Master Thesis:

How significant is the role of a monetary prize-as a trigger for ideators to participate- in crowdsourcing contests with a sustainable versus a profit purpose?

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Abstract

Crowdsourcing is an innovative approach that companies tend to use intensively to develop or improve products/services. A way firms use to implement crowdsourcing innovation is in the form of contests/tournaments. These contests provide several benefits, such as collecting faster, cheaper, and easier data to help companies to produce products that have high potentials to be successful. Prior research shows that the prizes that companies offer in crowdsourcing initiatives influence ideators' willingness to participate or the effort that participants put on them. However, previous studies have not examined the effect of the *purpose* of crowdsourcing contest (profit vs sustainable) on ideators' willingness to participate. This study aims to investigate whether the prize's influence on willingness to participate is different when a firm organizes a crowdsourcing initiative with a sustainability goal versus a profit-driven goal.

To answer my research question, I conducted an online experimental survey. Participants were randomly assigned into four different scenarios (profit-driven purpose without social recognition, sustainable-driven purpose without social recognition, profit-driven purpose with social recognition, sustainable-driven purpose with social recognition). Analysis of the responses shows the main effect between prize and willingness to participate in crowdsourcing contests. The main effect also exists between the purpose of crowdsourcing initiatives and ideators' willingness to participate. However, the results show that the interaction of prize and purpose does not affect willingness to participate.

Finally, I did an additional analysis of the role of social recognition (as a non-monetary prize) to examine how participants react in the presence or not of this factor. The results show that it does not affect ideators' willingness to participate. Further research is recommended on examining the role of social recognition in correlation to the purpose to investigate the interaction of both with the willingness to participate in crowdsourcing initiatives, as well as if another, "stronger" non-monetary reward would lead to different results.

Content

1.Introduction

Firms increasingly try to be more innovative from the marketing perspective, and consequently, new marketing approaches have emerged. *Crowdsourcing* is one of those innovative approaches that marketing uses. It is defined as the act of outsourcing idea generation to a potentially large and unknown population ("the crowd") in the form of an open call (Afuah and Tucci 2012; Howe 2006; Jeppesen and Frederiksen 2006; Terwiesch and Ulrich 2009) (Nishikawa, et al., 2017, p. 525). Crowdsourcing is often implemented online and its purpose is to "gather" ideas for new products/services by using a large dispersed crowd of non-experts, for example, customers (Bayus, 2013, p. 226).

A rising number of firms tend to use *crowdsourcing contests* that are any crowdsourcing initiatives in which after a prescribed period following the idea call, select at least one winning idea from those submitted (Camacho, Nam, Kannan, & Stremersch, 2019, p. 138). Enterprises use them to select new, innovative ideas because consumers have full knowledge of their problems concerning the existing products and they are intrinsically free to express their ideas. Furthermore, crowdsourcing contests are possible to provide firms with ideas that are valuable enough to implement them. Additionally, one of the most significant benefits is that crowdsourcing includes direct communication with the consumers as well as consumer insights that are easier, faster, and cheaper to collect than traditional market researches (Bayus, 2013, p. 227).

An example of one of the most successful brands that tend to use crowdsourcing in order to come up with new ideas is Starbucks. Starbucks created the platform "My Starbucks Idea", in 2008 (**Appendix, Exhibit 1a**) and the most engaged customers have created plenty of product and service improvements through this platform. Until 2013, the site had received around 190,000 ideas and approximately 300 of them had been implemented by Starbucks. From 2018

until now, the company encourages customers to submit their ideas via Twitter or their website **(Appendix, Exhibit 1b)**, since it decided to retire the platform the same year (Fournier, 2019).

One of the most interesting initiatives was the one named "White Cup Contest", in 2014. Starbucks found this concept useful because in this way it could differentiate its new environmentally friendly cup and communicate its sustainable action to the consumers. Thus, it initiated a crowdsourcing campaign in U.S and Canada by asking its customers to make different designs on their white, reusable cups and upload a picture of them, with the #WhiteCupContest hashtag, on Instagram or Twitter (Consumer Value Creation, 2019). Moreover, Starbucks announced that the winner would earn $300 and his design would be massively produced in the reusable cups and sold at the stores throughout North America. In just three weeks, Starbucks received around 4,000 submitted ideas (Starbucks Stories & News, 2014).

Crowdsourcing contests have been used by many companies. Some of them are perceived as successful stories, such as Starbucks "My Starbucks' Idea" and Oreo "Daily Twist" (Kirby, 2013), whereas other crowdsourcing initiatives concluded to failures or at least to not satisfying results. Examples of failed crowdsourcing contests were those that conducted by NASA to name a new space station, Lay's and M&Ms that created new flavors after consumers' requests, which finally led to unsuccessful products (Zetlin, 2016).

The fact that firms increasingly use crowdsourcing initiatives drives to further "exploration" of the aspects that are correlated to it. Previous researches and experiments have been conducted in order to examine the motivations of ideators- people who create productive ideas, a conceptualist (Urban Dictionary, n.d.)- in such kinds of contests. They concluded that there is a **direct correlation** between the prizes that companies offer and the number of participants

(ideators), the quality of ideas, and the levels of effort (e.g. Oguz Ali Acar 2018; Tracy Xiao Liu, Jiang Yang, Lada A. Adamic, Yan Chen 2014).

When prizes exist in a crowdsourcing procedure, they usually have the form of monetary or non-monetary. The former type can be a direct financial gain (e.g. payment for solution) or indirect financial gain (e.g. enhancement of professional reputation and future business opportunities), while the latter could be learning and skill-building, personal satisfaction, and development (Feller, Finnegan, Hayes, & O'Reilly, 2012, p. 226) or even a gift (Heyman & Ariely, 2004, p. 787).

Based on the existing literature, we conclude that there are two different approaches concerning the role of a prize in crowdsourcing contests. The first one advocates the usage of monetary prizes to stimulate ideators' willingness to participate. Prior literature in this stream indicates that the higher the reward, the greatest the level of attractiveness of participants, as well as the number of ideas they submit (Acar O. A., 2018). Moreover, it is supported that a higher prize attracts more high-quality (experienced) users, providing better chances for greater quality submissions (Liu, Yang, Adamic, & Chen, 2014, p. 2036). Furthermore, Hofstetter, Yildirim, and Zhang (2013) have also examined how the "prize structure", concerning its distribution/partition of monetary prizes among participants, influences their participation (e.g. number of submitted ideas) and idea quality (Hofstetter, Yildirim, & Zhang, 2013).[1]

On the other hand, literature in behavioral economics and psychology tend to attribute a more negative effect on monetary or extrinsic motivations. It is considered that under certain circumstances, providing intrinsic motivation to the participants is more effective. (Frey &

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[1] More specifically, the authors compare three "prize structures": The first is the winner takes all *(WTA),* in which there is only one winner that receives a high prize and companies expect to receive high numbers of submitted ideas. The second is the equally shared reward *(ES)*, in which a relatively high prize is shared equally to all winners and companies expect to collect high-quality ideas than a high number of them. Lastly, the proportional reward *(PR)*, in which the prize is shared to the winners proportionally based on their ranking. In this case, when the reward is relatively low, firms expect higher submissions (Hofstetter, Yildirim, & Zhang, 2013).

Jegen, 2001, p. 590). Specifically, Frey and Jegen (2001) state that extrinsic motivations actually *undermine* intrinsic motivation and finally replace it with extrinsic motivation which is less powerful. Extrinsic motivations have mainly the form of rewards and they are set to people to undertake an activity (Frey & Jegen, 2001, p. 589), whereas intrinsic motivations are correlated to feelings of interest, involvement, satisfaction or personal challenges that people set on their selves (Amabile, 1997, p. 39). Moreover, the same point of view is dominated in the correlation between the creativity of the ideas and the type of motivation (intrinsic or extrinsic). More specifically, experiments approved that people tend to be more creative when intrinsic rather than extrinsic motivations offered by expected evaluations, competition with peers, or the promise of rewards (Amabile, 1997, p. 39).

From research papers and articles, it can be seen that the popularity of this innovative marketing approach is already high, and many companies use it to develop new ideas by being engaged more to their customers (e.g. Starbucks, Lay's, and Lego). Additionally, the importance of motivations that attract people to participate has been highlighted previously, and this is the reason that various research papers that examine the relationship between prize - the main factor that motivates people to give effort on a project- and participation exist, especially from customers' perspective. Furthermore, regarding the type of prize, there is a debate that also concerns firms, and it refers to whether monetary prizes (extrinsic motivation) or non-monetary prizes (intrinsic motivation), for example, social recognition, trigger more ideators' to participate in crowdsourcing contests.

However, to the best of my knowledge, no research has been conducted until now in how this relationship (prize and willingness to participate) is affected by the factor of the *purpose* of crowdsourcing contests. A potential distinction about this factor could be between profit (e.g. new flavor that consumers want) or sustainable (e.g. ideas for a new, sustainable package) purpose.

One explanation of this gap in the existing literature may emerge from an implied assumption that the effect of prize and willingness to participate remains the same no matter the purpose of a crowdsourcing initiative. In fact, to the best of my knowledge, there is only one paper that examines the correlation between sustainability and any kind of external sourcing of innovation ideas. More specifically, Cappa, Federica, and Darren (2019) show that open innovation initiatives that emphasize social benefits attract a higher number of participants (Cappa, Federica, & Darren, 2019, p. 5). However, this paper mainly focuses on *Open Innovation*- an approach that advocates the generation ideas from externals, such as suppliers or universities (but that it could be with selected, a small group of externals)-, rather than crowdsourcing initiatives, which "gather" ideas from an external "crowd".

The present research takes an initial step in order to fill this gap. **Table 1** displays the summary of the existing empirical literature about crowdsourcing contests and prize as motivation, on which this paper will contribute on. We expect to find that differentiation in the given interaction exists if we take into account the purpose of such contests. We suppose that if it is about sustainability- perceiving that it is a social cause- monetary prizes will not be significant in correlation to the number of participants, a finding that would be in contrast to those that the previous literature, from economists' perspective, displays.

Regarding this paper's research, the purpose of the project presented to the participants will either be sustainable or profit. Nowadays, sustainable actions are presenting the core of the strategies of many companies. As mentioned before, many firms, such as Starbucks, often use crowdsourcing in order to enhance these moves and communicate this kind of their actions to the customers. Additionally, the role of sustainability is not only a great concern to the business world of enterprises, but it also influences the everyday life of consumers.

This study will contribute to a better understanding of the significance of the role of a monetary prize when a contest's purpose is correlated to sustainability. Moreover, we could conclude which one of the two different approaches (rational economic or behavioral/psychological) is more adequate in explaining this framework on potential participants who are motivated at a higher level by either monetary or non-monetary awards, when the purpose is about sustainability.

Authors	Journal	Empirical Approach	Purpose (Business VS Sustainable)	Type of Prize	Summary of Key Findings
Tracy Xiao Liu, Jiang Yang, Lada A. Adamic, Yan Chen	Management Science (2014)	-Primary data (experiment). -Secondary data.	No	Monetary rewards.	-Tasks with a high reward approach more submissions than a task with a low reward. -Tasks with higher rewards attract submissions of higher quality than a task with lower reward and high-quality participants as well.
Oguz Ali Acar	Marketing Letters (2018)	-Primary data (experiment).	No	Monetary rewards.	-Offering sufficient high rewards is effective in attracting more consumers to take part in idea generation tasks.
Francesco Cappa, Federica Rosso & Darren Hayes	Sustainability MDPI (2019)	-Secondary data.	Yes	Monetary and social rewards.	-Monetary rewards positively influence the number of submissions. -The greater the monetary reward, the lower the number of submissions. -The presence of social benefit positively affects submissions.

