

**COMPARATIVE INFLUENCE OF E-WORD OF MOUTH AND PROFESSIONAL
REVIEWS OF RESTAURANTS ON PERCEIVED QUALITY: FOCUS ON
TRIPADVISOR AND THE MICHELIN GUIDE.**

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Abstract

The following experiment will explain in detail how a causal exploratory research can be conducted to assess matters related to the food and beverage industry. This research will try to show the impact of recommendation from both e-word of mouth and professional reviews on restaurant's perceived quality. The case study will focus on the two leader of their category: Tripadvisor and the Michelin Guide. The thesis will discuss the pertinence of this type of review, the impact they have on restaurants and how they affect customer behaviour. The research presents a scientific interest since it can be useful to understand customer thinking and to some extent help restaurant redirect their global strategy. Few experiments have been conducted in this field and it can help clarify the impact and the future of both e-word of mouth and professional reviews. This thesis is customers oriented and is not focus on a peer-to-peer review. I will first establish a literature review on the essays and authors who wrote about this subject and will then proceed to an experience involving test subjects in order to discuss this matters and highlight, as I expect, effective conclusions about the future of food criticism and its impact.

Key words

e-word of mouth – quality perception- Michelin Guide- Trip Advisor – restaurant professional food critic – menu – online review – recommendation

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Comparative influence of e-word of mouth and professional reviews of restaurants on perceived quality: focus on Trip Advisor and the Michelin Guide.

The objective of this Master thesis is to investigate the impact of e-word of mouth¹ compared to professional's reviews on perceived quality of restaurants. With the overabundance of online reviews, the professional food critics are endangered. The globalization and democratization of the culinary criticisms on the internet created a growing interest for food (and cooking) making everyone a food critic. Combined with the emergence of customer's voice through Internet platforms, the food and beverage industry has been directly concerned by this new exposition. Customers felt free to express themselves and restaurants couldn't ignore unsatisfied guests. When in the past professional reviews (e.g.; Michelin Guide, Gault & Millau) seemed to be directed to an elite, the online review website (e.g.; Tripadvisor, Yelp) address to every food suppliers; frequently leaving restaurants owners under the pressure of subjective appreciation.

Customer's behaviour changed, choosing a restaurant is no longer a fortuitous act but the result of a previous evaluation. Easy access and admitted reliability of those reviews (supposedly reflecting an honest point of view) clearly threaten the professional critics subjected to a paper format and sometimes criticized for biased choices. However, the food critics haven't disappeared and the trustworthiness of online reviews is more and more doubted (especially by

¹ definition e-World of mouth: " The e-WOM or electronic word of mouth is any comment made by a customer for a brand, product or service that is available to other clients and or organizations via the Internet (D. Lee, Kim, & Kim, 2012)"

professionals of the industry tired of the constant pressure and “amateurs” contestable judgments).

In any cases, those reviews (professional or not) clearly have an impact on a restaurant frequentation and it seems interesting to investigate their role on perceived quality. For this research, the focus will be on analysing the influence of Trip Advisor compared to the Michelin guide on customer perceived quality (prior to the experience itself). The goal is to observe if a Trip Advisor Certificate of Excellence or a Michelin star affects customer’s quality perception and see if one has a stronger impact than the other.

Literature Review

1 - The impact of reviews on restaurants

The impact of reviews, professional or not, definitely seems to impact directly restaurants owners. In our everyday life, we see that chefs tend to look towards professional reviews (e.g.; Michelin Guide, Gault and Millau) to get recognition from their “peers”. However, with Internet giving a new voice to the customers, it appears that online and professional reviews are not always on the same page. In any case, both have a strong impact on restaurants and create a “stress” for chefs and owners.

a- Focus on the Michelin Guide

In “Stardust over Paris Gastronomic Restaurants” (O. Gergaudy, L. Montano Guzmanz and V. Verardix , 2006) the importance of professional reviews relies on the fact that “simple” customers cannot identify all the information as they provide. According to their mind, the plus-value of those reviews is much bigger than the online reviews. Therefore, a professional review, should be seem as an impartial, more complete reviews allowing the customers to choose wisely. « In gastronomy expertise plays an important role since it provides information, at a reasonable cast, that could not be identified solely by customers » ” (O. Gergaudy, L. Montano Guzmanz and V. Verardix , 2006). If the Michelin Guide is internationally known and recognize, a certain disavowal is starting to emerge. Some Chefs are refusing stars (e.g.; Joel Robuchon, Alain Senderens) because of the stress it creates and the customers seem faraway from the world of the Hight gastronomy. In fact, however their claim, it seems that the Michelin Stars are not only granted because of the quality of the food. In fact, O. Gergaudy, L. Montano Guzmanz and V.

Verardix (2006) observe that the Michelin guide also tends to give more positive reviews to restaurants placed in wealthy neighbourhoods. This implies that clients see the Michelin Guide as an indicator for wealthy people, and could create a gap between different classes of customers. In addition to those statements, the Michelin guide is also more expensive than the other guides (25% higher) and allows restaurants that have good reviews to increase their prices by 8%. To finish with, when a restaurant gets good reviews or a star, the average prices in the neighbourhood increase, regardless the area they are located in and the quality of the restaurant. Hence, if the reviews from the Michelin Guide give more (supposedly) more “rich” reviews it certainly refers to a certain image of luxury and exclusive dinning. However the critics on the Michel Guide, the idea behind our studies is to test if, in fact, this image still has a grasp on the customers and how strong this grasp is in comparison of the e-word of mouth reviews.

b- E-word of mouth expansion

According to Michael Blanding theories based on the analyses of Yelp (2011), each rating stars added to a restaurant’s review, increases its revenues from 5 to 9%. The study shows that the local restaurants are the most focused on by online reviews, as they had fewer in the past. The online reviews gave restaurants owner a direct connection with their customers. Now, many restaurants take the time to answer to reviews (especially the bad ones) in order to let customers know that they pay attention to their opinions. Due to this trend, chain restaurants are more and more forsaken. We observe that the online reviews range is much wider than the traditional one, and that it is much more useful for the restaurant itself, without stating that a restaurant’s rating is necessarily relevant on those websites. The online reviews represent an “exit strategy”

(Hansen et al., 2005) for the customers. They have the possibility to leave the restaurant without giving any feedback and express themselves (positively or not) online. If this new way of communication is supposedly helpful for the customers it can be dreadful for the restaurant owners: « These reviews have the potential to enhance or detract from a brand and, consequently, to impact on a firm's reputation » (Sparks, B. A. & Browning, V., 2011).

Without any valuable source of information about who is writing a review, restaurants can be under anybody's judgment, rightful or not. If "Yelp is somewhat a substitute for traditional forms of reputation" it seems that "Chain restaurants are much less affected by ratings than local restaurants, because of the advertising chain restaurants benefited from". (Michael Blanding, 2011). Therefore, online reviews definitely have an impact on restaurant reputation and price, but when brand image comes along this effect seems to fade.

c – Democratization of food critics

In the studies "A "democratization" of Markets? Online Consumer Reviews in the Restaurant Industry" (K. Mellet, T. Beauvisage, J. Beuscart, and M. Trespeuch, 2014), we understand that review websites contribute to the democratization of restaurant criticism. The research tends to explain that Internet is a new source of information for the customers and that the ratings are now from different origins, which makes them more relevant. "The first is the abundance and diversity of human expression available to anyone, anywhere, in a way that was not feasible in the mass-mediated environment. The second, and more fundamental, is that anyone can be a publisher, including individuals" (K. Mellet, T. Beauvisage, J. Beuscart, and M. Trespeuch, 2014). The idea is that Internet improves the criticism, by integrating democratic

ideologies that spread worldwide and avoid one-sided points of view, was already established by Fergusson (1998) and Johnston and Baumann (2007). In larger context, Zukin (2004) established that “the history of American consumption is a process of democratization”.

According to those theories, mass criticism expands along with the technical innovations and consumer goods. In contrary, Gould (1989, 2004), argues that democratic opinions should not only apply to politics but also to the social and economic life.

In the case of Trip Advisor, Gould (1989, 2004) implies that the public sphere is now allowed to express and creates a new player in the food criticism’s world, which will be called the “democratization-as-participation”. Such statement will be important in our tests and studies because of the involvement and perception of the customer’s towards this new way to express food criticism.

Blank (2007) states that food criticism is now separated in two groups:

- The Connoisseur reviews, where the customers rely on a well-experienced professional to acquire a point of view on food and restaurants.
- The “Procedural” reviews, where they let other “normal” customers modify their perception. The plus value in those reviews is indeed the absence of involvement of big companies and the objectification of qualities, which is induced by the plurality of opinions.

To summarize those fought, the question between food criticism and its efficiency to reach people is: “why is this assessment credible?” (Blank, 2007). The studies are focusing on websites

including Trip Advisor but also traditional reviews such as Michelin. It is interesting to note that Michelin also has a participative guide on Internet, but much less known. They gathered information during one year (from April 2012 to March 2013) and the scores are as follows: Trip Advisor registered and reviewed 32,213 restaurants for a total of 338,722 reviewers online, and the Michelin professional review gathered 4,180 restaurants with only one reviewer each.

Highlighting of those studies, due to the width of the Trip Advisor's scope, and what we already said about the perception of the customers, online reviews should have more impact on the customers than the Michelin Guide on not so well experienced restaurant customers.

However, the apparent supremacies 'of online reviews is starting to be question. In various studies, the impact of the review seems lower in the presence of certain factors. Indeed, a regular customer will be less affected by negative reviews (Vermeulen & Seegers, 2009). The credibility of the reviews itself is also in doubt. When Cheung and Thadani point out the "credibility and trustworthiness of the comments' originator" (2011), Kim, Kim and Park suggest that customers have a tendency to trust the firm website more than other customers opinions (2010).

