta_3(Machine\ Quality) + \beta_4(Packaging\ Convenience) + \beta_5(Transportation\ Protection) + \beta_6(Time\ of\ Response) + \beta_7(Website\ Usability) + \beta_8(Ordering\ Convenience) + \beta_9(Delivery\ Condition)
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Judging from the beta coefficients, we can know which variable is more important. The strength of the association is measured by coefficient of determination,  $R^2$ , which allow us to observe how well the factors fit into model. An overall F test is conducted to determine the association is significant at  $\alpha$  = 0.05 to show the significance of predicting customers' overall satisfaction based on the independent variables by conduct a MLR analysis.

An individual t test is conducted to determine which specific coefficients are different from zero, which is to test the coefficients are significant. When the t test of an independent variable is not significant, we should remove variable with highest p-value and rerun the model. The remaining significant variables are the significant factors that affecting customer satisfaction.

#### 9.3 Factor Analysis (FA)

We recommend using factor analysis to address RQ3. Perceptions of Nespresso sustainability initiatives on pods from the questionnaire will be used as variables in the FA model. FA is appropriate in the case with high correlations between small p-values, KMO statistic > 0.5 indicate that the correlations can

be explained by other variables, Bartlett's test of sphericity is significant, indicating that the population correlation matrix is not an identity matrix and Communalities are high for all variables.

Using criterion of eigenvalues > 1, cumulative percentage of variance explained > 60% and scree plot can determine number of factors. From the conclusion of these criterion, we can conclude that the number of factors determined is the major perceptions.

We can know which variables have higher correlation with which factors from Rotated Component Matrix table. Therefore, we can name the perceptions that is highly correlated to component 1 as 'Reuse' and similarly, the perceptions are highly correlated with component 2 and 3 can be names as 'Reduce' and 'Recycle'.

#### 9.4 ANOVA

For RQ3, we intend to analyse whether the Reusing, Reducing and Recycling rating score are the same across the five geographic zones, so we propose a one-way ANOVA to address this question. The hypothesis is the mean score across all regions are equal. The independent variable is zones, and the dependent variable is recycling score. From F test, a p-value < 0.05 and eta-square value can indicate that the test is significant. Therefore, we use one-way ANOVA for reusing and reducing to find out is there any significant differences as well.

#### 9.5 Independent t-test

For RH2.3 and RH3.2, we intend to analyse respectively, whether the overall satisfaction scores of corporate and individual customers are the same and whether customers and non-customers have the same perception of pods sustainability. From t-test statistic and p-value < 0.05 can indicate that there is a significant difference in overall satisfaction or perceptions between the two groups.

## 10 Further Research

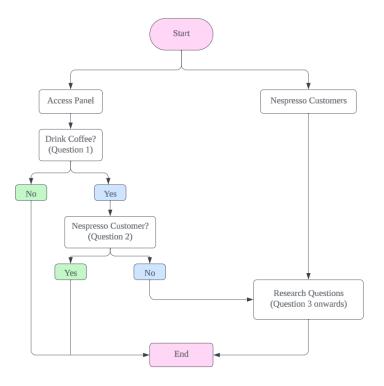
There are still some suggestions for improving Nespresso research. We can consider conducting a longitudinal study to track changes in customer preferences for coffee blends and brewing technologies, pain points related to product quality, packaging and customer service and perceptions on pods sustainability over time. This approach would provide a deeper understanding of the changing trends and behaviours of Nespresso customers.

# 11 Conclusion

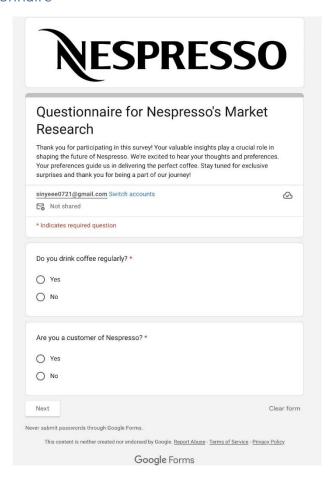
In this research proposal, we have identified 3 main issues Nespresso is considering, mainly product innovation, customer satisfaction and perceptions of the pod sustainability. We have determined that the information above is the relevant information Nespresso needs. This will help Nespresso enhance its brand image and thereby expand its market.