Table 1 Overview of Empirical Studies on Crowdsourcing and Motivations to Participate (in the form of prizes).

2. Theory

The popularity of crowdsourcing contests is getting bigger and bigger and companies tend to use this innovative approach in order to be connected to their customers, gather their ideas, and implement the most valuable of them. Based on this fact, existing literature and researches examine the role of a prize as motivation in crowdsourcing procedures based not only on economic but also on psychological theories.

2.1 Rational Economic View: Monetary Prizes Motivate Participation

People have debated before about the advantages and disadvantages of the monetary (or extrinsic motivation) or social rewards. Economists see the benefits of monetary rewards and support that there is a positive effect on the participation and the effort that people put on given tasks. Some theories based on the standard economics support that the presence of a monetary reward trigger people to participate more, putting higher effort on completing their tasks. Additionally, it is claimed that the higher the reward, the greatest the participation.

One of the most known theories that fit on this site is the tournament theory. Lazear and Rosen (1986) developed this theory, the basic idea of which is that firms motivate employees to put effort on tasks by effectively remove a part of their wages at the next highest level, giving each the opportunity to be motivated and being promoted to the next level. Tournaments are defined as contests in which participants compete for a reward based on relative rank (Connelly, Tihanyi, Crook, & Gangloff, 2014, p. 18). Additional to this theory, if we think again the existing literature from the economists perspective that mentioned in the previous part, indicating that more ideators are motivated to take part in such contests when prizes exist and are high (Acar O. A., 2018), I conclude to the following hypothesis that:

H1: *Monetary prizes in crowdsourcing contest increase ideators' willingness to participate.*

2.2 Psychological and Behavioral Economics View: Monetary Prizes Backfire[2]

Psychologists and behavioral economists see drawbacks in extrinsic motivations in crowdsourcing contests. Amabile (1997) supported through the Componential Theory of Creativity, that creativity of people who have to complete a task is direct and positive correlated to the intrinsic motivations in contrast to extrinsic motivations that deteriorate levels of creativity. As intrinsic motivations are defined all the initiatives that make people work on something interesting, involving, exciting, satisfying, or personally challenging (Amabile, 1997, p. 39), while an extrinsic initiative is defined mainly as a monetary reward. Additionally, Amabile (1997) presents through experiments that intrinsic motivation is more effective in creativity than extrinsic motivation (Amabile, 1997, p. 44).

Along similar lines, Gneezy and Rustichini (2000) argue that an activity has a motivation in itself, no matter if it has a reward attached to it. Such inherent motivation of a task or activity is what psychologists call intrinsic motivation (Ryan & Deci, 2000). Importantly, Gneezy and Rustichini (2000) theorize that social norms are particularly significant in prescribing a behavior independently of any financial reward, which helps connect a task with the meaning of the task for the community, which may help motivate people for the task out of a "sense of duty" (Gneezy & Rustichini, 2000, pp. 791-792). In their paper, Gneezy and Rustichini (2000) use the example of donating blood and presenting the potential of destroying this sense of duty if monetary rewards intervene.

A dominant theory in the behavioral economics' tradition, which is particularly relevant in the context of crowdsourcing, is the work of the "crowding-out effect" (Frey & Jegen, 2001). This

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[2] Although most of psychologists support that small prizes tend to backfire, some approaches claim that moderate or large monetary prizes would also be effective. Heyman and Ariely (2004) on their paper "Effort for Payment", by using different levels of prizes (none, small, medium), indicate that when there is no prize the effort that participants put on a task is higher than when the prize is small. Similarly, participants' effort is also higher when the prize is medium than small. Based on this approach, in my experiment design, I will manipulate the monetary reward (no prize, small prize, large prize) to test the robustness of the effects at different levels of monetary prize.

theory constitutes one of the most significant anomalies in economics since it claimed the opposite of the most fundamental economic "law" that raising monetary awards increases supply. But if the "crowding-out effect" exists the reverse happens. Increasing extrinsic rewards (e.g. financial awards) may lead to a decrease, not increase, in supply. In line with the psychological views above, "crowding-out" theorists defend that intrinsic motivation is a more powerful driver of supply of effort than extrinsic motivation (Frey & Jegen, 2001, p. 590).

Drawing on the theory of the "crowding-out effect", I expect that in many cases ideators are mainly motivated by intrinsic motivators, e.g. duty to the community or joy for the activity. Thus, an extrinsic (monetary) motivation is not significant and it may even diminish the intrinsic motivation of ideators, possibly leading to a decrease in their willingness to participate. This leads me to hypothesize:

H2a (Weak form crowding-out hypothesis): Monetary prizes in a crowdsourcing contest do not increase the willingness to participate of ideators.

H2b (Strong form crowding-out hypothesis): Monetary prizes in a crowdsourcing contest decrease the willingness to participate of ideators.

2.3 Solving the Debate: The Moderating Effect of Purpose of Crowdsourcing Initiative (Sustainability vs Profit)

The literature documented above shows that there is a disagreement between the economic and behavioral/psychological view of the effectiveness of monetary vs non-monetary rewards in crowdsourcing initiative. A possible contingency factor that may explain this debate is the purpose of crowdsourcing contests. Based on the theory of Heyman and Ariely (2004) there are two types of markets –a monetary market vs a social market. A monetary market is characterized by the offer of compensation to people in order to expend effort on a project. On the other hand, in a social market, money is not involved in the effort that people expend on a project (e.g. no monetary reward or there is a gift reward) (Heyman & Ariely, 2004, p. 787). In

line with Heyman and Ariely (2004), I expect that monetary rewards backfire in crowdsourcing contests with a social goal (which triggers a social market mindset).

Specifically, I distinguish two types of crowdsourcing contests: the first one is related to those with a sustainable purpose, whereas the second one to those that have a profit-oriented purpose. In a crowdsourcing initiative oriented towards sustainable purposes, participants are asked to submit ideas focused on protecting the environment to achieve other environmental goals. Such initiatives may trigger a social mindset which leverages ideators' ecological beliefs and "sense of duty", making intrinsic motivation more significant than extrinsic motivation. It is also worth mentioning that in some extreme cases, in line with Gneezy and Rustichini (2000), a monetary award may even be perceived as insulting by environmentally-minded participants. This leads to this paper's central question:

How significant is the role of a monetary prize-as a trigger for ideators to participate- in crowdsourcing contests with a sustainable versus a profit purpose?

Considering together the theory of crowding-out effect (Frey & Jegen, 2001), the tale of two markets (monetary vs social reward) (Heyman & Ariely, 2004) and the literature that concludes that the social cause and the presence of a social benefit increases the participants in crowdsourcing contests (Cappa, Federica, & Darren, 2019), I propose two possible answers to the question above which vary between the most benign view of the role of monetary prizes in crowdsourcing (weak form) to the least benign view of the role of crowdsourcing (strong form):

<u>H3a (Weak form)</u>: Monetary prizes do not have a significant effect on ideators' willingness to participate in sustainable-driven crowdsourcing contests, but they have a significant effect on ideators' willingness to participate in profit-driven crowdsourcing contests.

H3b (Strong form): Monetary prizes decrease ideators' willingness to participate in sustainable-driven crowdsourcing contests but increase ideators' willingness to participate in profit-driven crowdsourcing contests.

Thus, I suppose that the variable of purpose (sustainable vs profit) moderate the interaction between the monetary prize and ideators' willingness to participate, which has been intensively examined in the previous literature.

Figure 1 below presents the conceptual framework, presenting the Independent Variable (IV) "Monetary Prizes", the Moderator Variable (MV) "Purpose" and the Dependent Variable (DV) "Ideators' Willingness to Participate", as well as the hypotheses mentioned above.
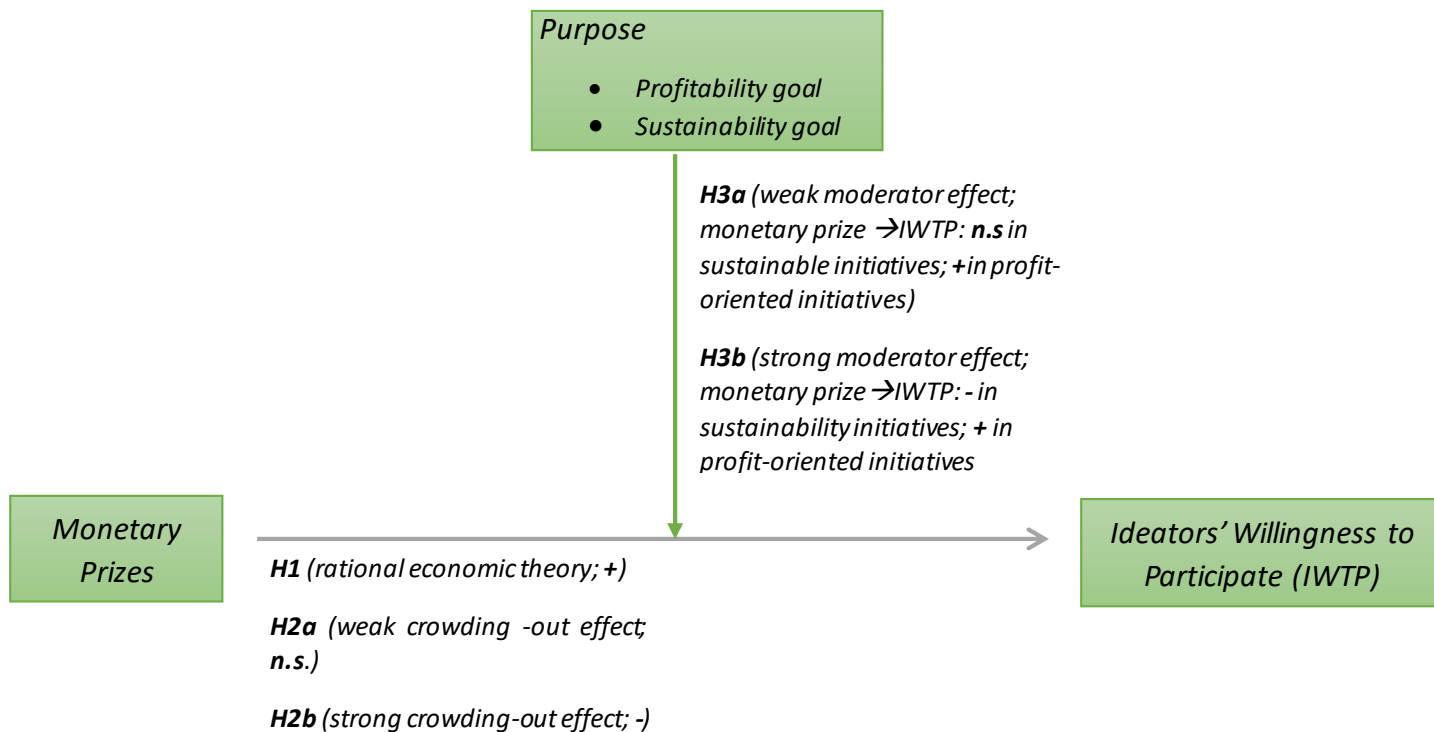

Figure 1: Conceptual Framework

3. Methodology

3.1 Research Design

Research design constitutes a framework that helps researchers to find answers to their research questions. The types of research design are the follows: descriptive, correlational, experimental, review, and meta-analytic (Wikipedia, n.d.). To answer my main research question, I decided to follow the **experimental design**.