Indeed, we can clearly say that e-word of mouth has a strong influence on customers purchasing behaviour (Brown, Broderick & Lee, 2007), but to some extent it's also has it's limits.

Therefore, more than questioning the theoretical "value" of professional food critics and online review, our study will have to assess the actual impact of those critics in customers mind.

2 – Brand image effects on quality perception

Our experiment will have to measure the impact of a recommendation on customers' quality perception of a restaurant menu. In our study, the recommendation can be seen as a brand on a product (the menu).

In an article spread through the Journal of Applied Psychology, Jacob Jacoby, Jerry C. Olson and Rafael A. Haddock (1971) are focusing on the relation between price, brand image and quality perception. They are using a 2X2X2X3 factorial experiment to prove that those factors are related on a 136 adults male drinkers sample. (« cf. Cox, 1967 »).

The study shows that the customer's choice is always made under certain environmental pressures. Those pressures are uncertainly fluctuating and the customer is relying on little amount of signals to determine their choice and their perception of the product's quality (« cf. Cox, 1967 »). Their variables will be price, product characteristics (e.g., taste, aroma, colour), packaging, brand, advertising, word of mouth reports and past purchase experiments.

In this experiment, we see that the price is a quality indicator when there is no other signal (e.g., brand, composition) on the product: "price is a powerful piece of information for the consumer.... Since price is concrete and measurable, the consumer views it with much confidence. He trusts it more than most cues concerned with quality" (Shapiro, 1968). But, price becomes irrelevant if the brand, or in this case the beer's composition, is marked on the bottle. Hence, price appears as a strong indicator, only when the other indicators are held constant (Scitovsky, 1967; Enis and Strafford, 1969).

In addition, we observe that the brand's image had a significant correlation with the beer's perception if the company had a good culture and was associated with positive actions.

The research also proved that the customer could distinguish brands based on the beers composition (meaning the taste and aroma). During this experience, it clearly appears that price was irrelevant, when other factors fluctuate, to determine the customers quality perception; but also that the brand image could act as a self-fulfilling current.

In this perception, the results are given that the price and brand image are somewhat confounded. The idea that people use cues even when they haven't got any predictive significations (Blum and Naylor, 1968) is also validated by the research.

These studies are especially interesting for our experiment since the variables could easily be related: the recommendations, either by e-word of mouth or professional reviews, are brands and should imply a significant change of behaviour towards the different menus. Specifically because customers will rely on visual signals to build their own perception, regardless of the product composition itself. Furthermore, those researches enable us to put price aside in our experiment; which will help us to clearly measure the brand image without having confusing price information.

3 – Evaluating quality perception

a- The direct impact of recommendation on purchase intention

To assess customer's quality perception, we need to define characteristics, key elements, which could help us build our research.

The first one we can look into is the purchase intention. The impact of online reviews on purchase intention has been clearly established (Fiske, 1993; Smith, Bolton and Wagner, 1999; Papathanassis and Knolle, 2010). While positive reviews “contribute significantly to an increase in hotel booking” (Ye, Law and Gu, 2009), the impact of negative reviews is less clear.

Studying the impact of online reviews on hotel booking Sparks, B. A. & Browning, V. (2011) identified 4 key aspects to assess the impact of e-word of mouth on customers decision making and purchase behaviour:

- core functional attributes (e.g.; service offered by the staff)
- Over valence of the reviews available
- Valence of the information presented first (positive or negative)
- Easy understandable information (numerical grade)

The analysis of those aspects shows that if negative reviews have a stronger impact than positive reviews. Good reviews increase booking but less strongly than a negative review. On the contrary if the negative reviews are not presented first, they will have less impact (Sparks, B. A. & Browning, V., 2011). As well, negative reviews” have a lower impact on a consumer's behaviour — particularly when that consumer is already familiar with the service provider.” (Vermeulen & Seegers, 2009).

In any cases, those aspects allow firms to better understand how online reviews impact customers purchase behaviour. Hence, decoding “consumer choice is vital to further understanding the relationship between online customer reviews and business performance” (Ye, Law & Gu, 2009).

Regarding our research, it seems logical that the buying intention will be one aspect to assess quality perception.

b- The prevalence of food quality

When it comes to assess quality perception for a restaurant, the study of Stevens, Knutson & Patton (1995) based on two models are usually used: SERVQUAL (service quality) and DINESERV (dining service). However, research through e-word of mouth grading system tends to indicate otherwise (Teresa Tiago et al. 2015). If those models rely on a combination of multiple criteria to assess quality, the research on user-generated content (UGC), allows us to reduce those factors and focus on one: food. In the analysis of UGC it appears that “overall food quality is the most decisive variable adopted in the UGC “ (Teresa Tiago et al. 2015). The idea that food is at the centre of online reviews was already stated in Jo and Oh (2011) research. In fact food related comments are those who prevail when comes to grade restaurant online. This interest of the customers for the food is particularly relevant in our research as could help us to better understand what is most important for them. It will guide us to focus on a key element that will be representative of quality perception in the eye of the consumers.

4- Research question and hypothesis

The literature review helped us to clearly establish the impact of both professional and online reviews. Even though they are questioned for their credibility or their elitist nature, it is undeniable that they take part in a restaurant financial stability and longevity. Additionally, it seems that the democratization of e-word of mouth makes of online the new most valuable player when it comes to food critic.

Based on our research, we saw that price should be taken aside of our analysis in order to focus on the influence of the recommendation. As well, SERVQUAL or DINESERV model don't seem relevant as the perception quality is prior to our experiment and some aspects prevail when it comes to e-word of mouth (food). Then, it seems coherent to use two key elements to assess customer quality perception: intention to purchase (or will to eat in the restaurant) and food appreciation (or level of cooking expected).

Therefore, the research question can be asked as such: Did e-word of mouth have become a stronger reference than professional critics on customer's quality perception?

The first hypothesis is that both professional and online reviews (Trip Advisor) have a positive impact on a menu quality perception. The second hypothesis is that Trip Advisor has a stronger impact than The Michelin Guide.

Methods and Research Design

1- Theoretical Research Design

In order to conduct this research, three main constructs are identified: e-word of mouth (Trip Advisor certificate of excellence), professional's critics (Michelin star) and perceived quality. A qualitative causal research seem adapted to this case. We are looking at the effect of two constructs on a third one. The model can be represented as such:

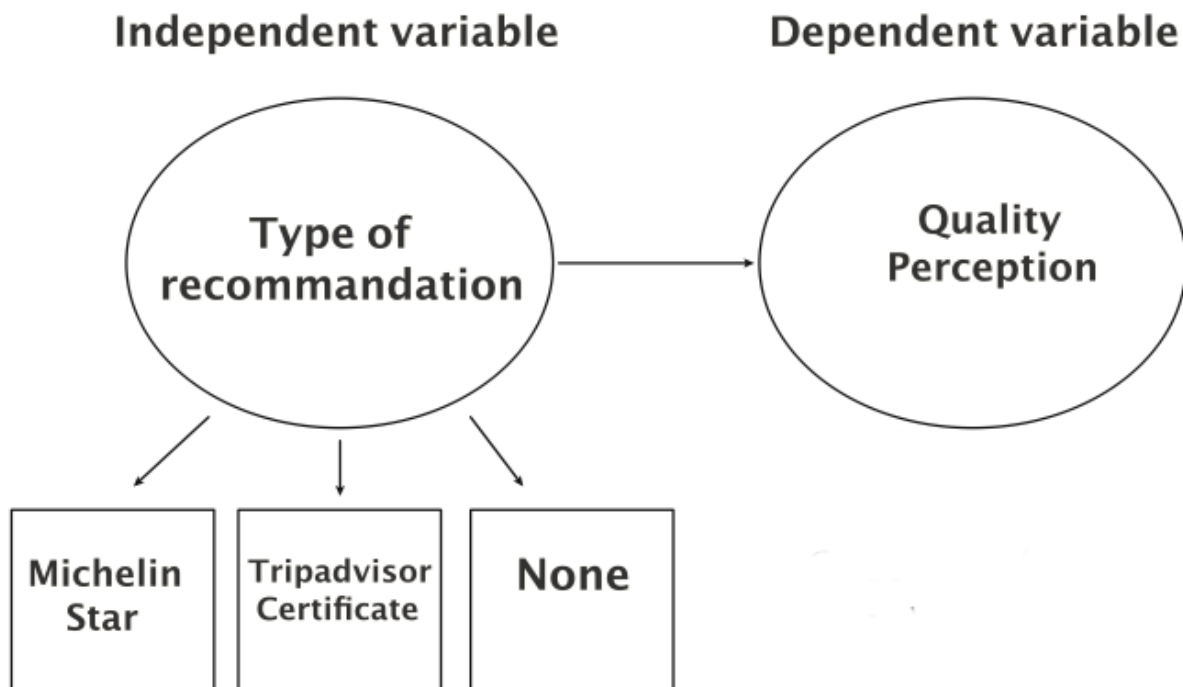


Table 1 : Research Design

It is a 1x3x1x1 design with one independent categorical variable with 3 levels (3 groups) and one numerical dependent variable (scale).

To conduct this exploratory research, an experiment is design. The idea is to submit participants to different menus showcasing (or not) a Trip Advisor recommendation (Certificate of Excellence) and a Michelin Guide recommendation (mention : “Selected by the Michelin Guide”).