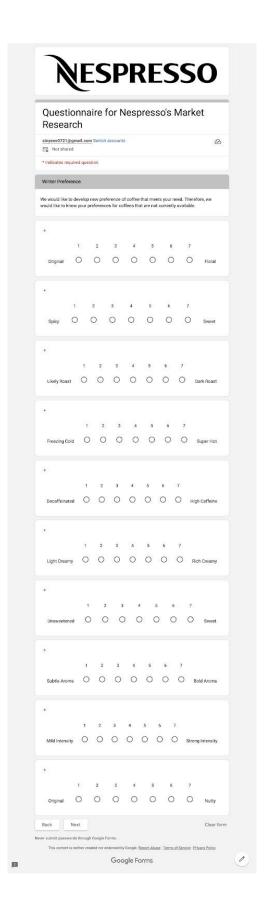
# 12 Questionnaire

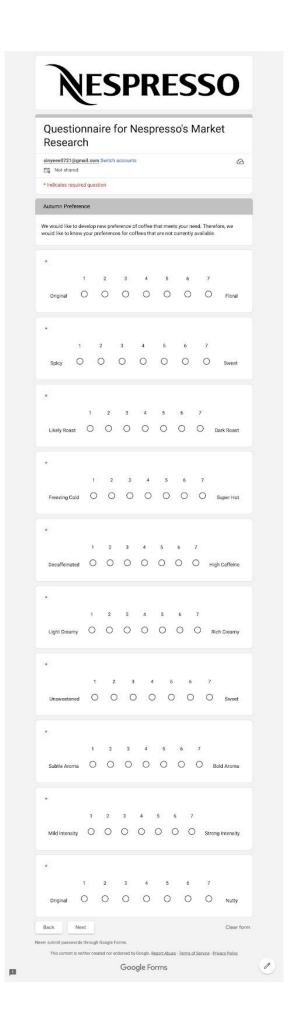
## 12.1 Questionnaire Flow Chart

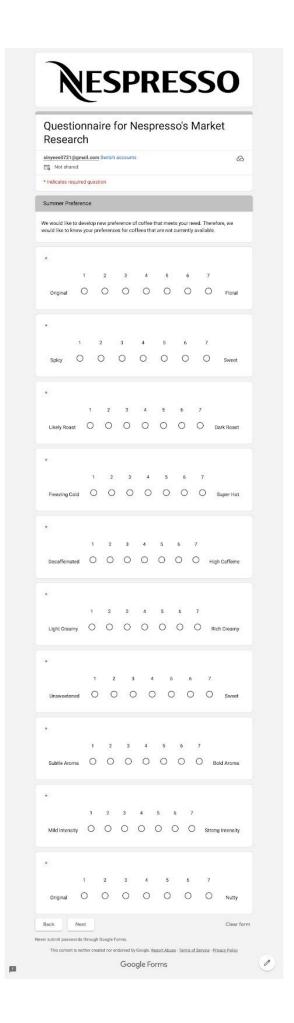


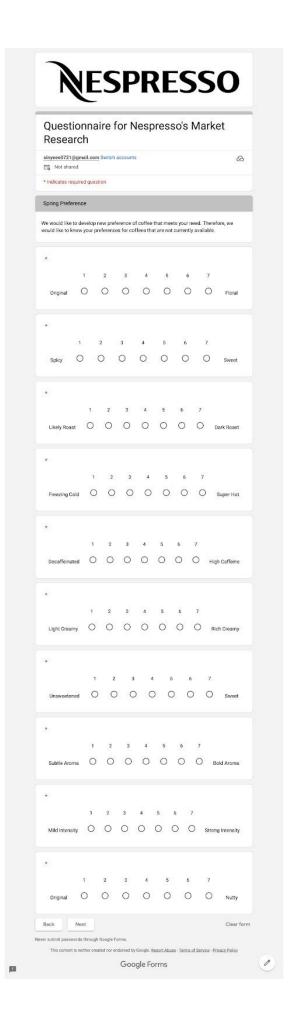
## 12.2 Online Questionnaire















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