In experimental research design, the situation, circumstances, or experience of participants (manipulation) change and this fact leads to an alteration of behavior or outcomes for the participants of the study. Moreover, the researcher randomly assigns participants to different conditions, measures the factors of interest and tries to control moderator variables (Wikipedia, n.d.).

Thus, a field experiment is used to control groups in order to test claims of causal relationships. Researchers who conduct this kind of experiments examine how the manipulation of an Independent Variable (IV) influence a Dependent Variable (DV). The influence of an IV leads to a change in the DV and it is known as *causality* (Sage Research Methods, 2017). Additionally, in contrast to the laboratory experiments, field experiments are conducted in real-world settings and most of the cases unobtrusively (Wikipedia, n.d.).

Also, the usage of random assignment facilitates the comparability of treatment, so that any differences that are possible to emerge after the experiment could reflect the influence of the treatment rather than potential pre-existing differences between the subjects.

3.1.1 Research Method

The research method that I used in the present thesis -to answer the main research question- is quantitative research in the form of a survey experiment. More specifically, I created four

scenarios, each of them having three different treatments. Every single participant was randomly assigned to only **one** of the four **scenarios** and within this scenario **all** of the three **treatments** presented to him/her in a random order, too.

3.2 Sample

The whole idea of crowdsourcing initiatives normally addressed to every person ("crowd"), without further specifications. Especially in this case, that the content of the contest refers to a consuming product, every consumer could participate, no matter the age, educational/working background, or nationality. Thus, there were not any restrictions on the sample on which the contest addressed to.

Thus, after the survey, the total responses I received were 218. However, 42 of them were invalid, 15 of which deleted after cleaning data ("straight line" answers) and 27 responses were incomplete. Finally, the total amount of valid responses was 176. The percentage of 48.6% was female, while the average age estimated in the category of 25-31 (50,9%). Additionally, most of the respondents stated that they have a bachelor's degree (50,9%).

3.3 Data Collection Process

The requested data selected online. Specifically, I used *Qualtrics* for the survey. There, all scenarios and treatments with questions written. Briefly, each scenario contained three different treatments that included a description of the case, the situation and the conditions that were valid in each case, an advertisement that summarized the main information about the contest, a question concerning the willingness to participate on a Likert scale (5-point scale), a Net Price Score (NPS) related to the potential of the survey to be recommended to another person, four statements on a Matrix-style (5-point scale) and finally a multiple choice question with two options.

The distribution of the survey occurred by using an anonymous link that Qualtrics provided. Thus, I messaged this link to family members, friends and people that I know and may have been interested in taking part in the survey. Moreover, I published the link in social media, such as LinkedIn and Facebook, as well as in the Survey Swap. My evolvement (as a researcher) on the survey experiment during the filling of the questionnaires ended when potential participants received the link. Afterward, I analyzed the selected data by using IBM SPSS.

3.4 Experimental Design and Procedure

For this survey experiment, I adopted a *between-group design*, as well as a *within-group design*.

The between-group design used in order ideators to see **one** of the following scenarios: profitability goal without social recognition, sustainability goal without social recognition, profitability goal with social recognition and sustainability goal with social recognition. Then the results about the willingness to participate would be compared to those of other participants (between subjects) that saw different scenarios. If participants would have participated in all scenarios, they would have perceived which part of the experiment was manipulated each time, leading to socially desirable responses. The within-group design used to detect how willingness to participate change when different levels of prizes provided each time. The same subjects saw three treatments with a different award- none, small and large- and the results of these were compared for the same subject (within-subjects).

Moreover, important is the factor of randomization in the whole procedure, i.e. not only subjects were randomly assigned to a profit – or sustainable-driven crowdsourcing initiative (the between-subjects treatment), but also the order of presentation of awards levels was randomized. Randomizing the order of presentation of award levels allows me to eliminate systematic biases in the responses that could occur from always presenting the same order and help me establish a cause and effect relationship.

As it is mentioned in the prior sub-chapter, I conducted a survey experiment. Specifically, I created **four scenarios**. Each participant would be randomly assigned to **one** of these scenarios - manipulating the moderator variable of purpose and the presence of social recognition - within which there were **three** different treatments that participants should answer (manipulating the IV of the prize). These treatments randomly appeared to the participants and all questions about them should be answered. The questions were the same for all scenarios and treatments.

The first scenario referred to a crowdsourcing contest with a profit-driven purpose and its three treatments were constituted of one that just informed participants about the contest, the other one added to the prior scenario a small prize for three winners (20$, 10$, 5$), while the last one added a large prize (4,000$, 2,000$, 1,000$).

The second scenario referred to a crowdsourcing contest with a sustainable-driven purpose and its three treatments contained one that just informed participants about the contest, the other one added to the prior treatment a small monetary prize for three winners (20$, 10$, 5$), while the last one added a large monetary prize (4,000$, 2,000$, 1,000$).

The third scenario referred to a crowdsourcing contest with a profit-driven purpose and its three treatments were constituted of one that just inform ideators about the contest and that the three winners would have the chance to gain some social recognition (meeting CEO and have their names written in the package), the other one added to the previous treatment a small monetary reward for three winners (20$, 10$, 5$), while the last one added a large monetary prize (4,000$, 2,000$, 1,000$).

The last scenario referred a crowdsourcing contest with a sustainable-driven purpose and its three treatments were constituted of one that just inform ideators about the contest and that the three winners would have the chance to gain some social recognition (meeting CEO and have their names written in the package), the other one added to the previous treatment a small

monetary reward for three winners (20$, 10$, 5$), while the last one added a large monetary prize(4,000$, 2,000$, 1,000$).

Summarizing the scenarios and treatments described above, there were three different levels of the monetary prize (IV): none prize, small prize and large prize. This variable changed *within* the subjects in the different scenarios to detect any potential difference in ideators' willingness to participate in the initiative (DV) after manipulating the variable of the prize, based also in the purpose of the contest (IV) (profit vs sustainable) which changed *between* subjects, as well as the presence or absence of non-monetary reward (social recognition). **Table 2** summarizes the scenarios and treatments.

Treatments *(Within-group design)*	Scenarios *(Between-group design)*			
None prize Small prize Large prize	*Profitability-driven* crowdsourcing initiative **without** social recognition.	*Sustainability-driven* crowdsourcing initiative **without** social recognition.	*Profitability-driven* crowdsourcing initiative **with** social recognition.	*Sustainability-driven* crowdsourcing initiative **with** social recognition.

Table 2: Summary of scenarios and treatments.

In general, in each scenario, the main description of the crowdsourcing tournament remained the same and just the new information of the prize that the company offered was added to the treatment before the participants went on to the questions. (**Appendix, Online Questionnaires**).

3.5 Measurements

The main goal of this assignment is to collect data in order to examine if a monetary prize is significant in a crowdsourcing initiative with a sustainable instead of a profit purpose. Measuring the willingness of ideators to participate in crowdsourcing initiatives for different

purposes and under different award conditions, it was a way in order to achieve the goal of this thesis. In every scenario and each treatment, the willingness to participate measured through a 5-point Likert Scale on the question: *"How likely is that you would participate in this crowdsourcing initiative?"*.

Additionally, through this experimental survey, the *willingness to recommend the crowdsourcing contest* to a friend or family member was measured by using the Net Promoter Score ranking (10-point scale), based on the given scenario and each treatment. Moreover, via four statements related to maximization of profit, an increase of popularity, non-profit goal and communication of a good purpose, the research evaluated participants' perception about recognizing these characteristics in the present scenario and treatment, by using a 5-point Likert scale ("agree-disagree"). Lastly, the motivations (intrinsic/extrinsic) that participants thought as more "powerful" in each case measured. Specifically, they had to choose in a multiple-choice question if tangible benefits (having new products, prize) or personal benefits (enjoy of innovation/procedure, enhance knowledge, personal interest about the topic) were strongly motivating for people to participate, given the specific purpose of crowdsourcing initiative and prize level in each case.

4. Data and Results analysis

4.1 Pre-treatment

Before starting the analyses, I "cleaned" the collected data. In total, 218 participants clicked the link of the survey. However, 27 of them did not finish the full survey and eventually, they dropped. Additionally, after checking the results, 15 of the full completing questionnaires demonstrated "straight-line" responses, and consequently, they deleted. Thus, the estimation of missing data is 42 and the final total amount of valid responses is 176. **Table 3** summarizes this information.

Conditions	Number of participants
Received answers from Qualtrics	*218*
Missing Data	*42*
Not finished the survey	27
"Straight-lined" answers	15
Total Valid Answers	*176*

Table 3: Total collected answers and valid answers.

4.2 Descriptive Statistics

Concerning the sample, I found that 106 of the participants were females, whereas 66 of them were males and 4 selected the choice "Prefer not to answer" **(Exhibit 2)**. Regarding the age, the majority of the respondents (111) belonged to the age group of "25-31", while in the group of "18-24" and "Above 32" belonged 42 and 23, respectively **(Exhibit 3)**. Moreover, the educational background of the majority of participants (99) has a bachelor's degree, while 72 of them have a master's degree and 5 a Ph.D. **(Exhibit 4).** Finally, 122 of the respondents have Greek nationality, while the other nationalities also presented in the appendix **(Exhibit 5).**

4.3 Manipulation check

To check if my manipulations worked, I measure to what extent respondents perceived firstly the difference in the purpose of crowdsourcing initiatives, profit-driven or sustainable-driven and then the differences between the prize levels -no prize, small prize and large prize.

Concerning the manipulation check of the purpose of crowdsourcing contests, I checked it by using the following two statements, *"Brand X is organizing this contest with the goal of maximizing its profit."* and *"Brand X is organizing this crowdsourcing contest to communicate a good purpose."*. Participants had to evaluate their agreement or disagreement about these statements by using a 5-Likert scale. Hence, I ran a one-way ANOVA test[3] between "Purpose"[4] (IV) and "Profit_max"[5] (DV). The results (**Exhibit 6)** show that participants that saw the profit scenarios scored higher in this statement (μ=3,68) in contrast to those that saw sustainable-driven scenarios (μ=3,30), a difference that is *statistically significant* (p-value=.000).

Similarly, I ran a one-way ANOVA test between "Purpose" (IV) and "Good_Purpose"[6] (DV). The results (**Exhibit 7)** show that participants that saw sustainable scenarios scored higher (μ=3,68) in this statement in comparison to those who saw the profit-driven contests (μ=2,62), a *statistically significant* difference (p-value=.000).

Regarding the manipulation check of levels of prize, I used the following multiple-choice question: "*Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would trigger most somebody to participate in this contest?".* Respondents had to select between two options: i) Tangible benefits (e.g. having new products,

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[3] Setting the significance level alpha (a)=5%.