The experiment will present 3 different scenarios and will be tested on 150 respondents (average of 50 respondents per scenario). Each respondent will have to answers a series of question, with two questions highlighting our two criteria to evaluate quality perception: intention of purchase and expect quality of the food. The idea is to avoid bias by making the test not too obvious. The respondent should not see that the recommendation is the key element of the questionnaire. Therefore, each group of respondent will be submitting to the same questionnaire with the same menu, but with a different type of recommendation (Michelin Guide, Trip Advisor, None). We want to observe if the recommendation impact positively quality perception and if one has a stronger impact than the other. The scenarios can be summarize as follow:

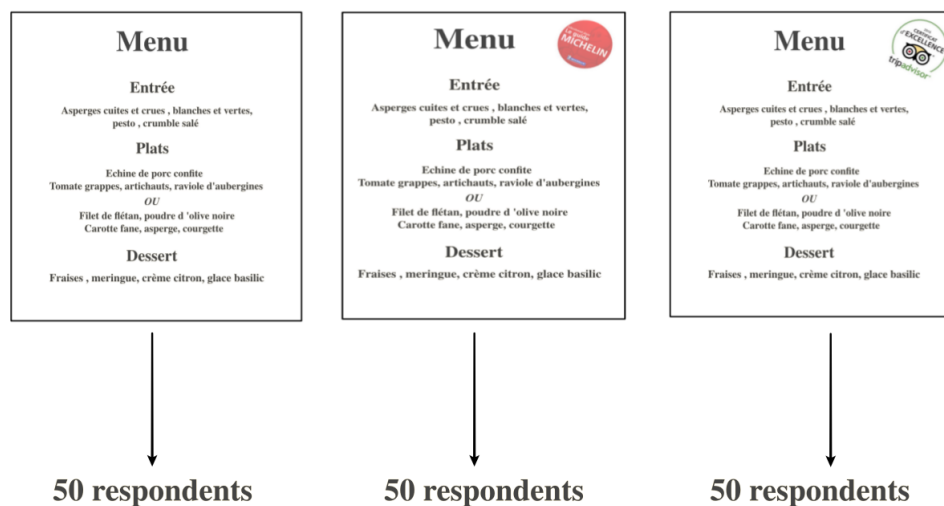


Table 2 : Experiment Design

The Menu has been design in order to limit the influence that other factors could have on quality perception. The layout is very simple, black and white, and shows no sign of particular visual attractiveness such as colour, drawing or specific design. As well the content of the menu is average using middle price ingredients and stating only the ingredients without any descriptive labels. Indeed, 4 types of descriptive labels (geographic, affective, sensory, brand) “improve perception of quality and value” (Wansink and al, 2001). In our study we only want the customers to be influence by the recommendation (assimilate as brand image). We want to se the level of trust that the recommendation can induce and witch one stimulates it’s the most. The relation between trust and quality perception seems important in our study since the test is an evaluation of quality perception prior to the actual experience. Indeed, it has already been establish “that trust in a firm positively affects purchase intentions “ (Sichtmann, 2007; Comegys, Hannula and Väisänen 2009).

2 - Experiments setting

a- sample

To conduct the experiment, the 3 questionnaires were spread through 3 French Business School in the area of Lyon. The goal was to obtain independent but identical samples in order to diminished as much as possible the effect of other factors (e.g.; social classes, age, profession). The students seemed to be a relevant target for the experiment as they are both familiar with e-word of mouth and represent the future customers of restaurants. As such it seem interesting to get grasp on what the next generation of restaurants customers will sensible to.

b- Questions

The First questions asked were meant to determine and to refine the sample's population and have and idea of their profile: the subject's sex, age, status (e.g.; student, employee), the area of study/work (e.g.; finance, gastronomy, marketing)..

Then the restaurant menu is presented, which included, depending on the test, a recommendation from the Michelin guide, Trip Advisor or none. To avoid bias, we asked several questions regarding the gastronomy: the level of cooking expected (expected quality of the food), the willingness to go (intention of purchase) in the restaurant and their interest for gastronomy in general, if they often go in restaurants and how do they select restaurant. The title of the questionnaire was "Attractiveness of a restaurant Menu". The idea was to not let them focus on the recommendations that they normally see easily thanks to the display of the menu. In those question we found or two criteria to assess quality perception. The respondent had to grade on a scale from 1 to 6 (basic to gastronomic food) and 1 to 5 (don't want to go in the restaurant to will definitely go). Those two questions were the crucial ones for our experiment since they will help

us to determine quality perceptions in regards of the type of recommendations. The other questions (general or regarding gastronomy) were generally interesting and could be valuable information to run other test and see if those factors influence the grading (see the difference inside the groups) and if they are correlated. However, it is not the subject of our experiment who is focusing on the differences between the groups and the impact of those groups only on quality perception. All the results of the questionnaires are display in the Appendix 1.

Finally, we asked if they seen a recommendation on the menu. This last question is our fact checker, to verify that the respondents acknowledge the presence (or not) of a recommendation.

c- Data analysis method

The data will be analysed with a one-way ANOVA test. Indeed, this test is used to conduct a comparison of means across more than two independent (separate) groups. In our test we have a dependent variable (quality perception) and on independent variable (type of recommendation) separated in 3 groups (Michelin Guide, Trip Advisor, Neutral). The one-way ANOVA test, therefore, seems to be relevant for us. We would like to see if there are any differences between the type of recommendations groups and their perception of quality.

Results

In regard of our research, we established that our experiment would define if e-word of mouth has become a stronger reference than professional critics on customer's quality perception? Based on the analysis of previous studies, we formulate two hypotheses:

H1: both professional and online reviews have a positive impact on a menu quality perception.

H2: Trip advisor have a stronger impact than The Michelin Guide on a menu perception quality.

To analyse the data, we first took of the answers where the fact checker question was not answered correctly (e.g.; "yes I saw a recommendation on the menu " when there was not, and the opposite). Then, we combine the scores of the level of cooking expected question (scale 1 to 6) and the score of the willingness to go to the restaurant question (scale 1 to 5). For each group (recommendation type) we now have a quality perception scores (from 2 to 11) combining the scores of expected food quality and purchase intention. The one-way ANOVA test can be run.

ANOVA (Quality Perception) :

Source	DDL	Sum of Square	Mean Square	F	Pr > F (Sig.)
Model	2	103,420	51,710	16,455	< 0,0001
Error	159	499,647	3,142		
Total (corrected)	161	603,068			

Table 3 : ANOVA Test

A one-way ANOVA test was used to test quality perception differences among three groups categorized by 3 types of recommendation (Michelin Guide, Trip Advisor, Neutral). We observe that quality perception differed significantly depending of the type of recommendation ($F(2,16) = 16,45, p < 0,0001$). It analysis will therefore have a significance to explain the outcomes.

Type of Recommendation / Tukey (HSD) /

Analyses of the differences between the categories with a confidence interval of 95% (Quality Perception) :

Contrast	Difference	stand. Difference	Critical value	Pr > Diff (Sig.)	Significant
MICH vs NONE	1,813	5,459	2,366	< 0,0001	Yes
MICH vs TRIP	0,384	1,101	2,366	0,515	No
TRIP vs NONE	1,429	4,131	2,366	0,000	Yes
Tukey's d critical value :			3,346		

Category	LS means	Standard error	Lower Bound (95%)	Upper Bound (95%)	Groups
MICH	6,571	0,237	6,104	7,039	A
TRIP	6,188	0,256	5,682	6,693	A
NONE	4,759	0,233	4,299	5,218	B

Table 4 : Tukey (HSD) comparisons

Tukey (HSD) post-hoc comparisons of the three groups indicates that the group with no recommendation (NONE) have a significantly lower quality perception scores than the Michelin Guide group (MICH) ($p < 0,001$) and the Trip Advisor group (TRIP) ($p < 0,001$). In addition we see that the difference between the Michelin Guide group and the Trip advisor group is not significant ($p = 0,515$). Therefore, even though the Michelin Guide has a slightly higher perception quality scores, we cannot conclude it has a stronger impact on quality perception than Trip Advisor (cf table).

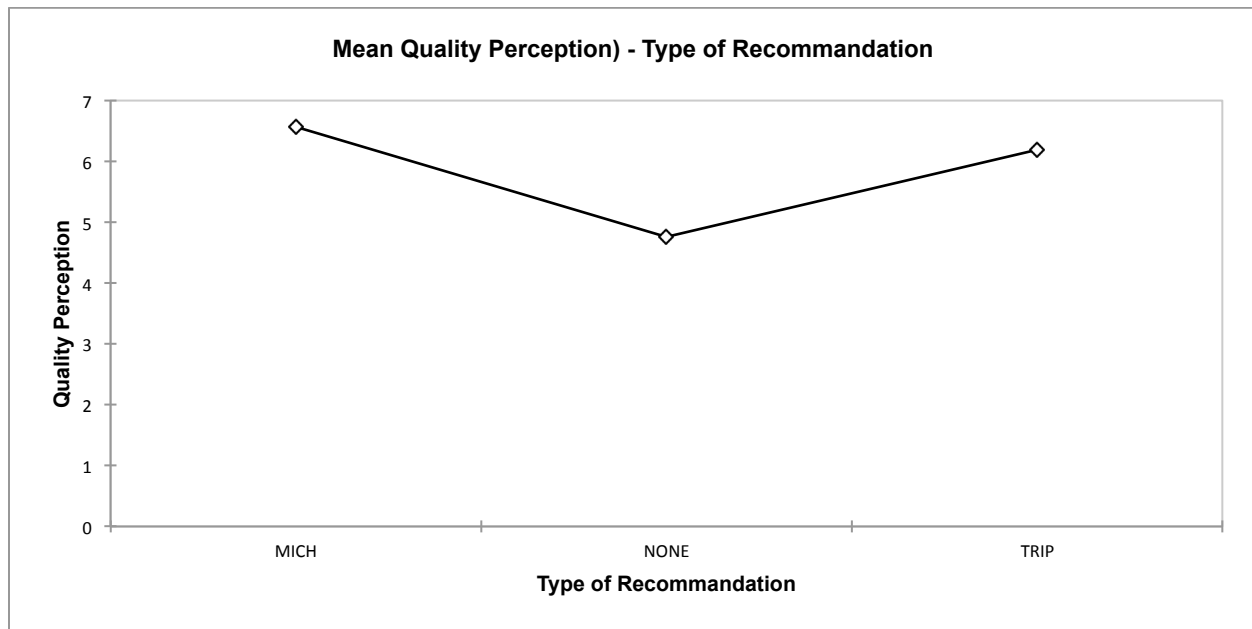


Table 5 : Compared Means

Based on those observations, we can say that H1 is confirmed: both recommendations significantly increase positively customer's quality perception of a restaurant menu (prior to the actual experience). However, H2 is not: we cannot say that Trip advisor have a stronger significant positive impact than the Michelin guide on customers quality perception of a restaurant menu.

