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The importance of solver valorization in ideation contests

A quantitative study of the relationship of solver valorization on participation intention in future ideation contests

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Abstract

This study is testing solver valorization in the context of an ideation contest. The objective of this study is to investigate how solver valorization can influence the participation intention in future ideation contests. In total, 205 Dutch respondents are randomly assigned to one of the four conditions in a 2 (contribution recognition included vs. contribution recognition not included) x 2 (social recognition included vs. social recognition not included) between-subjects design of an online experiment. The results partially support the hypotheses, since the effect of the presence of social recognition on the participation intention in future ideation contests was marginally significant. Furthermore, no significant effect is found in the effect of the presence of contribution recognition on the participation intention. Possible explanations for these results are profoundly discussed, as well as the theoretical and managerial implications of these findings. This study ends with an in-depth discussion on the limitations of this study and directions for future research.

Keywords**:** ideation contest, solver valorization, contribution recognition, social recognition, participation intention.

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Chapter 1 | Introduction

1.1 Cause and relevance

Innovation is considered a useful tool for organizations to create competitive advantage. However, the way how organizations innovate has changed fundamentally in the last two decades (Karachiwalla & Pinkow, 2021). Instead of depending on their internal innovation potential, organizations now utilize the knowledge and creativity of online consumers to collaboratively generate value through crowdsourcing activities (Djelassi & Cambier, 2022). Crowdsourcing is defined as the act of outsourcing a task previously undertaken by employees to a large group of people in the form of an open call for contributions (Howe, 2006). A contest is one of the most popular approaches for this (Hanine & Steils, 2019). Ideation contest is defined as an innovation form in which organizations host competitions to solicit ideas from external solvers (Koh & Cheung, 2022). Solvers in ideation contests are participants that submit their ideas, and their submissions are evaluated by a panel of judges (Mathews et al, 2023). The winning solutions are frequently celebrated and openly shared, presenting an opportunity for community involvement and engagement (Tucket et al, 2017). These competitions are often set up online with the purpose of finding new company names, logos, designs or products and ideas for services for the organization hosting the ideation contest (Acar, 2018).

Previous research has acknowledged multiple benefits of involving the crowd for both creative and complex tasks (Allen et al, 2018; Nishikawa et al, 2017). Ideation contests offer marketing professionals an easy, practical and cost-effective method to tap into large online communities for creative ideas and out-of-the-box solutions (Wang, 2020). On top of that, a greater number of participants in a contest increases the quantity and diversity of ideas, leading to a greater likelihood of better solutions to a problem and perhaps even a few exceptional ideas (Dargahi et al, 2021; Yang et al, 2009). In addition, organizations have an opportunity to strengthen their relationship with consumers by creating a community (Martinez et al, 2016). More than 85% of top global brands have used crowdsourcing or ideation contests to gain useful insights from the crowd, including organizations from the food industry such as Nestle, Unilever, PepsiCo's, Coca-Cola and Lays (Shi et al, 2022). Lays' 'Do Us a Flavor' ideation-contest collected over 12 million new flavor ideas, which resulted in the winning flavor (Cheesy GarlicBread) increasing sales by 8% (Hanine & Steils, 2022).

It is noteworthy that despite the economic relevance of the food sector and the frequent use of ideation contests, only a few academic papers address contests in this sector (Massa & Testa, 2016). This is curious because the food sector is characterized by idiosyncrasies that make ideation contests an interesting tool to investigate (Bigliardi & Galati, 2013). This is because the food sector, more than other sectors, needs rapid adaptation to new innovative problems, and special attention to a wide variety of consumer needs (Rabbinge & Linneman, 2009). Ideation contests can help coping with all these issues, by providing a direct, rapid and trustworthy external cooperation channel (Massa & Testa, 2016).