[4] Dummy variable, setting value 0 for Profit-driven purpose initiatives and value 1 for Sustainable-driven purpose initiatives.
[5] New variable with answers concerning the statement "Brand X is organizing this contest with the goal of maximizing its profit".
[6] New variable with answers concerning the statement "Brand X is organizing this crowdsourcing contest to communicate a good purpose."

prizes) and ii) Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic). Thus, I ran a Chi-square test between "Motivation"[7] and "Prize" (**Exhibit 8**). According to the exhibit, when the prize increases, the choice of "Tangible benefits" rises, while the choice of "Personal benefits" decreases. These results lead us to the conclusion that participants understand the changes in the rewards. The following bar chart also illustrates the results (**Figure 2**).
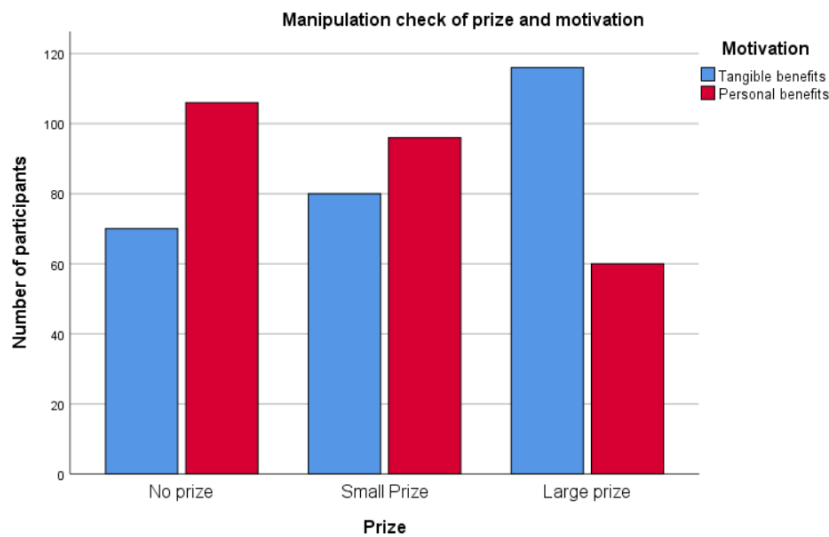

Figure 2: Manipulation check for prize levels and motivation.

Moreover, Post-hoc analysis (**Exhibit 9)** shows that between no prize and small prize the difference is *not statistically significant* (p-value=.828). In contrast, the difference between the small prize and the large prize is *statistically significant* (p-value=.000), as well as the difference between no prize and the large prize (p-value=.000). These results are pretty much in line with Heyman and Ariely (2004) that indicated that providing small rewards, the participation in a task or the effort that people spend on them is lower than providing the other two levels of prizes. Consequently, based on all the above, it seems that the differences in prize levels are perceived by the participants and I concluded that the *size* of the monetary prize matters.

[7] Dummy variable, setting value 1 for Tangible benefits and value 2 for Personal benefits.

4.4 Willingness of ideators to participate

To answer my main research question, I had to test a set of different hypotheses that are referred to in the second chapter. Thus, I set the variable "Willingness to participate" that I measured through the following question: *"How likely is it that you would participate in this crowdsourcing initiative?"*. The participants had to answer this question in a 5point-Likert scale[8].

To test hypothesis *H1*, I ran a one-way ANOVA between the Independent Variable, "Prize" and the Dependent Variable "Willingness to participate" (WTP). From results presented in **Exhibit 10**, we observe that when we have no prize the mean willingness to participate is $\mu=2,80$, while it is higher in large prize $\mu=3,53$. The small prize has the lowest mean willingness to participate ($\mu=2,56$). The following diagram (**Figure 3)** presents the mean willingness to participate related to the three levels of prizes.

Mean score of Willingness to Participate (per level of Prize)

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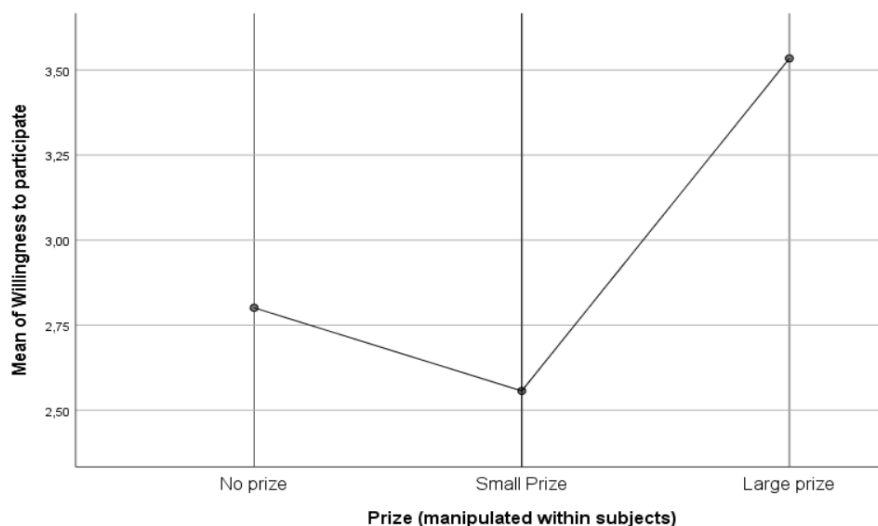
8 1= I would definitely not participate, 2= I would probably not participate, 3= I am not sure if I would participate, 4= I would probably participate, 5= I would definitely participate).

Figure 3: Mean scores of Willingness to participate related to Prize.

These differences are *statistically significant* (p-value=.000). However, before reject or not reject the hypothesis, I need also to run a Post-Hoc test to examine if the differences between the levels of prize (no versus small, small versus large and no versus large) are also significant. **Exhibit 11** shows the Post-Hoc analysis. The difference between no prize and the small prize is *not statistically significant* (p-value=.144). In contrast, the differences between no prize and the large prize and the small prize and the large prize are *statistically significant* (p-value=.000). Thus, the results partially support H1, since the prior analyses lead to do not reject H1 that states that monetary awards do increase willingness to participate. However, we observe that this happens only when the prize is large enough.

I now turn to H2 to further examine the difference between no prize and the small prize. After rejecting H1- that monetary rewards do increase willingness to participate- for these levels of prize, I will investigate the alternatives H2a and H2b. As it is mentioned above, Post-hoc analysis (**Exhibit 11)** shows that the difference between no prize and the small prize is *not statistically significant* (p-value=.144). Hence, I reject H2b, that monetary rewards decrease ideators' willingness to participate, but I do not reject H2a, that monetary rewards do not increase ideators' willingness to participate, acknowledging that the weak form of "crowding-out" effect exists when firms provide small prizes.

Concluding, it is indicated that weather the rational economic argument or behavioral economic argument "win" depends on the size of monetary prizes. For the small prize, the behavioral argument holds (the weak form of the "crowding-out" effect), and it does not increase ideators' willingness to participate, whereas for the large prize the rational economic argument holds, and it does increase participation. **Table 4** summarizes these results.

	Conclusions	
Level of Prize	**"Winning" View**	**Hypotheses**
Small	Behavioral view	*Not rejected:* H2a *Reject:* H1, H2b
Large	Rational view	*Not rejected:* H1 *Reject:* H2a, H2b

Table 4: Summary of the results for hypotheses H1, H2a and H2b.

4.5 Moderating effect of crowdsourcing contests' purpose

To test the remaining hypotheses (H3a/H3b) and get closer to answer my main research question, I further need to investigate the role of the moderator "Purpose" (profit vs sustainable) and how it affects the interaction described previously, between prize and willingness to participate in a crowdsourcing tournament.

To investigate if there is a statistically significant difference between prize and willingness to participate when there are different types of contests' purposes, I ran a two-way ANOVA test. Again, I set as Dependent Variable "Willingness to participate" and as Independent Variables the "Prize" (1=No prize, 2=Small prize, 3=Large prize) and "Purpose" (0=Profit, 1=Sustainable).

The results from the analysis (**Table 5**) show that the moderator, which is the relationship "Purpose*Prize", (p-value=.253) is *not statistically significant*. Furthermore, they show that the main effect of prize in willingness to participate remains *statistically significant different* (p-value=.000), as well as the effect of purpose in the willingness to participate (p-value=.019).

Tests of Between-Subjects Effects

Dependent Variable: WTP

Source	Type III Sum of Squares	df	Mean Square	F	Sig
Corrected Model	102,066ᵃ	5	20,413	15,437	,000
Intercept	4645,902	1	4645,902	3513,453	,000
Purpose	7,372	1	7,372	5,575	,019
Prize	92,092	2	46,046	34,822	,000
Purpose*Prize	3,645	2	1,823	1,378	,253
Error	690,250	522	1,322		
Total	5431,000	528			
Corrected Total	792,316	527			

a. R squared=. 129 (Adjusted R Squared=.120)

Table 5: Two-way ANOVA for the moderating effect.

Thus, regarding the moderating effect, I concluded that the level of prize concerning whether the purpose of a crowdsourcing contest is profit-driven or sustainable-driven does not affect participants' willingness to participate. **Figure 4** summarizes the mean scores of willingness to participate, based on the interaction of prize and purpose.

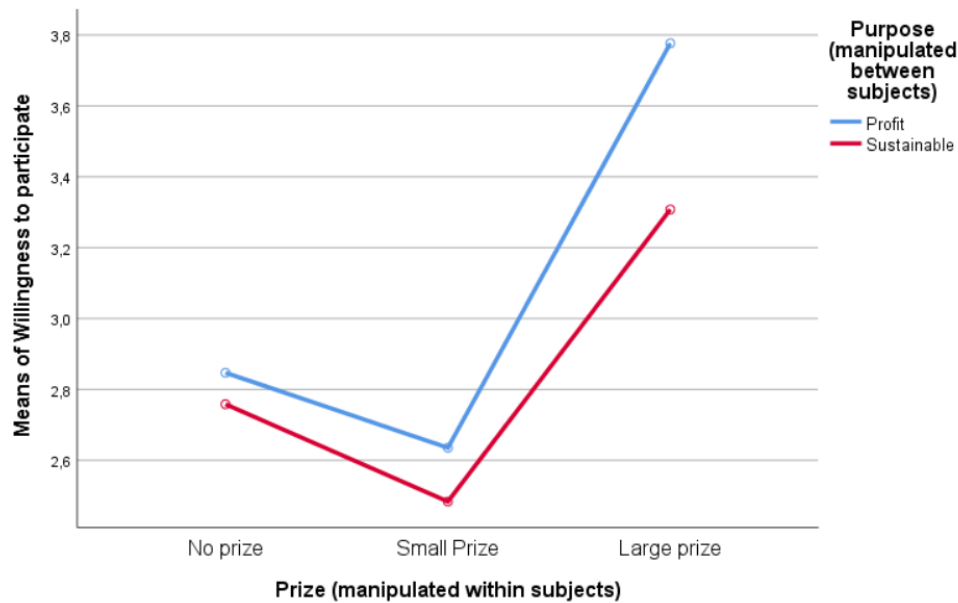**Mean scores of Willingness to Participate (Moderating effect)**

Figure 4: Mean scores of Willingness to participate (moderating effect).

Hence, I reject both H3a and H3b. A potential explanation for this is probably related to the sample. Maybe by having selection criteria about the nationality of participants, it would provide us with different results. For example, participants who live in countries with increasing interest in sustainability and stronger perception of the significance of protecting the environment, even though their consuming behavior, maybe have interacted differently in the scenarios.

4.6 Additional analyses

4.6.1. Social recognition as a covariate

As it is mentioned in the methodology part, there were four different scenarios in my experimental survey. Two of them provide in their main scenario, apart from the level of prize, some information about *social*. For the remaining two scenarios, this social recognition did not exist. This design allows me to test whether the presence (or absence) of a "non-monetary" reward (in this case social recognition by the company's CEO and winners' names written in

products' packages) has a significant effect on ideators' willingness to participate in the crowdsourcing initiative and, possibly, even an interaction effect with the monetary rewards. Even though not hypothesized, the role of social recognition seems interesting to explore.

Firstly, I ran a one-way ANOVA test to examine whether the willingness to participate in the scenarios with a profit-driven goal without social recognition differs from the willingness to participate with a profit-driven goal with social recognition (N=255). **Exhibit 12** presents the results. In total, the mean score of willingness to participate is slightly higher in the case with social recognition (μ=3,11) comparing to the total mean of willingness to participate without social recognition (μ=3,06). However, this difference *is not statistically significant* (p-value=.705).