All the results of the ANOVA test and the in depth Tukey (HSV) are displayed in the Appendix

2.

Discussion

Based the results of the experiments, we observe that despite the previous studies leading us to believe that e-word of mouth will now have a stronger impact than professional critics (e.g.; bigger scope, unbiased reviews, quantity of reviews) it seems that they do not inspire trust (regarding quality perception) more than professional reviews. In fact, the Michelin Guide group even have a slightly higher quality perception mean than the Trip Advisor group. This made us believe that despite their apparent obsolete format (e.g.; paper, reserve to an elite) the professional reviews will still have relevance in the future. In fact, they might just need to take time to adjust to this new environment of food critic to re-affirm their expertise.

In another hand, trying other variables can also use our model of quality perception evaluation. If we decide here to test differences between the three groups, it might be interesting in further research to examine the variable inside the groups. For example, it might be relevant to test if the general interest for gastronomy of the respondent has impact on their appreciation of the type of recommendation. As well it can be helpful for restaurant to know what type of population is sensible to recommendation and which one. In any cases, trying to better understand customers, either their decisions processes when selecting a restaurants or the trust they put in recommendations, is a valuable information for restaurant's owners who which to grow with their environment.

In addition, we noticed in the questionnaires answers, that when ask how they select a restaurant an average of 58,5 % of the respondents say they use word of mouth (not e-word of mouth). Therefore it seems to be a good subject of research to see if e-word of mouth has a stronger impact than traditional word of mouth. Because when it seems that a lot of restaurant are concern

with online reviews they might lose sight of what actually influence customers in their restaurant selection process. Without drawing any firm conclusion, it looks like customers still have a tendency to find recommendation from a friend or someone they know more reliable or trustworthy.

Conclusion

In definitive, our study allowed us to scientifically prove that a recommendation either by an e-word mouth website (Trip Advisor) or a professional reviewer critic (Michelin Guide) has a positive effect on a menu quality perception (of customers prior to the experience). This helps us to better understand how potential customers select a restaurant and how a recommendation can influence their decision. If the impact of e-word of mouth has been widely explore, comparative studies between e-word of mouth reviews and professional reviews are less documented. It was then both interesting and relevant to study this subject and we believe that other research can be conduct. In fact, two main subjects seem particularly appropriate. First, if we took of the price of the equation on our experiment, it could be significant to see if a type of recommendation has a stronger impact than the other on price versus quality perception. In addition, it will be stimulating to see if after the experience, the type of recommendation impact customer's quality perception. Define if eating in a restaurant either recommended by Trip advisor or the Michelin Guide influences customer's general experience and so their quality perception.

In any case, we established that (prior to the experience) both professional reviews and online reviews have the same positive impact on a menu quality perception. If Trip Advisor appears as the most well-known e-word of mouth website and that the interaction among the customers is still increasing in a fast paste, the professional reviews of the Michelin Guide still have the same impact on client's quality perception and has the ability to give advices that traditional customers can't reach by themselves.

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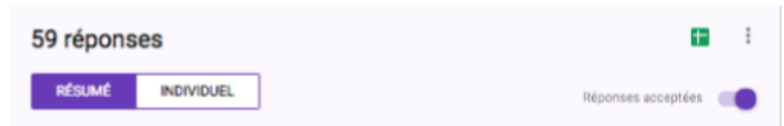
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Appendix

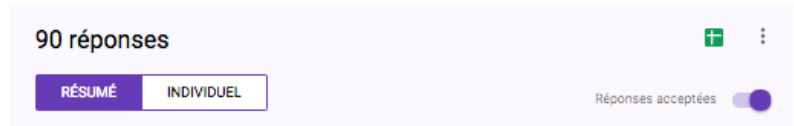
1- Questionnaires Answers

Number of answers

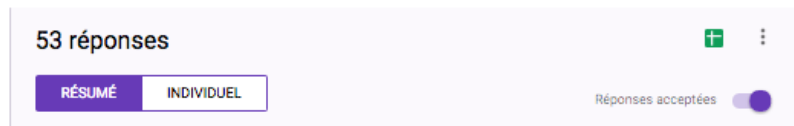
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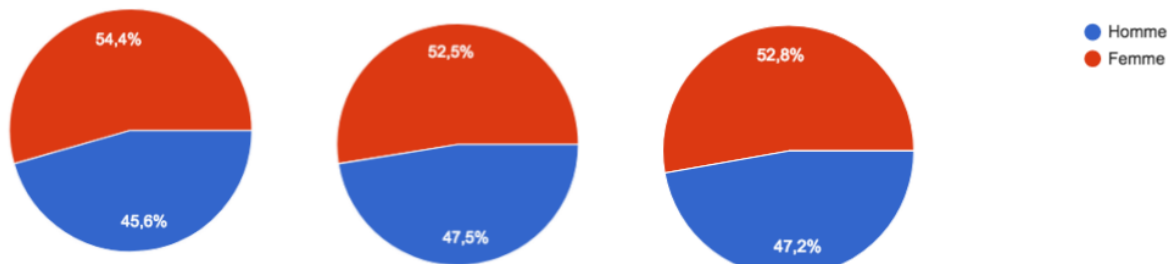
Michelin Guide



Trip Advisor



Gender

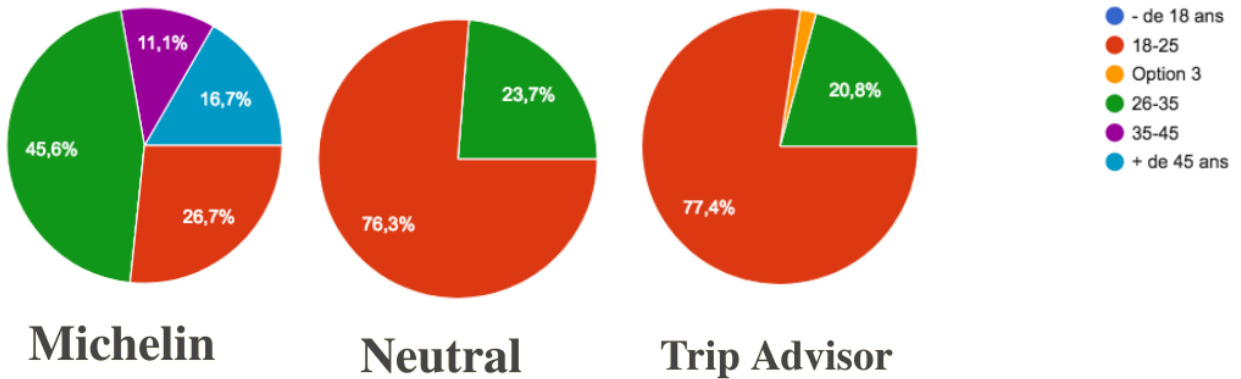


Michelin

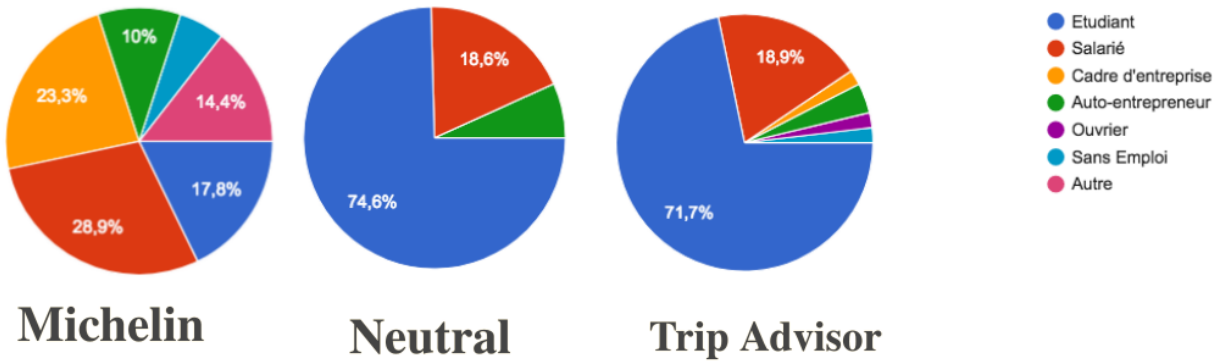
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Trip Advisor