Literature has made it clear that hosting an ideation contest could be difficult (Vellera et al, 2022; Djelassi et al, 2022). The complexity of the requested task requires an investment from the participants in terms of knowledge, skills and time (Dargahi et al, 2021). The participants, in turn, expect to be rewarded in line with their contribution in economic, social or symbolic terms (Djelassi & Decoopman, 2013). The reality is that in a competition like this a great number of participants do not win anything and therefore feel they have been used by the organization for their creativity (Vellera et al, 2022). The perception of exploitation can intensify when participants feel that their efforts are not adequately rewarded (Brabham, 2008). In contrast to traditional employees involved in internal innovation processes, participants in ideation contest perceive lack of compensation for their efforts, leading to emergence of negative experiences (Terwiesch & Xu, 2008).

According to several studies, negative experiences in ideation contests determine interest in future competitions (Fuller et al, 2011; Hanine & Steils, 2016). This poses a challenge because, in the absence of a critical mass of participants, the effectiveness of ideation contests is jeopardized, as they heavily depend on having a significant number of participants exploring diverse paths to problem-solving simultaneously (Ihl et al, 2019). Therefore, sustaining high participation rate is crucial since a larger number of participants in a contest enhances the abundance and diversity of ideas, thereby increasing the probability of finding better solutions to a problem (Dargahi et al, 2021; Yang et al, 2009). On the other hand, positive experiences and participant satisfaction during an ideation contest stimulate future interest in such contests (Fuller et al, 2011). As mentioned earlier, maintaining a high participation rate is crucial and relies on effectively managing participation satisfaction within a contest (Zheng et al., 2011). In addition to this, the benefits of ideation contests; participants' creativity, strengthening brand loyalty, increase of sales and avoiding expensive marketing research are more likely to manifest when a large group of people participate in the ideation contest (Vellera et al, 2022).

1.2 Problem framed in terms of academic literature

It is important for organizations to avoid the surfacing of negative feelings of participants in an ideation contest in order to take full advantage of the benefits of such a contest (Djelassi & Decoopman, 2013). Considering the fact that previous experiences of participants in ideation contests determine their interest in participating in future competitions (Füller, 2011), it is crucial to keep participants satisfied. By enhancing the attractiveness of a contest, there is an increased likelihood of discovering suitable solutions for the organization (Dargahi et al, 2021). However, while previous researchers have warned of the negative consequences of poorly managing an ideation contest, little research to date has identified how organizations can deal with them to improve the success of their ideation contest (Vellera et al, 2022; Gatzweiler et al, 2017). Scholars have examined participants dissatisfaction in ideation contests and have found that it can lead to frustration and angry reactions, potentially leading to negative word-

of-mouth that can impact the organization (Gebauer et al, 2013). Additionally, dissatisfaction among participants can also lead to brand dissatisfaction, brand detachment and a poor brand image (Vellera et al, 2022; Gatzweiler et al, 2017).

In the study of ideation contest it is important that further research should consider the development of a new management tool that more explicitly addresses the issue of negative experiences in an ideation contest (Salgado et al, 2020; Zheng et al, 2017). A study of Hanine and Steils (2019) revealed a solution to avoid negative feelings among participants. They have created a framework that provides guidelines for effective relationship building in creative competition by identifying three types of necessary recognition on the part of participants. These needs are called basic recognition, contribution recognition and social recognition. The three types of recognition together are called solver valorization. As long as these types of recognition are present, negative emotions among the participants will be avoided by the organization. Solver valorization should ultimately ensure that participants are inclined to participate in an organization's ideation contest.

1.3 Research objective and research question

Solver valorization can ultimately ensure that negative feelings among participants can be avoided by implementing the three hierarchical levels of recognition: basic recognition, contribution recognition and social recognition (Hanine & Steils, 2019). The requirement for basic recognition is quickly fulfilled in an ideation contest (Wang 2022), as it comprises elements that are inherent when organizing such a contest. Therefore, basic recognition is not tested separately in this study, but it is considered as a condition in which contribution recognition and social recognition can be formed. Moreover, the effectiveness of the contribution can be measured after the ideation contest (Hanine & Steils). Therefore, like in several studies in the context of ideation contests (Zheng et al, 2011; Wang, 2022), participation intention is measured rather than actual participation. Measuring actual participation in an ideation contest is too difficult for this study, and the individual's actual behavior can be predicted by their intention to express the behavior (Dargahi et al, 2021; Zheng et al., 2011; Morwitz & Fitzsimons, 2004).