Then, I followed the same analysis to examine the willingness to participate between answers on the scenarios with sustainable driven purpose and no social recognition and sustainable purpose with social recognition (N=273). **Exhibit 13** shows the results. Participants scored higher when social recognition existed with a total mean μ=2,94, while the total mean when social recognition did not exist was μ=2,77. Nonetheless, this difference *is not statistically significant* (p-value=.271).

To analyze the effect of the covariate variable "Social Recognition"[9], I ran a two-way ANCOVA. I set as Dependent Variable "Willingness to participate", Independent Variables "Prize" and "Purpose" and as a covariate, dummy variable "Social Recognition". The results are presented in **Table 6** and show that social recognition is *not statistically significant* (p-value=.0257), as well as the interaction Prize*Purpose (p-value=.253). The R^2 is equal to .121.

This means that participants' willingness to participate in crowdsourcing initiatives is not different based on the existence of social recognition. Moreover, based on the results of

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[9] Setting value *0* for absence of social recognition and value *1* for presence of social recognition.

Levene's test of Equality, p-value=.022, and that means that there is not equality of variance in groups, so this constitutes a limitation for the survey.

Tests of Between-Subjects Effects

Dependent Variable: WTP

Source	Type III Sum of Squares	df	Mean Square	F	Sig
Corrected Model	103,771ᵃ	6	17,295	13,087	,000
Intercept	2256,573	1	2256,573	1707,476	,000
Social Recognition	1,705	1	1,705	1,290	,257
Prize	92,092	2	46,046	34,842	,000
Purpose	7,041	1	7,041	5,328	,021
Prize*Purpose	3,645	2	1,823	1,379	,253
Error	688,545	521	1,322		
Total	5431,000	528			
Corrected Total	792,316	527			

a. R squared=. 131 (Adjusted R Squared=.121)

Levene's Test of Equality of Error Variancesᵃ

Dependent Variable: WTP

F	df1	df2	Sig.
2,656	5	522	,022

Tests the null hypothesis that the error variance of the dependent variable is equal across the groups.

a. Design: Intercept+ Social Recognition+ Prize+ Purpose+ Prize*Purpose

Table 6: Two-way ANCOVA test between Prize, Purpose and Willingness to participate (Social recognition as a covariate).

Moreover, the interaction between prize and social recognition would be interesting to be investigated. Hence, I ran one more two-way ANCOVA. I set again as Dependent Variable "Willingness to Participate" and as Independent Variables "Prize" and "Social recognition" and as covariate the "Purpose". The results (**Exhibit 14)** show that the interaction "Prize*Social recognition" is _not statistically significant_ (p-value=.699). Thus, we conclude that these factors are unrelated. The R² is equal to .118.

4.6.2. The effect between Purpose and Willingness to Participate

Another additional analysis, that it would be interesting to explore, is the main effect between the factors of purpose and ideators' willingness to participate in crowdsourcing initiatives. Thus, I ran a one-way ANOVA test, using as Independent Variable the "Purpose" (0=Profit, 1=Sustainable) and as Dependent Variable "Willingness to Participate". **Exhibit 15** illustrates the results and participants scored higher on willingness to participate when the purpose is regarding profit (μ=3,09), whereas for the sustainable purpose they scored lower (μ=2,85) (**Figure 5**), a *statistically significant* difference (p-value=.027<.05).

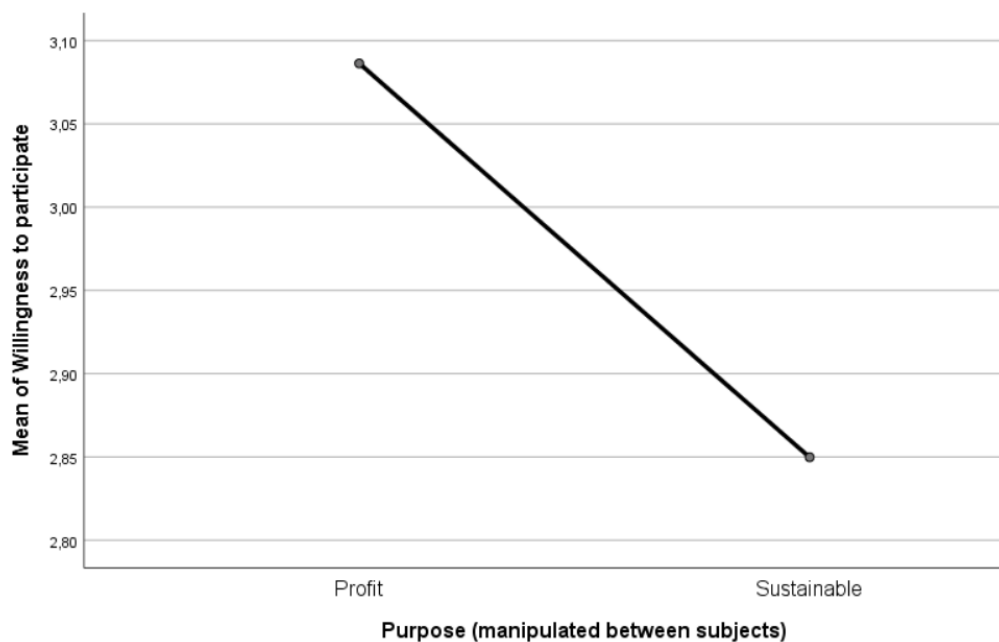**Mean score of Willingness to Participate (per Purpose)**

Figure 5: Mean scores of Willingness to Participate related to Purpose.

4.6.3. Willingness to recommend

On the same way, through my survey, I used the question *"How likely is it that you would recommend this crowdsourcing contest to a friend?"* by using the Net Promoter Score (scale from 1 to 10) to measure whether participants were willing to recommend the crowdsourcing contest to a friend or family member. Thus, I created a variable named "Recommendation",

putting all answers regarding this question, leading to a total sample of 528 answers. Firstly, I ran a one-way ANOVA test in order to examine the main effect between "Recommendation" (Dependent variable) and "Prize" (Independent variable). **Exhibit 16** shows that there is a main effect between "Recommendation" and "Prize" since there is a _significant difference_ in the answers (p-value=.000). Therefore, Bonferroni Post-hoc shows that Large prize scores higher in willingness to recommend comparing to no and small prize contests **(Exhibit 17)**. In all prize levels the means are less than 6 so on average (**Figure 6**), most of the participants belong to the _Detractors_ group. Based on the Net promoter score (NPS), people that are detractors are less likely to exhibit value-creating behaviors.

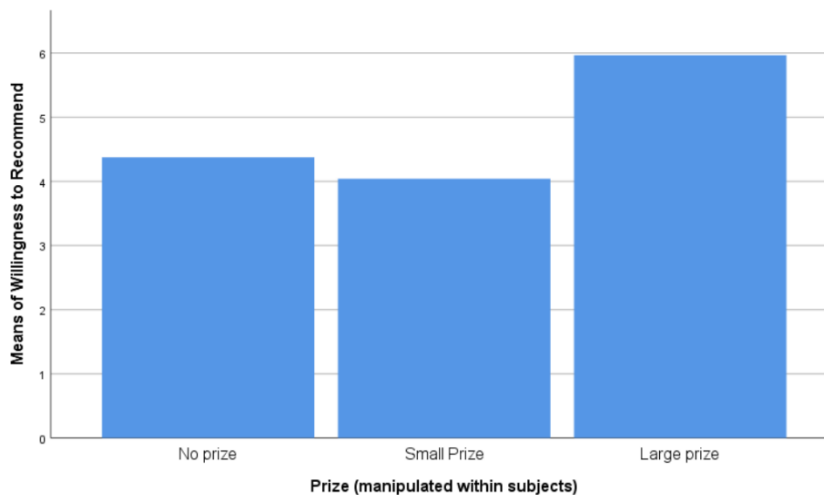**Mean scores of Willingness to Recommend (per level of Prize)**

Figure 6: Mean scores of Willingness to recommend related to Prize.

Moreover, I also ran a one-way ANOVA test to examine the main effect between "Recommendation" (as Dependent variable) and "Purpose" (Independent variable). **Exhibit 18** illustrates that there is _not a statistically significant_ difference (p-value= .305). Additionally, the mean score when we have sustainable-driven crowdsourcing contests (μ=4,92), while for

profit-driven purpose is slightly lower (μ=4,65) **(Figure 7)**.

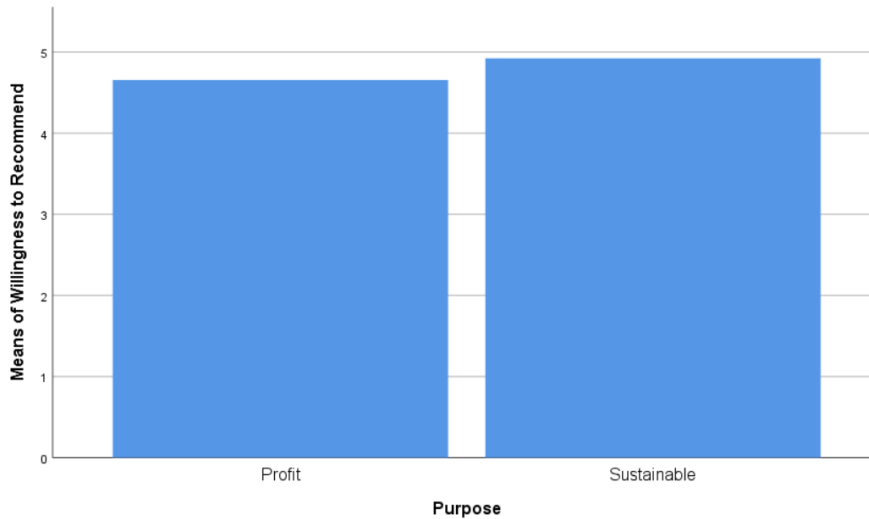**Mean scores of Willingness to Recommend (per Purpose)**

Figure 7: Mean scores of Willingness to recommend related to Purpose.

Lastly, after examining the main effects between "Recommendation" and "Prize", as well as "Recommendation" and "Purpose", I ran a two-way ANOVA test to analyze the interaction of "Prize" and "Purpose" and how it influenced willingness to recommend. So, I used "Prize" and "Purpose" as the Independent variable and "Recommendation" as the Dependent variable. The results (**Exhibit 19)** show that the interaction "Prize * Purpose" is *not statistically significant* different (p-value=.741). Additionally, the main effect of "Purpose" is *not statistically significant* different now with p-value=.287>.05, whereas the main effect of "Prize" remains *statistically significant* different. Again, the higher mean among the levels of prizes is almost 6 **(Figure 8),** and based on the NPS categories most participants belong to the Detractors group.
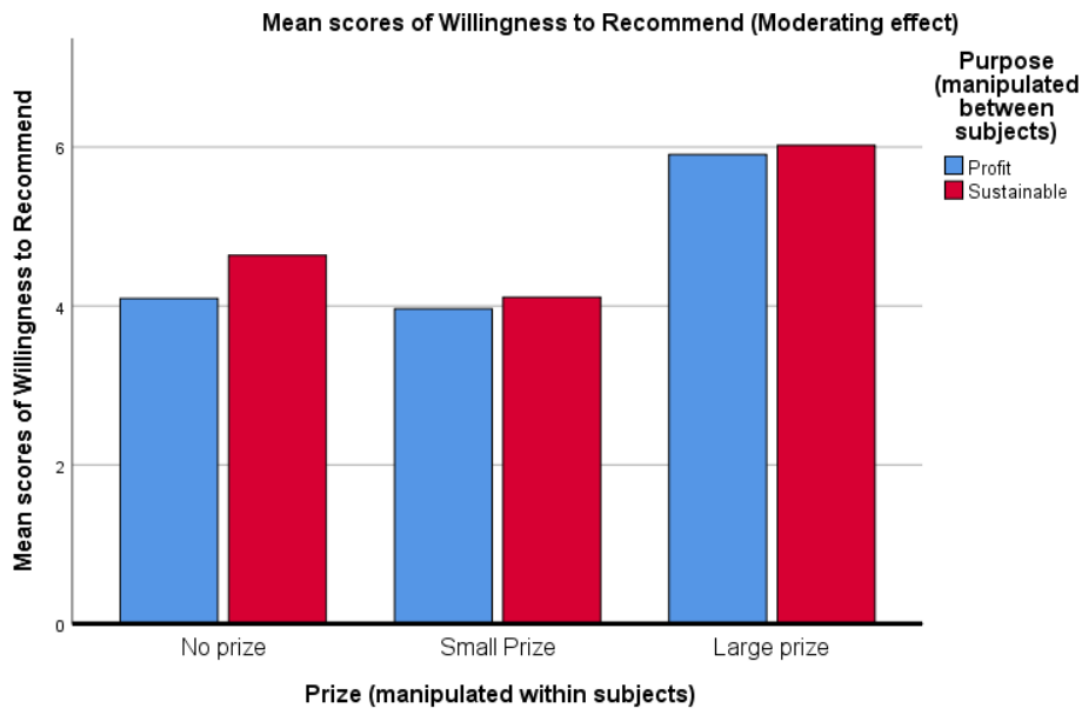
Figure 8: Mean scores of Willingness to recommend related to Purpose and Prize.