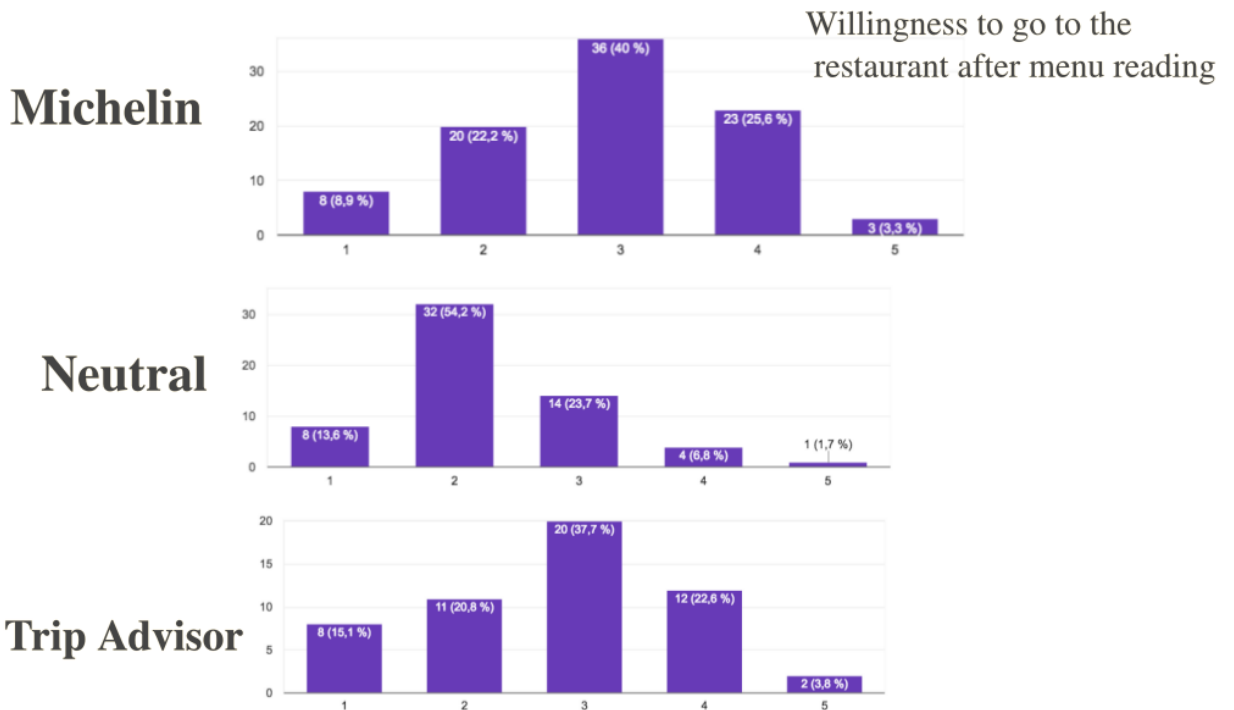
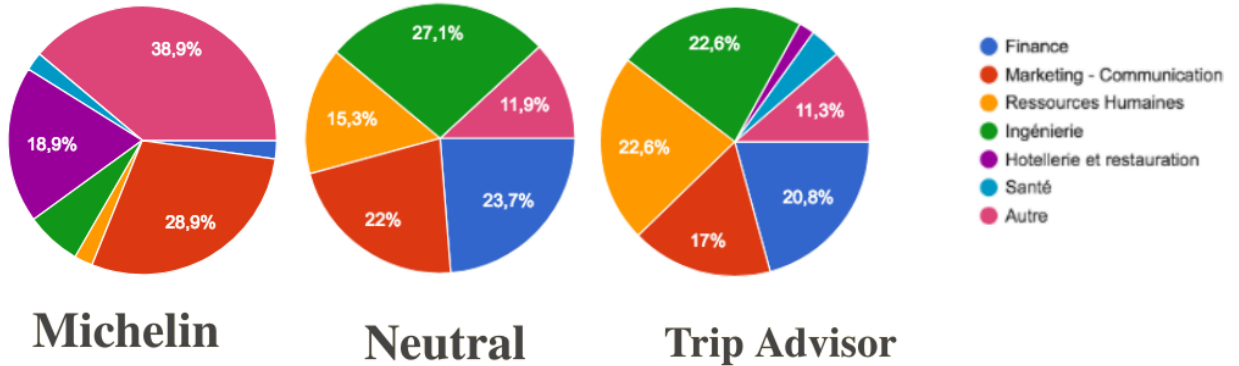
Age



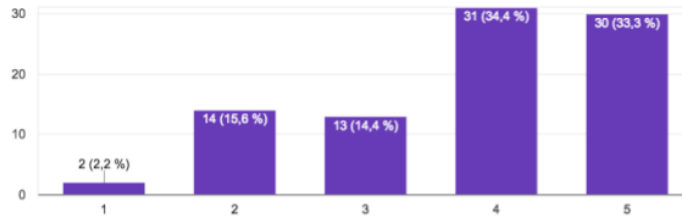
Status



Field of study / Work

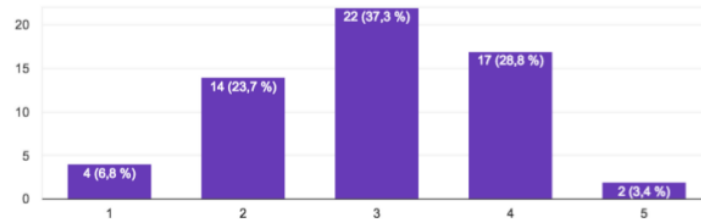


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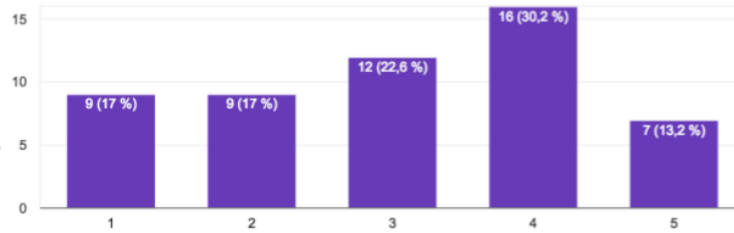


General Interest in gastronomy

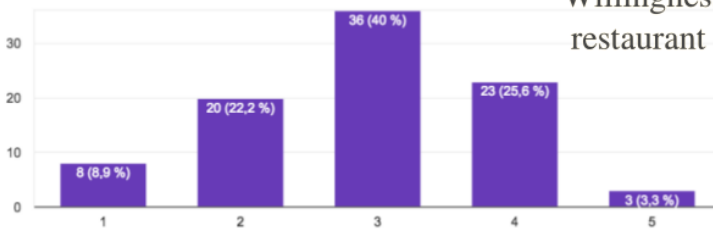
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Trip Advisor

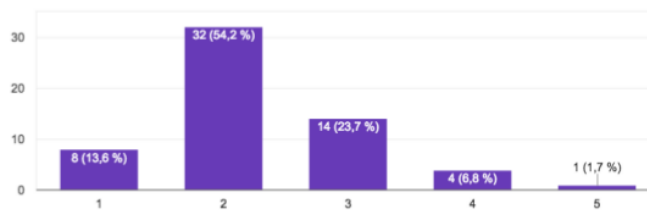


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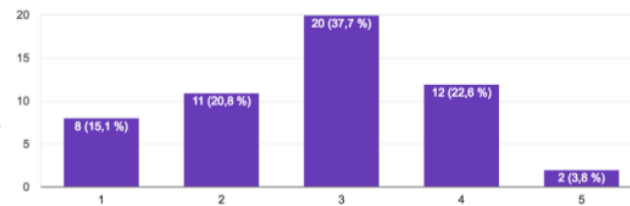


Willingness to go to the restaurant after menu reading

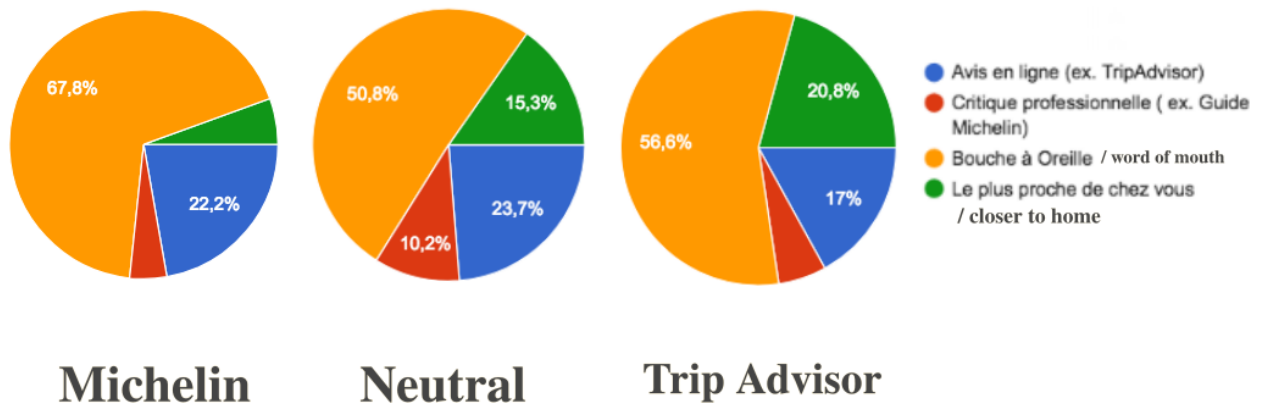
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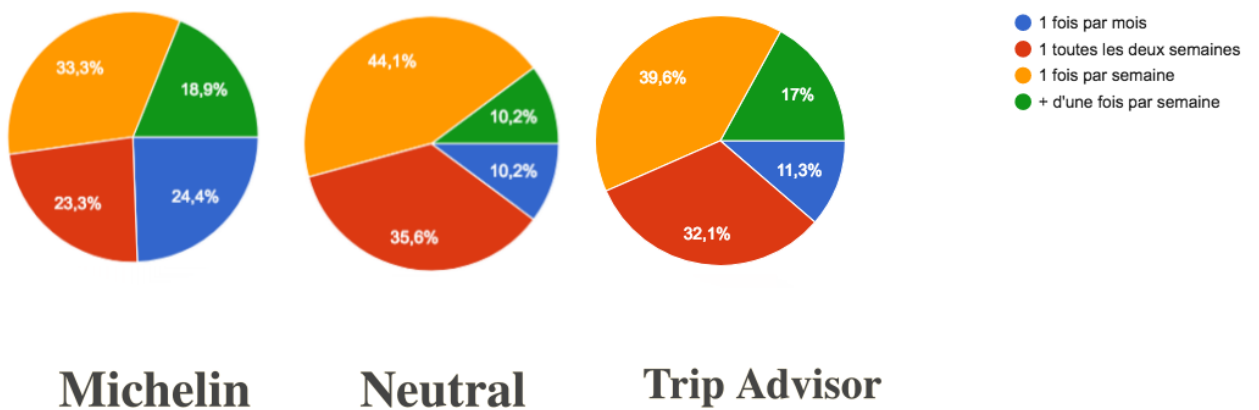
Trip Advisor



Way to select a restaurant

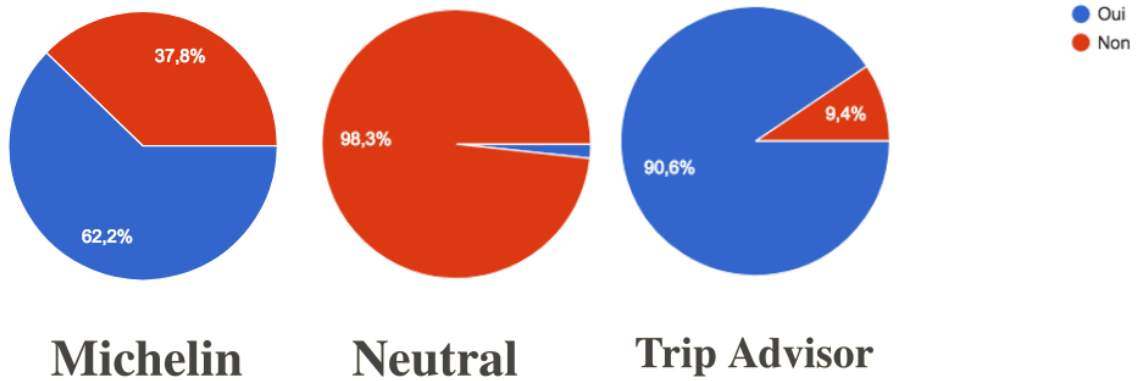


Frequency to eat in a restaurant



Fact Checker

("Did you see a recommendation on the menu")



2- In depth data Analysis : one-way ANOVA with Pariwise comparisons through Tukey's Test.

XLSTAT 2017.03.44850 - ANOVA -

Y / Dependent Variables : Classeur = Données-Mémoire (1).xlsx / Feuille =

Quality Perception per groups / Plage = 'Quality Perception per groups'!\$B\$1:\$B\$163 / 162 lignes et 1 colonne

X / Qualitatives : Classeur = Données-Mémoire (1).xlsx / Feuille = Quality Perception per groups / Plage = 'Quality Perception per groups'!\$A\$1:\$A\$163 / 162 lignes et 1 colonne

Constraints : an

Confidence Interval (%) : 95

Tolerance : 0,0001

Use LS Means : Oui

Relancer :

Summary statistics (Quantitatives data) :

Variable	Observation	sec données manq	sans données manqua	Minimum	Maximum	Moyenne	Ecart-type
Quality Perception	162	0	162	2,000	11,000	5,809	1,935

Summary statistics (Qualitatives data) :

Variable	Modalités	Comptages	Effectifs	%
Type of Recommendation	MICH	56	56	34,568
	NONE	58	58	35,802
	TRIP	48	48	29,630

Correlation Matrix :

	Type of Recommendation	Type of Recommendation	Type of Recommendation	Quality Perception
Type of Recommendation-MICH	1	-0,543	-0,472	0,287
Type of Recommendation-NONE	-0,543	1	-0,485	-0,406
Type of Recommendation-TRIP	-0,472	-0,485	1	0,127
Quality Perception	0,287	-0,406	0,127	1

Regression of variable Quality Perception :

Goodness of fit statistics (Quality Perception) :

Observations	162,000
Somme des poids	162,000
DDL	159,000
R ²	0,171
R ² ajusté	0,161
MCE	3,142
RMCE	1,773
MAPE	27,392
DW	1,840
Cp	3,000
AIC	188,462
SBC	197,724
PC	0,860

ANOVA (Quality Perception) :

Source	DDL	Sum of Square	Mean Square	F	Pr > F (Sig.)
Model	2	103,420	51,710	16,455	< 0,0001
Error	159	499,647	3,142		
Total (corrected)	161	603,068			

Compute against model Y=Mean(Y)

Model Parameters (Quality Perception) :

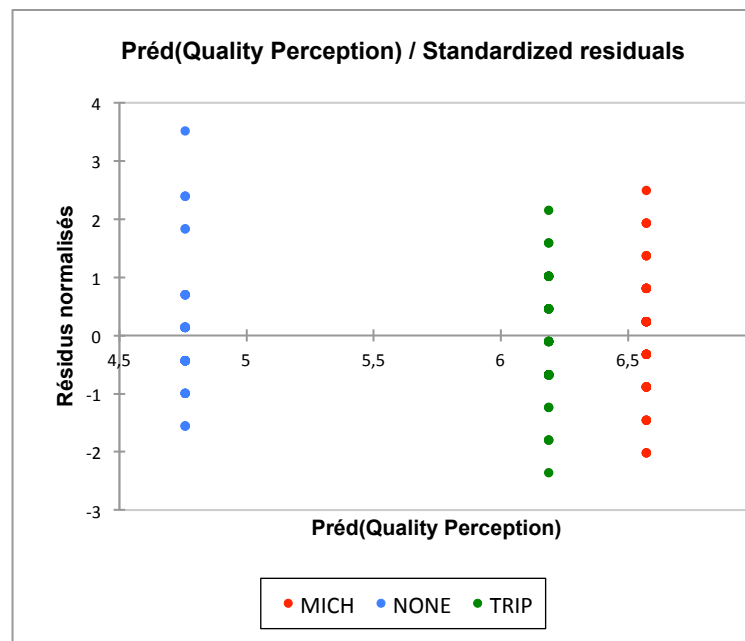
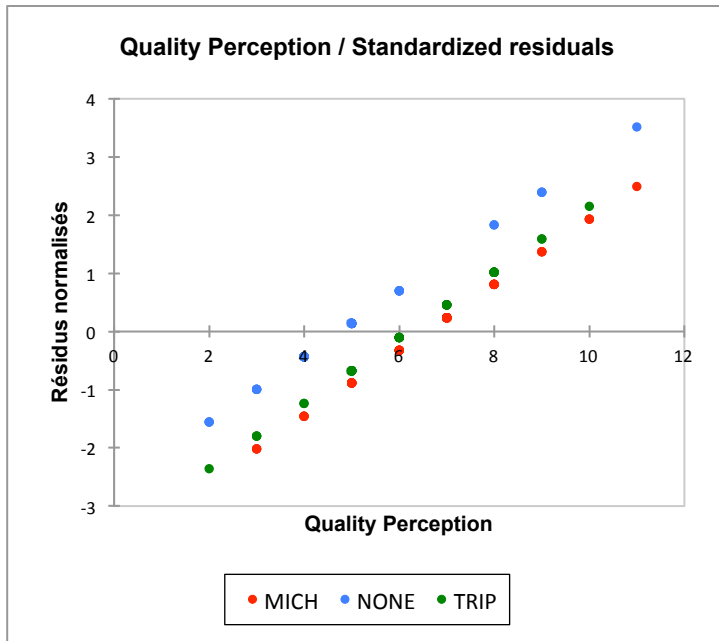
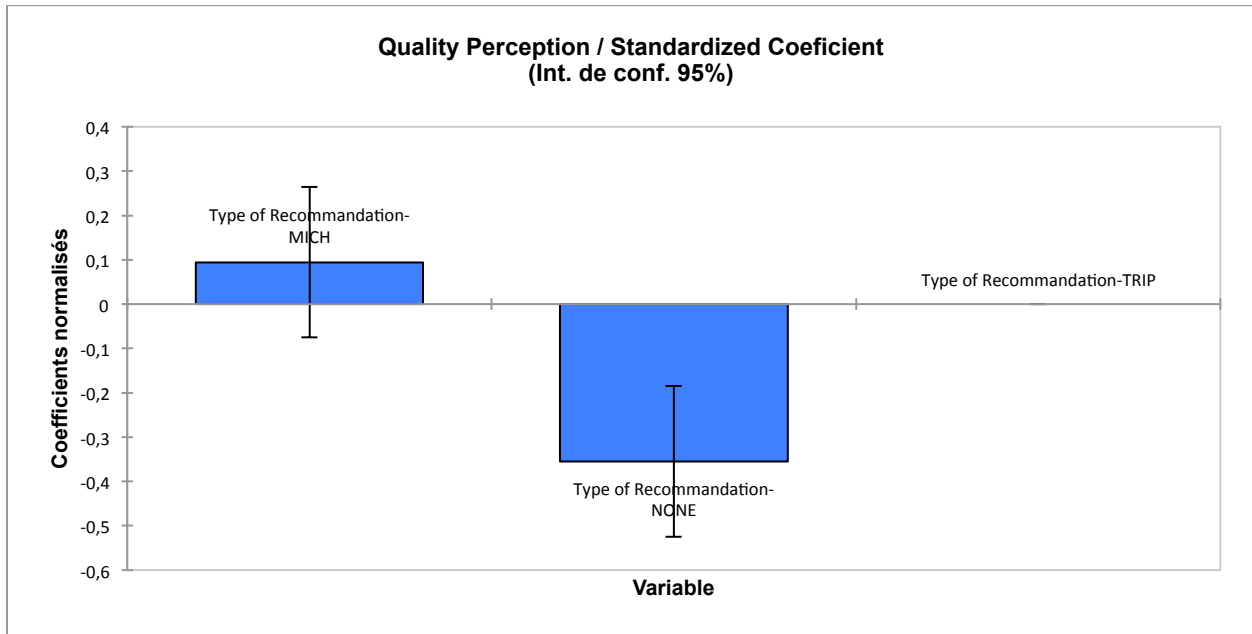
Source	Valeur	Erreur standard	t	Pr > t	me inférieure (95%)	me supérieure (95%)
Constante	6,188	0,256	24,183	< 0,0001	5,682	6,693
Type of Recommendation-MICH	0,384	0,349	1,101	0,273	-0,305	1,073
Type of Recommendation-NONE	-1,429	0,346	-4,131	< 0,0001	-2,112	-0,746
Type of Recommendation-TRIP	0,000	0,000				