5. Conclusion

5.1 General discussion and Academic contribution

The results of the survey are discussed in this chapter. Firstly, I found that there is a significant effect between prize (examining three different levels) and willingness to participate. However, some very interesting details should be highlighted before reject or not reject H1. After the analysis, I found that the significant effect between prize and willingness to participate is mainly driven by large monetary prizes. For small prizes, there are no significant effects. Recall that one motivation for this thesis is to contrast the rational-economic view of the role of monetary prizes in crowdsourcing contests with the behavioral view (based on crowding out theories) of the role of those prizes. With this contrast in mind, my results suggest that the economic view seems valid for large monetary prizes. Hence, I partially do not reject H1, for large prizes, which seems to give support to the rational-economic view of the impact of monetary prizes and is in line with the findings of prior literature of Tracy Xiao Liu et. al (2014), Oguz Ali Acar (2018) and Francesco Cappa et. al (2019).

On the other hand, concerning small prizes, the crowding-out effect seems directionally correct, since when a small prize is offered, ideators' willingness to participate does not increase and finally I do not reject H2a (the weak form of "crowding-out" effect). In contrast, I reject H2b - that small prizes decrease willingness to participate- since the effect is not statistically significant.

Consequently, I concluded that when prizes are large, extrinsic motivations (e.g. monetary prizes) are more powerful, leading to a rise of participation, supporting the rational-economic view. In contrast, when companies offer small prizes to ideators, the behavioral view hold. Thus, willingness to participate does not increase and intrinsic motivations (e.g. non-monetary prize) may trigger more the participants to take part in contests. These results indicate that when

companies conduct a crowdsourcing initiative, they should have the prize value in mind. A suggestion is that maybe the focus on large prizes for a small number of winners rather than a small prize given to a large number of winners, it will be more effective.

Moreover, I suggested a moderating effect on the relationship between prize and participation. Specifically, I proposed as moderator the *purpose* of crowdsourcing contests and I distinguished two types: profit-driven purpose (e.g. ideas new flavors to increase profit) and sustainable-driven purpose (e.g. ideas for new sustainable packages). The analysis provides us with results that support that, the interaction of Prize*Purpose is not statistically significant different. Hence, this leads to the conclusion that participants equally perceive the importance of prize, no matter if the purpose of the contest is about profit or sustainable goal.

Even though I expected that crowdsourcing contests with a sustainable goal would have triggered more participants when a prize was not provided than a large prize, the data did not corroborate my expectations. Consequently, the moderating effect did not work, since the results show that there is no significant difference in willingness to participate, between profit and sustainable driven initiatives regarding the prize, too. In my case, the different results I found, I propose that come from the fact that I assumed, based on Gneezy and Rustichini (2000) and their theory about social norms ("sense of duty"), that when initiatives happen for a sustainable reason, intrinsic motivations (e.g. feeling of duty to contribute on the general good) are more powerful than extrinsic motivations (e.g. monetary awards).

Furthermore, I examined the role of social recognition as a covariate and how this factor influences participation in crowdsourcing initiatives. The results indicate that the presence of social recognition (as a covariate) does not affect willingness to participate. Additionally, I also examined the main effect between purpose and ideators' willingness to participate and the analysis shows that there is a significant different.

In summary, I contributed to the existing literature on the influence of the purpose (profit vs sustainable) on willingness to participate in crowdsourcing contests and I found that the results are different between the two purposes. In fact, the willingness to participate in crowdsourcing initiatives with a profitable goal is higher than those with a sustainable purpose. The main reason that may explain this result is that people probably prefer to contribute more on projects that satisfy some personal needs, for example, submit ideas for creating their favorite soft drink to satisfy their personal needs than making effort on a task that may do not have a direct implication on them. However, the moderating effect between prize and purpose seems that did not show different results in the willingness to participate. Additionally, I added the factor of social recognition to examine potential differences in participation taking comparing contests with the same purpose, concluding that it also did not make a difference in the results.

5.2 Managerial Implications

Apart from the academic contribution of the survey on prior literature, the results also have managerial implications as well. Crowdsourcing contests are used often by companies that receive plenty of benefits from such innovative marketing approaches. Hence, every new information about this topic is more than useful to examine how people perceive and interact in such procedures.

Firstly, my survey contributes to giving one more aspect of the role of prize in such initiatives related to the willingness to participate. Companies have a view of how the prizes that offer can trigger the submissions they are looking for. The findings from the experimental survey suggest that larger monetary prizes lead to higher participation. A crowdsourcing contest that Frito-Lay conducted is an example of offering an extremely high prize when it announced a $1 million prize for the winner that would come up with the next potato flavor. An example of a small prize was 2,500 euros offered by Knorr in a crowdsourcing initiative, whereas Starbucks is

addressed to the customers to submit new ideas, improvements or requests for bringing back products that had dropped, without providing a monetary prize (Acar & Deichmann, 2019). **Table 7** summarizes these examples of real crowdsourcing initiatives.

Company	Purpose of Crowdsourcing Contest	Prize
Frito-Lay	Ideas for new flavors	*Large prize* ($1 million)
Knorr	Ideas for a hot, savory snack	*Small Prize* (2,500 euros)
Starbucks	Ideas for improvements or requests for old products.	*No prize*

Table 7: Examples of "real" crowdsourcing contests (company, purpose and prize).

On one hand, offering a large prize sounds costly, but results approve that this could be more effective in order to attract more submitted ideas, leading to higher potentials of receiving the most appropriate idea that companies are looking for. Moreover, following the frame of "winner takes it all" is probably the factor that could balance the difference between the benefit (high participation) and drawback (high cost) of such level of the prize. Regarding how large this prize should be, I believe that it depends on the size of the company and the products/services that it provides. For instance, based on my scenarios, I believe that when companies conduct a crowdsourcing initiative referring to a daily consumer product that the average price is not high, prizes up to some thousands are going to work appropriately. In contrast, based again on the present survey, the "non-monetary" reward (in this case social recognition) does not seem to positively contribute to ideators' willingness to participate.

Furthermore, taking into account the present results, companies that want to conduct a crowdsourcing initiative should handle the same way the contests that have either profit or sustainable purpose. The only exception is that when it is about sustainability may firms also create initiatives that not only aim to protect the environment, but also (apart from the prize that

possibly provided), provide a personal value for the participants as consumers. For instance, in the case of this survey when the ideas related to sustainable packages, may have been added characteristic of a new package that could be reusable to save consumers' money. Thus, participants would not only try to find ideas that positively contribute to the environment, but also on their personal benefits.

5.3 Limitations and further research

As far as I know, this research is the first one concerning the purpose-driven effect on crowdsourcing initiatives and how it influences the willingness to participate. Therefore, it includes several limitations. Additionally, there are some opportunities for further explorations.

The first limitation is related to the collected data and specifically to normality. Normally distributed data are required to use analyses such as ANOVA and ANCOVA. Non-normal distributed data is a common limitation that researchers have to face when they conduct surveys. In this case, the data were not extremely far from the normal distribution, so I proceed with these analysis tools.

The second limitation refers to the fact that I conducted an online survey experiment. This method has a main benefit. The fact that participants have the chance to answer whenever it is more convenient for them under conditions that make them also feel comfortable (e.g. at home) without the stress of the presence of the person that conducted the survey. However, in such kind of researches, it is not possible to control all the external factors. For instance, the researcher is not able to control potential distractions that can distract participants during the time they answer (e.g. discussing with other people when the participant takes part in the contest). Furthermore, I do not know how careful participants read the different concepts and answer the questions. Thus, it would be interesting to conduct this survey in a laboratory experiment to try to control even some external factors that may have influenced the results.

The third limitation is related to the manipulation of the "non-monetary" prize (social recognition). The results show that this factor had a weak effect on the willingness to participate. Hence, the four different concepts do not seem to achieve their purposes, since the significant results are mainly based on manipulations of prizes and purpose.

The last limitation concerns the nationality of the sample since most of them were Greeks. The purpose of this assignment is mainly focused on environmental aspects and sustainability. However, people who live in Greece do not have a strong perception of this definition and this fact may have limited the results, since they may have not totally perceived the importance of the environmental aspect.

Thus, the first suggestion for further exploration is a new survey experiment, with more diversity on nationalities that may lead to more accurate results. The culture of participants may influence their perception of environmental issues and possibly change the results. Furthermore, further exploration could take place concerning social recognition. Examining the moderating effect of purpose on the relationship between social recognition (as a non-monetary reward) and willingness to participate may lead to different results of moderation compared to the case that the present assignment examined. Last but not least, another type of non-monetary reward could be examined that may have a stronger effect. A possible alternative choice could be a written certification of participation to some of the finalists, for example to the ten most successful submitted ideas, giving the chance to participants to even enhance their professional profile, especially if their jobs are related to relating fields.

References

Acar, O. A. (2018). Harnessing the creative potential of consumers: money, participation and creativity in idea crowdsourcing. *Marketing Letters*, 177.

Acar, O. A., & Deichmann, D. (2019, April 22). Does Crowdsourcing Need a Cash Prize to Work? Retrieved from *Harvard Business Review*: https://hbr.org/2019/04/does-crowdsourcing-need-a-cash-prize-to-work

Amabile, T. M. (1997). Motivating Creativity in Organizations: On Doing What You Love and Loving What You Do. *California Management Review*.

Bayus, B. L. (2013). Crowdsourcing New Product Ideas over Time: An Analysis of the Dell IdeaStorm Community. *Management Science*, 226.

Camacho, N., Nam, H., Kannan, P., & Stremersch, S. (2019). Tournaments to Crowdsource Innovation: The Role of Moderator Feedback and Participation Intensity. *Journal of Marketing*.

Cappa, F., Federica, R., & Darren, H. (2019). Monetary and Social Rewards for Crowdsourcing. *Sustainability MDPI*.

Connelly, B. L., Tihanyi, L., Crook, T. R., & Gangloff, K. A. (2014). Tournament Theory: Thirty Years of Contests and Competitions. *Journal of Management*.