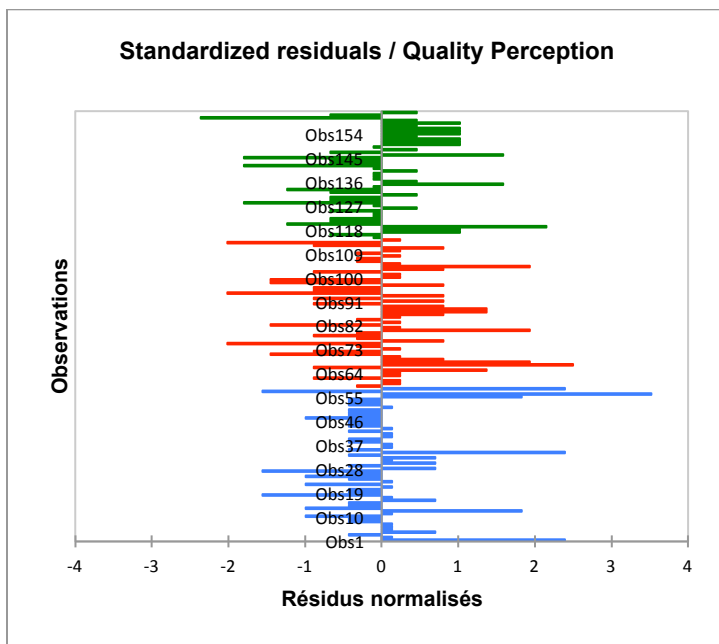
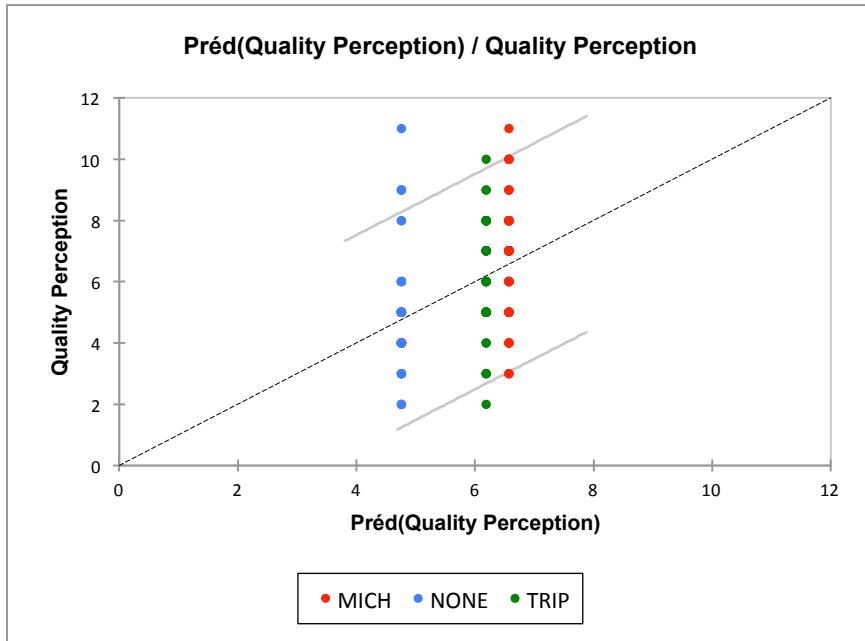
Model Equation (Quality Perception) :

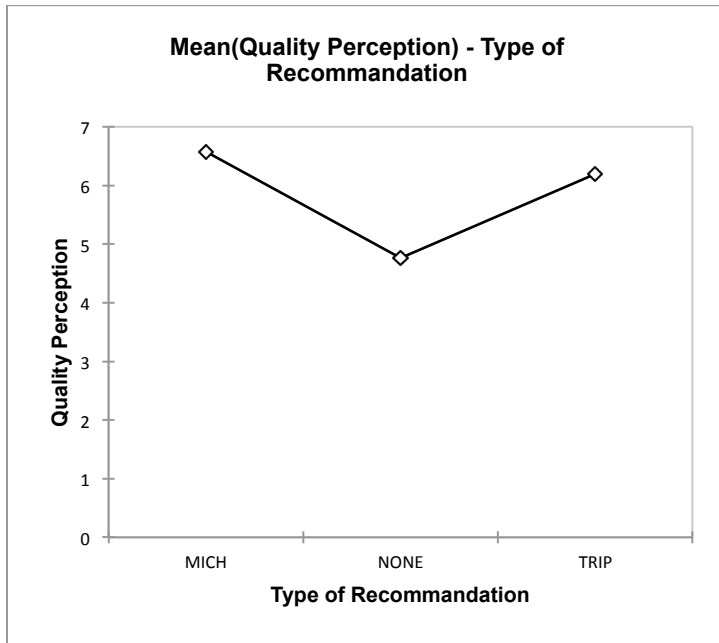
Quality Perception = 6,1875+0,383928571428572*Type of Recommendation-MICH-1,42887931034483*Type of Recommendation-NONE

Standardized Coefficients (Quality Perception) :

Source	Valeur	Stand. Error	t	Pr > t	me inférieure (95%)	me supérieure (95%)
Type of Recommendation-MICH	0,095	0,086	1,101	0,273	-0,075	0,264
Type of Recommendation-NONE	-0,355	0,086	-4,131	< 0,0001	-0,525	-0,185
Type of Recommendation-TRIP	0,000	0,000				







Type of Recommendation / Tukey (HSD) /

Analyses of the differences between the categories with a confidence interval of 95% (Quality Perception) :

Contrast	Mean Difference	Standard Error	Critical Value	Diff (Significant)	Significant
MICH vs NONE	1,813	5,459	2,366	0,0001	Yes
MICH vs TRIP	0,384	1,101	2,366	0,515	No
TRIP vs NONE	1,429	4,131	2,366	0,000	Yes
Tukey's d critical value :			3,346		

Category	Mean	Standard Error	Lower Bound	Upper Bound	Groups
MICH	6,571	0,237	6,104	7,039	A
TRIP	6,188	0,256	5,682	6,693	A
NONE	4,759	0,233	4,299	5,218	B

Type of Recommendation / Tukey (HSD) /**Analyses of the differences between the categories with a confidence interval of 95% (Quality Perception) :**

Contrast	Difference	Stand. Difference	Critical value	Pr > Diff (Sig.)	Significant
MICH vs NONE	1,813	5,459	2,366	< 0,0001	Yes
MICH vs TRIP	0,384	1,101	2,366	0,515	No
TRIP vs NONE	1,429	4,131	2,366	0,000	Yes
Tukey's d critical value :			3,346		

Category	LS means	Standard error	Lower Bound (95%)	Upper Bound (95%)	Groups
MICH	6,571	0,237	6,104	7,039	A
TRIP	6,188	0,256	5,682	6,693	A
NONE	4,759	0,233	4,299	5,218	B

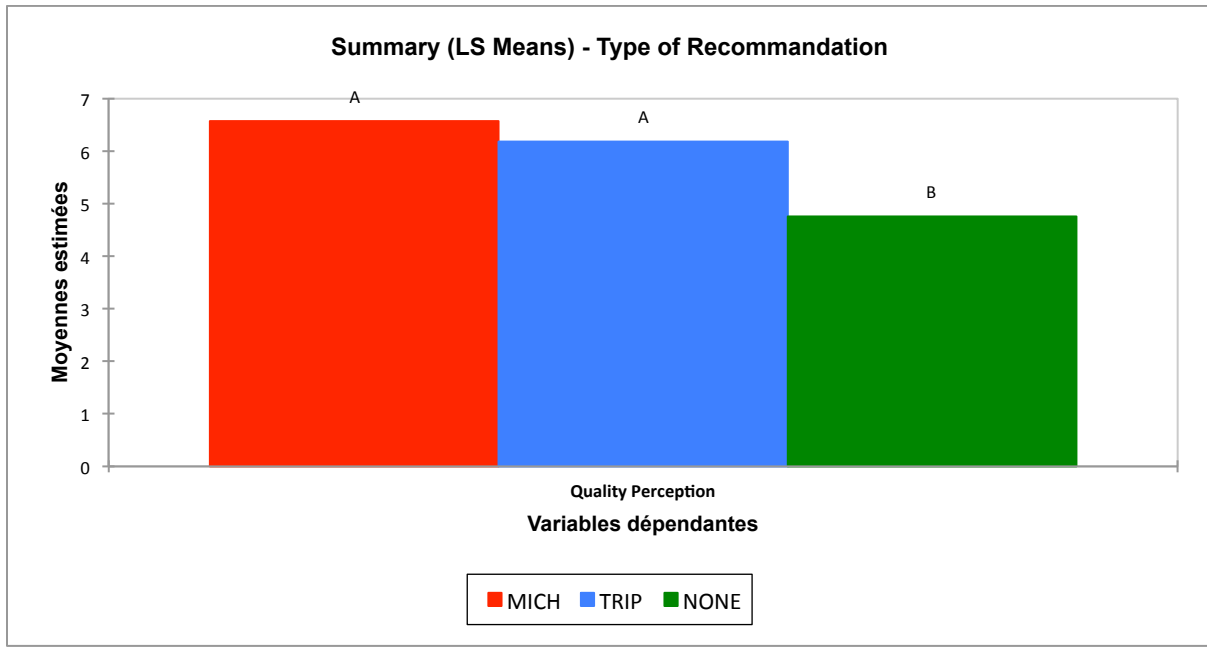
Summary of all pairwise comparisons for Type of Recommendation (Tukey (HSD)) :

Modalité	Moyennes estimées (Quality Perception)	Groupes
MICH	6,571	A
TRIP	6,188	A
NONE	4,759	B

Summary (LS Means) - Type of Recommendation :

Quality Perception	
MICH	6,571 a
TRIP	6,188 a
NONE	4,759 b
Pr > F	< 0,0001
Significatif	Oui

Quality Perception	
MICH	6,571
TRIP	6,188
NONE	4,759



Predictions et résiduels (Quality Perception) :

Observation	Poids	Quality Perception	Quality Perce	Résidu	Résidu std	dur la préd.	érieure 95%	érieure 95%	ur la préd.	érieure 95%	érieure 95%
Obs1	1	9,000	4,759	4,241	2,393	0,233	4,299	5,218	1,788	1,228	8,290
Obs2	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs3	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs4	1	6,000	4,759	1,241	0,700	0,233	4,299	5,218	1,788	1,228	8,290
Obs5	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs6	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs7	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs8	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs9	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs10	1	3,000	4,759	-1,759	-0,992	0,233	4,299	5,218	1,788	1,228	8,290
Obs11	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs12	1	8,000	4,759	3,241	1,829	0,233	4,299	5,218	1,788	1,228	8,290
Obs13	1	3,000	4,759	-1,759	-0,992	0,233	4,299	5,218	1,788	1,228	8,290
Obs14	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs15	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs16	1	6,000	4,759	1,241	0,700	0,233	4,299	5,218	1,788	1,228	8,290
Obs17	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs18	1	2,000	4,759	-2,759	-1,556	0,233	4,299	5,218	1,788	1,228	8,290
Obs19	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs20	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs21	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs22	1	3,000	4,759	-1,759	-0,992	0,233	4,299	5,218	1,788	1,228	8,290
Obs23	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs24	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs25	1	3,000	4,759	-1,759	-0,992	0,233	4,299	5,218	1,788	1,228	8,290
Obs26	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs27	1	2,000	4,759	-2,759	-1,556	0,233	4,299	5,218	1,788	1,228	8,290
Obs28	1	6,000	4,759	1,241	0,700	0,233	4,299	5,218	1,788	1,228	8,290
Obs29	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs30	1	6,000	4,759	1,241	0,700	0,233	4,299	5,218	1,788	1,228	8,290
Obs31	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs32	1	6,000	4,759	1,241	0,700	0,233	4,299	5,218	1,788	1,228	8,290
Obs33	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs34	1	9,000	4,759	4,241	2,393	0,233	4,299	5,218	1,788	1,228	8,290
Obs35	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs36	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs37	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs38	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs39	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs40	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs41	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs42	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs43	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs44	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs45	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs46	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs47	1	3,000	4,759	-1,759	-0,992	0,233	4,299	5,218	1,788	1,228	8,290
Obs48	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs49	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs50	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290

Obs50	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs51	1	5,000	4,759	0,241	0,136	0,233	4,299	5,218	1,788	1,228	8,290
Obs52	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs53	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs54	1	4,000	4,759	-0,759	-0,428	0,233	4,299	5,218	1,788	1,228	8,290
Obs55	1	8,000	4,759	3,241	1,829	0,233	4,299	5,218	1,788	1,228	8,290
Obs56	1	11,000	4,759	6,241	3,521	0,233	4,299	5,218	1,788	1,228	8,290
Obs57	1	2,000	4,759	-2,759	-1,556	0,233	4,299	5,218	1,788	1,228	8,290
Obs58	1	9,000	4,759	4,241	2,393	0,233	4,299	5,218	1,788	1,228	8,290
Obs59	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs60	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs61	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs62	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs63	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs64	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs65	1	9,000	6,571	2,429	1,370	0,237	6,104	7,039	1,788	3,039	10,104
Obs66	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs67	1	11,000	6,571	4,429	2,498	0,237	6,104	7,039	1,788	3,039	10,104
Obs68	1	10,000	6,571	3,429	1,934	0,237	6,104	7,039	1,788	3,039	10,104
Obs69	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs70	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs71	1	4,000	6,571	-2,571	-1,451	0,237	6,104	7,039	1,788	3,039	10,104
Obs72	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs73	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs74	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs75	1	3,000	6,571	-3,571	-2,015	0,237	6,104	7,039	1,788	3,039	10,104
Obs76	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs77	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs78	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs79	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs80	1	10,000	6,571	3,429	1,934	0,237	6,104	7,039	1,788	3,039	10,104
Obs81	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs82	1	4,000	6,571	-2,571	-1,451	0,237	6,104	7,039	1,788	3,039	10,104
Obs83	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs84	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs85	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs86	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs87	1	9,000	6,571	2,429	1,370	0,237	6,104	7,039	1,788	3,039	10,104
Obs88	1	9,000	6,571	2,429	1,370	0,237	6,104	7,039	1,788	3,039	10,104
Obs89	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs90	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs91	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs92	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs93	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs94	1	3,000	6,571	-3,571	-2,015	0,237	6,104	7,039	1,788	3,039	10,104
Obs95	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs96	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs97	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs98	1	4,000	6,571	-2,571	-1,451	0,237	6,104	7,039	1,788	3,039	10,104
Obs99	1	4,000	6,571	-2,571	-1,451	0,237	6,104	7,039	1,788	3,039	10,104
Obs100	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs101	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs102	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104

Obs103	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs104	1	10,000	6,571	3,429	1,934	0,237	6,104	7,039	1,788	3,039	10,104
Obs105	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs106	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs107	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs108	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs109	1	6,000	6,571	-0,571	-0,322	0,237	6,104	7,039	1,788	3,039	10,104
Obs110	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs111	1	8,000	6,571	1,429	0,806	0,237	6,104	7,039	1,788	3,039	10,104
Obs112	1	5,000	6,571	-1,571	-0,886	0,237	6,104	7,039	1,788	3,039	10,104
Obs113	1	3,000	6,571	-3,571	-2,015	0,237	6,104	7,039	1,788	3,039	10,104
Obs114	1	7,000	6,571	0,429	0,242	0,237	6,104	7,039	1,788	3,039	10,104
Obs115	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs116	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs117	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs118	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs119	1	10,000	6,188	3,813	2,151	0,256	5,682	6,693	1,791	2,650	9,725
Obs120	1	4,000	6,188	-2,188	-1,234	0,256	5,682	6,693	1,791	2,650	9,725
Obs121	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs122	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs123	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs124	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs125	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs126	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs127	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs128	1	3,000	6,188	-3,188	-1,798	0,256	5,682	6,693	1,791	2,650	9,725
Obs129	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs130	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs131	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs132	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs133	1	4,000	6,188	-2,188	-1,234	0,256	5,682	6,693	1,791	2,650	9,725
Obs134	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs135	1	9,000	6,188	2,813	1,587	0,256	5,682	6,693	1,791	2,650	9,725
Obs136	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs137	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs138	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs139	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs140	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs141	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs142	1	3,000	6,188	-3,188	-1,798	0,256	5,682	6,693	1,791	2,650	9,725
Obs143	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs144	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs145	1	3,000	6,188	-3,188	-1,798	0,256	5,682	6,693	1,791	2,650	9,725
Obs146	1	9,000	6,188	2,813	1,587	0,256	5,682	6,693	1,791	2,650	9,725
Obs147	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs148	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs149	1	6,000	6,188	-0,188	-0,106	0,256	5,682	6,693	1,791	2,650	9,725
Obs150	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs151	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs152	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs153	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs154	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs155	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs156	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs157	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs158	1	8,000	6,188	1,813	1,022	0,256	5,682	6,693	1,791	2,650	9,725
Obs159	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725
Obs160	1	2,000	6,188	-4,188	-2,362	0,256	5,682	6,693	1,791	2,650	9,725
Obs161	1	5,000	6,188	-1,188	-0,670	0,256	5,682	6,693	1,791	2,650	9,725
Obs162	1	7,000	6,188	0,812	0,458	0,256	5,682	6,693	1,791	2,650	9,725