Consumer Value Creation. (2019, February 28). Retrieved from Using a White Cup for crowdsourcing: A Starbucks initiative: https://consumervaluecreation.com/2019/02/28/using-a-white-cup-for-crowdsourcing-a-starbucks-initiative/

Feller, J., Finnegan, P., Hayes, J., & O'Reilly, P. (2012). 'Orchestrating' sustainable crowdsourcing: A characterization of solver brokerages. *Journal of Strategic Informational Systems.*

Fournier, A. (2019, March 20). My Starbucks Idea: an Open Innovation Case-Study. Retrieved from *braineet*: https://www.braineet.com/blog/my-starbucks-idea-case-study/

Frey, B. S., & Jegen, R. (2001). Motivation Crowding Theory. *Journal of Economic Surveys.*

Gneezy, U., & Rustichini, A. (2000). Pay Enough or Don't Pay at all. *The Quarterly Journal of Economics.*

Heyman, J., & Ariely, D. (2004). Effort for Payment: A Tale of Two Markets. *American Phycological Society.*

Hofstetter, R., Yildirim, P., & Zhang, Z. J. (2013). *Rewarding the Few or the Many? An Investigation of the Impact of Rewards in Open Innovation Contests.*

Kirby, J. (2013). How Crowdsourcing a " Daily Twist" Paid Off for Nabisco. *Harvard Business Review*.

Liu, T. X., Yang, J., Adamic, L. A., & Chen, Y. (2014). Crowdsourcing with All-Pay Auctions: A Field Experiment on Taskcn. *Management Science.*

Nishikawa, Hidehiko, Schreie, Martin, Fuchs, Christoph, . . . Susumu. (2017, August). The Value of Marketing Crowdsourced New. *Journal of Marketing Research*, p. 525.

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development and Well-being. *American Psychologist*.

Sage Research Methods. (2017). Field Experiments. Retrieved from *Sage Research Methods*: https://methods.sagepub.com/reference/the-sage-encyclopedia-of-communication-research-methods/i5632.xml

Starbucks Stories & News. (2014, September 12). How Life Has Changed for the Customer Who Won Starbucks White Cup Contest. Retrieved from *Starbucks Stories & News:* https://stories.starbucks.com/stories/2014/how-life-has-changed-for-the-customer-who-won-starbucks-white-cup-contest/

Urban Dictionary. (n.d.). Urban Dictionary. Retrieved from *Urban Dictionary*: https://www.urbandictionary.com/define.php?term=Ideator

Wikipedia. (n.d.). Retrieved from *Wikipedia*: https://en.wikipedia.org/wiki/Research_design

Zetlin, M. (2016, April 8). The 5 Worst Crowdsourced Ideas of All Time. Retrieved from *Inc.com*.: https://www.inc.com/minda-zetlin/the-5-biggest-crowdsourcing-fails-of-all-time-.html

Appendices I
Online Questionnaires

1.Introduction

Dear participant,

My name is Zografia Zografou and I am a Master Marketing student at Erasmus School of Economics in Rotterdam (EUR).

The present questionnaire constitutes part of my master thesis.

The aim of my research is to examine the willingness to participate in a crowdsourcing contest.

Crowdsourcing is the act of outsourcing idea generation to a potentially large and unknown population ("the crowd") in the form of an open call.

The answers are and will remain anonymous and they will be used exclusively for my master thesis.

This survey it will take around 7 minutes.

I understand the purpose of this survey and I agree to participate.

○ Yes

○ No

2. Demographics

What is your gender?

○ Male

○ Female

○ Prefer not to anwer

What is your age?

○ 18-24

○ 25-31

○ Above 32

What is your nationality? (Please type your answer)

[   ]

What is your educational background?

○ Bachelor's degree (BSc)

○ Master's degree (MSc)

○ Ph.D.

You will now be asked to answer questions about three different crowdsourcing initiatives (three scenarios). Please answer **ALL** questions.

Note: Please respond honestly. There are **no** right or wrong answers.

Scenario: Profit-Driven purpose crowdsourcing initiative, without social recognition.

Treatment: No Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for a new sparkling water flavor. The ad below summarizes the initiative. We will select <u>three</u> winning ideas to implement. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

<u>Independently</u> of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Small Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for a new sparkling water flavor. The ad below summarizes the initiative. We will select three winning ideas to implement. The participant in the 1st place wins $20, the 2nd place $10 and the 3rd place $5. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Large Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for a new sparkling water flavor. The ad below summarizes the initiative. We will select three winning ideas to implement. The participant in the 1st place wins $4,000, the 2nd place $2,000 and the 3rd place $1,000. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Scenario: Sustainable-driven purpose crowdsourcing initiative, no social recognition

Treatment: No Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for more environmentally friendly packaging and transportation of its sparkling water bottles. The ad below summarizes the initiative. We will select three winning ideas to implement. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely   Extremely likely

0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would trigger most somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Small Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for more environmentally friendly packaging and transportation of its sparkling water bottles. The ad below summarizes the initiative. We will select three winning ideas to implement. The participant in the 1st place wins $20, the 2nd place $10 and the 3rd place $5. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Large Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for more environmentally friendly packaging and transportation of its sparkling water bottles. The ad below summarizes the initiative. We will select three winning ideas to implement. The participant in the 1st place wins $4,000, the 2nd place $2,000 and the 3rd place $1,000. We will inform you if yours is selected.

BRAND X
LIVE GREEN

Come up with your ideas
about a NEW environmentally
friendly package for your
favorite sparkling water & gain
up to $4,000.

Think, Enjoy, Submit..
& Contribute
on our GREEN purpose!

Submit your idea in
www.livegreenbrandx.com

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Scenario: Profit-Driven purpose crowdsourcing initiative, with social recognition

Treatment: No Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for a new sparkling water flavor. The ad below summarizes the initiative. If your idea is one of the winners, you will have the chance to meet our CEO and have your name written in the new product's package. We will select three winning ideas to implement. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

| Not at all likely | | | | | | | | | | Extremely likely |
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

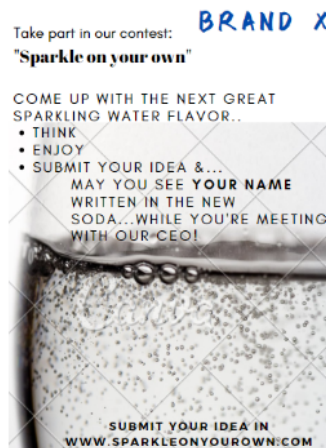|	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

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Treatment: Small Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for a new sparkling water flavor. The ad below summarizes the initiative. If your idea is one of the winners, you will have the chance to meet our CEO and have your name written in the new product's package. We will select three winning ideas to implement. The participant in the 1st place wins $20, the 2nd place $10 and the 3rd place $5. We will inform you if yours is selected.

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely									Extremely likely	
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Brand X is organizing this contest with the goal of maximizing its profit.	○	○	○	○	○
Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Large Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for a new sparkling water flavor. The ad below summarizes the initiative. If your idea is one of the winners, you will have the chance to meet our CEO and have your name written in the new package. We will select three winning ideas to implement. The participant in the 1st place wins $4,000, the 2nd place $2,000 and the 3rd place $1,000. We will inform you if yours is selected.

Take part in our contest: **BRAND X**
"Sparkle on your own"

COME UP WITH THE NEXT GREAT
SPARKLING WATER FLAVOR..
• THINK
• ENJOY
• SUBMIT YOUR IDEA &...
        MAY YOU SEE **YOUR NAME**
        WRITTEN IN THE NEW
        SODA...WHILE YOU'RE MEETING
        WITH OUR CEO!

**ATTENTION! YOU MAY ALSO GAIN UP
TO $4,000!!**

**SUBMIT YOUR IDEA IN
WWW.SPARKLEONYOUROWN.COM**

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

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Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Scenario: Sustainable Driven crowdsourcing initiative, with social recognition

Treatment: No Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for more environmentally friendly packaging and transportation of its sparkling water bottles. The ad below summarizes the initiative. If your idea is one of the winners, you will have the chance to meet our CEO and have your name written in the new package. We will select three winning ideas to implement. We will inform you if yours is selected.

BRAND X
LIVE GREEN

Come up with your ideas about a NEW environmentally friendly package for your favorite sparkling water & be the one of our three winners that they will:
- meet our CEO
- see their names written in the package

Think, Enjoy, Submit..
& Contribute
on our GREEN purpose!

Submit your idea in
www.livegreenbrandx.com

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
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How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely   Extremely likely

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○	○	○	○	○	○	○	○	○	○	○

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Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
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Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Small Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for more environmentally friendly packaging and transportation of its sparkling water bottles. The ad below summarizes the initiative. If your idea is one of the winners, you will have the chance to meet our CEO and have your name written in the new package. We will select three winning ideas to implement. The participant in the 1st place wins $20, the 2nd place $10 and the 3rd place $5. We will inform you if yours is selected.

BRAND X LIVE GREEN

Come up with your ideas about a NEW environmentally friendly package for your favorite sparkling water & be the one of our three winners that they will:
- meet our CEO
- see their names written in the package

Think, Enjoy, Submit.. & Contribute on our GREEN purpose!

Submit your idea in www.livegreenbrands.com

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

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Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Treatment: Large Prize

Imagine that your favorite brand of soda, "Brand X", is conducting a crowdsourcing contest. Specifically, the company is inviting customers to submit ideas for environmentally friendly packaging and transportation of its sparkling water bottles. The ad below summarizes the initiative. If your idea is one of the winners, you will have the chance to meet our CEO and have your name written in the new package. We will select three winning ideas to implement. The participant in the 1st place wins $4,000, the 2nd place $2,000 and the 3rd place $1,000. We will inform you if yours is selected.

BRAND X
LIVE GREEN

Come up with your ideas about a NEW environmentally friendly package for your favorite sparkling water & be the one of our three winners that they will:
- meet our CEO
- see their names written in the package
- gain up to $4,000

Think, Enjoy, Submit..
& Contribute
on our GREEN purpose!

Submit your idea in
www.livegreenbrandx.com

How likely is it that you would participate in this crowdsourcing initiative?

I would definitely not participate	I would probably not participate	I am not sure if I would participate	I would probably participate	I would definitely participate
○	○	○	○	○

How likely is it that you would recommend this crowdsourcing contest to a friend?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Based on the crowdsourcing initiative that Brand X is organizing and presented above, please indicate your agreement or disagreement with the following statements using the five point scale.

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Brand X is organizing this contest with the goal to enhance its popularity.	○	○	○	○	○
Brand X is organizing this contest with non-profit related motives in mind.	○	○	○	○	○
Brand X is organizing this crowdsourcing contest to communicate a good purpose.	○	○	○	○	○

Independently of your personal choice to participate or not in this crowdsourcing contest, what do you think that would **trigger most** somebody to participate in this contest?

○ Tangible benefits (e.g. having new products, prizes)

○ Personal benefits (e.g. enjoy of innovation/procedure, enhance knowledge, personal interest about the topic)

Appendices II
Exhibits

Exhibit 1a "My Starbucks Idea" Platform (2008)

Exhibit 1b "My Starbucks Idea" (2020)
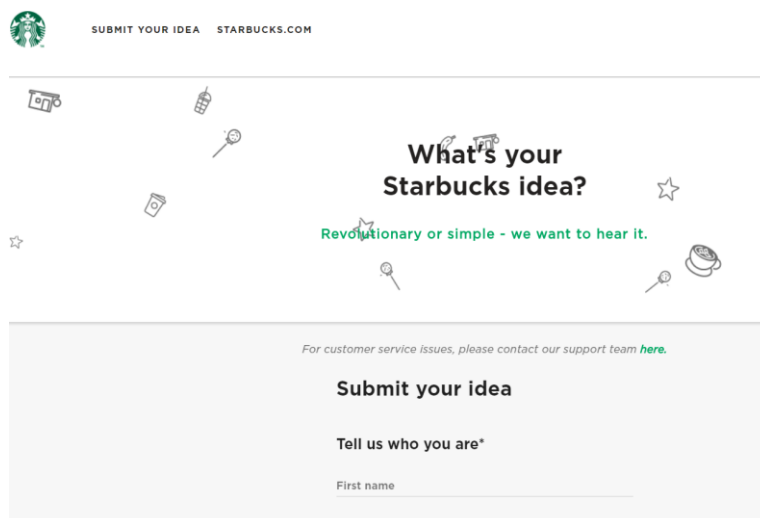
Exhibit 2: Gender Frequencies.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	66	30,3	37,5	37,5
	Female	106	48,6	60,2	97,7
	Prefer not to answer	4	1,8	2,3	100,0
	Total	176	80,7	100,0	
Missing	System	42	19,3		
Total		218	100,0		

Exhibit 3: Age Frequencies.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	42	19,3	23,9	23,9
	25-31	111	50,9	63,1	86,9
	Above 32	23	10,6	13,1	100,0
	Total	176	80,7	100,0	
Missing	System	42	19,3		
Total		218	100,0		

Exhibit 4: Educational background Frequencies.

Edu

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's degree	99	45,4	56,3	56,3
	Master's degree	72	33,0	40,9	97,2
	Ph.D	5	2,3	2,8	100,0
	Total	176	80,7	100,0	
Missing	System	42	19,3		
Total		218	100,0		

Exhibit 5: Nationality Frequencies

Nation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		42	19,3	19,3	19,3
	Arabic	1	,5	,5	19,7
	Armenian	1	,5	,5	20,2
	Australian	1	,5	,5	20,6
	Austria	1	,5	,5	21,1
	Belgian	1	,5	,5	21,6
	British	4	1,8	1,8	23,4
	Bulgarian	1	,5	,5	23,9
	Croatian	1	,5	,5	24,3
	Dutch	19	8,7	8,7	33,0
	French	1	,5	,5	33,5
	German	8	3,7	3,7	37,2
	Greek	122	56,0	56,0	93,1
	Greek French	1	,5	,5	93,6
	Hungarian	3	1,4	1,4	95,0
	Indian	1	,5	,5	95,4
	Iranian	1	,5	,5	95,9
	Italian	1	,5	,5	96,3
	mozambican	1	,5	,5	96,8
	Romanian	2	,9	,9	97,7
	South Africa	1	,5	,5	98,2
	Surinamese	1	,5	,5	98,6
	Turkish	1	,5	,5	99,1
	US	2	,9	,9	100,0
	Total	218	100,0	100,0	

Exhibit 6: One-way ANOVA test for purpose manipulation check (Profit maximization statement).

Descriptives

Profit_max

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Profit	255	3,68	1,072	,067	3,55	3,81	1	5
Sustainable	273	3,30	1,142	,069	3,16	3,43	1	5
Total	528	3,48	1,124	,049	3,38	3,58	1	5

ANOVA

Profit_max

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19,212	1	19,212	15,629	,000
Within Groups	646,598	526	1,229		
Total	665,811	527			

Exhibit 7: One-way ANOVA test for purpose manipulation check (Good purpose statement).

Descriptives

Good_purpose

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Profit	255	2,62	1,207	,076	2,47	2,76	1	5
Sustainable	273	3,68	,998	,060	3,57	3,80	1	5
Total	528	3,17	1,226	,053	3,06	3,27	1	5

ANOVA

Good_purpose

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	150,752	1	150,752	123,659	,000
Within Groups	641,246	526	1,219		
Total	791,998	527			

Exhibit 8: Chi-square test for levels of prize manipulation check.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Prize * Motivation	528	100,0%	0	0,0%	528	100,0%

Prize * Motivation Crosstabulation

			Motivation		Total
			Tangible	Personal	
Prize	No Prize	Count	70	106	176
		% within Prize	39,8%	60,2%	100,0%
		% within Motivation	26,3%	40,5%	33,3%
	Small Prize	Count	80	96	176
		% within Prize	45,5%	54,5%	100,0%
		% within Motivation	30,1%	36,6%	33,3%
	Large Prize	Count	116	60	176
		% within Prize	65,9%	34,1%	100,0%
		% within Motivation	43,6%	22,9%	33,3%
Total		Count	266	262	528
		% within Prize	50,4%	49,6%	100,0%
		% within Motivation	100,0%	100,0%	100,0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26,608[a]	2	,000
Likelihood Ratio	26,974	2	,000
Linear-by-Linear Association	24,001	1	,000
N of Valid Cases	528		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 87,33.

Exhibit 9: Post-hoc analysis for levels of prize manipulation check.

Multiple Comparisons

Dependent Variable: Motivation
Bonferroni

(I) Prize	(J) Prize	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No prize	Small Prize	,057	,052	,828	-,07	,18
	Large prize	,261*	,052	,000	,14	,39
Small Prize	No prize	-,057	,052	,828	-,18	,07
	Large prize	,205*	,052	,000	,08	,33
Large prize	No prize	-,261*	,052	,000	-,39	-,14
	Small Prize	-,205*	,052	,000	-,33	-,08

*. The mean difference is significant at the 0.05 level.

Exhibit 10: One-way ANOVA between Prize and Willingness to participate.

Descriptives

WTP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
No Prize	176	2,80	1,186	,089	2,62	2,98	1	5
Small Prize	176	2,56	1,115	,084	2,39	2,72	1	5
Large Prize	176	3,53	1,166	,088	3,36	3,71	1	5
Total	528	2,96	1,226	,053	2,86	3,07	1	5

ANOVA

WTP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	91,049	2	45,525	34,082	,000
Within Groups	701,267	525	1,336		
Total	792,316	527			

Exhibit 11: Post-hoc analysis for levels of Prize and Willingness to participate.

Multiple Comparisons

Dependent Variable: WTP
Bonferroni

(I) Prize	(J) Prize	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No prize	Small prize	,244	,123	,144	-,05	,54
	Large prize	-,733*	,123	,000	-1,03	-,44
Small prize	No prize	-,244	,123	,144	-,54	,05
	Large prize	-,977*	,123	,000	-1,27	-,68
Large prize	No prize	,733*	,123	,000	,44	1,03
	Small prize	,977*	,123	,000	,68	1,27

*. The mean difference is significant at the 0.05 level.

Exhibit 12: One-way ANOVA between Social recognition and Willingness to participate (profit-driven scenarios).

Descriptives

WTP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
No	123	3,06	1,196	,108	2,84	3,27	1	5
Yes	132	3,11	1,189	,104	2,91	3,32	1	5
Total	255	3,09	1,191	,075	2,94	3,23	1	5

ANOVA

WTP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,205	1	,205	,144	,705
Within Groups	359,897	253	1,423		
Total	360,102	254			

Exhibit 13: One-way ANOVA between Social recognition and Willingness to participate (sustainable-driven scenarios).

Descriptives

WTP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
No	144	2,77	1,244	,104	2,57	2,98	1	5
Yes	129	2,94	1,255	,110	2,72	3,16	1	5
Total	273	2,85	1,250	,076	2,70	3,00	1	5

ANOVA

WTP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,901	1	1,901	1,218	,271
Within Groups	422,941	271	1,561		
Total	424,842	272			

Exhibit 14: Two-way ANCOVA test between Prize*Purpose and Willingness to participate (Social recognition as a covariate).

Tests of Between-Subjects Effects

Dependent Variable: WTP

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	101,075[a]	6	16,846	12,697	,000	,128
Intercept	2424,277	1	2424,277	1827,218	,000	,778
Purpose	7,041	1	7,041	5,307	,022	,010
Prize	90,828	2	45,414	34,229	,000	,116
SocialRecognition	1,705	1	1,705	1,285	,257	,002
Prize * SocialRecognition	,949	2	,475	,358	,699	,001
Error	691,241	521	1,327			
Total	5431,000	528				
Corrected Total	792,316	527				

a. R Squared = ,128 (Adjusted R Squared = ,118)

Exhibit 15: One-way ANOVA between Purpose and Willingness to participate.

Descriptives

WTP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Profit	255	3,09	1,191	,075	2,94	3,23	1	5
Sustainable	273	2,85	1,250	,076	2,70	3,00	1	5
Total	528	2,96	1,226	,053	2,86	3,07	1	5

ANOVA

WTP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,372	1	7,372	4,940	,027
Within Groups	784,944	526	1,492		
Total	792,316	527			

Exhibit 16: One-away ANOVA test between Prize and Willingness to recommend.

Descriptives

Recommendation

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
No prize	176	4,38	2,989	,225	3,93	4,82	0	10
Small prize	176	4,04	2,776	,209	3,63	4,45	0	10
Large prize	176	5,97	2,892	,218	5,54	6,40	0	10
Total	528	4,79	3,002	,131	4,54	5,05	0	10

ANOVA

Recommendation

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	372,731	2	186,366	22,360	,000
Within Groups	4375,767	525	8,335		
Total	4748,498	527			

Exhibit 17: Post-Hoc analysis for levels of Prize and Willingness to recommend.

Multiple Comparisons

Dependent Variable: Recommendation

Bonferroni

(I) Prize	(J) Prize	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
No prize	Small prize	,335	,308	,830	-,40	1,07
	Large prize	-1,591*	,308	,000	-2,33	-,85
Small prize	No prize	-,335	,308	,830	-1,07	,40
	Large prize	-1,926*	,308	,000	-2,67	-1,19
Large prize	No prize	1,591*	,308	,000	,85	2,33
	Small prize	1,926*	,308	,000	1,19	2,67

*. The mean difference is significant at the 0.05 level.

Exhibit 18: One-away ANOVA test between Purpose and Willingness to recommend.

Descriptives

Recommendation

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
Profit	255	4,65	2,917	,183	4,30	5,01	0	10
Sustainable	273	4,92	3,078	,186	4,56	5,29	0	10
Total	528	4,79	3,002	,131	4,54	5,05	0	10

ANOVA

Recommendation

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,482	1	9,482	1,052	,305
Within Groups	4739,016	526	9,010		
Total	4748,498	527			

Exhibit 19: Two-way ANOVA test for Willingness to recommend.

Between-Subjects Factors

		Value Label	N
Prize	1	No prize	176
	2	Small prize	176
	3	Large prize	176
Purpose	0	Profit	255
	1	Sustainable	273

Descriptive Statistics

Dependent Variable: Recommendation

Prize	Purpose	Mean	Std. Deviation	N
No prize	Profit	4,09	2,831	85
	Sustainable	4,64	3,122	91
	Total	4,38	2,989	176
Small prize	Profit	3,96	2,826	85
	Sustainable	4,11	2,742	91
	Total	4,04	2,776	176
Large prize	Profit	5,91	2,711	85
	Sustainable	6,02	3,066	91
	Total	5,97	2,892	176
Total	Profit	4,65	2,917	255
	Sustainable	4,92	3,078	273
	Total	4,79	3,002	528

Tests of Between-Subjects Effects

Dependent Variable: Recommendation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	387,220[a]	5	77,444	9,269	,000	,082
Intercept	12095,300	1	12095,300	1447,683	,000	,735
Prize	373,507	2	186,753	22,352	,000	,079
Purpose	9,482	1	9,482	1,135	,287	,002
Prize * Purpose	5,007	2	2,503	,300	,741	,001
Error	4361,278	522	8,355			
Total	16881,000	528				
Corrected Total	4748,498	527				

a. R Squared = ,082 (Adjusted R Squared = ,073)