The growing impact of dissatisfied participants in ideation contests has become increasingly apparent (Vellera et al, 2022). This study aims to build upon existing research and addresses the need for further investigation into effectively managing participant dissatisfaction (Vellera et al, 2022; Salgado et al, 2020; Gatzweiler et al, 2017; Zheng et al, 2017), with the ultimate goal of increasing participation intention in ideation contests. Therefore, this study intends to investigate how to avoid dissatisfaction in ideation contests, using the solver valorization theory of Hanine and Steils (2019). It seems that solver valorization has not been tested yet in practice. Therefore, the relevance lies in testing this existing theory in practice. More specifically, the aim of this study is to answer the following question: *'To what extent does solver valorization influence the participation intention in future ideation contests?'*

The research question will be answered by using a scenario-based experimental design. Firstly, this research method has a great degree of internal validity because it allows for manipulation and control of variables (Kim & Jang, 2014). It allows for accurate predictions of theories or existing models. This facilitates measuring the effects of contribution recognition and social recognition while controlling other factors that may influence these concepts. Secondly, scenario-based experimental designs are useful for both theoretical and practical insights and multiple stakeholders can benefit from this research (Vezzoli et al, 2015). The ideation contests in the scenarios used in the experiment were set up by looking at the "Do us a Flavor" contest from Lays. Focusing on the food industry while using an existing and well-known ideation contest makes it a more realistic scenario for participants (Acar, 2018). However, the results of this study will be suitable for more industries.

1.4 Theoretical relevance

The theoretical relevance of this article is threefold. In the first place this study is one of the few studies that investigates how to avoid dissatisfaction among participants in an ideation contest (Vellera et al, 2022; Gatzweiler et al, 2017). Moreover, it adds to the existing research on this topic by testing the theory of solver valorization that was a result of a qualitative research (Hanine & Steils, 2019). Furthermore, qualitative research needs to be followed by quantitative research to confirm findings on a larger population (Nassaji, 2015). This could potentially establish certain limitations for their hypotheses or strengthen the validity of their findings. Secondly, through the examination of solver valorization, it becomes evident which types of recognition hold significance in an ideation contest. Within the research domain of ideation contests, there have been limited studies that specifically investigate the social aspect of this competition (Wang, 2022). Consequently, conflicting findings exist regarding the significance of rewards in ideation contests (Zhao & Zhu, 2014). This study aims to provide clarity on this matter by conducting separate tests on these various forms of recognition. Thirdly, this study adds to the body of literature on ideation contest in the food industry. To date, only a few academic papers address ideation contests in this sector (Massa & Testa, 2016).

1.5 Practical relevance

The practical relevance of this article is also threefold. In the first place, as previously discussed, ideation contests are becoming increasingly more important and popular as an innovation tool (Djelassi & Cambier, 2022). The findings of this study are relevant to managers who want to obtain more crucial information about setting up an ideation contest without damaging the organization's reputation or the consumer relationship. Secondly, this study reveals which recognition significantly contributes to increasing participation intention. It can become clear whether participants care more for contribution recognition, social recognition or both. The results will be relevant for business practitioners and may help managers in optimizing their innovation initiatives in which the organization can spend their

resources on the right contribution in ideation contests. Thirdly, context specifically, it will be clear for organizations in the food industry to see how solver valorization works.

1.6 Outline of the thesis

In order to answer the research question in a structured way, the thesis will consist of multiple chapters. In the second chapter, an outline of the relevant theories and perspectives on ideation contests and solver valorization is drawn. Moreover, associated hypotheses are introduced throughout this chapter. At the end, a conceptual model is presented. In the third chapter, the methodology of this study is presented. This includes the research approach, data collection, sample size, analysis procedure, measurement scales and the research ethics. The fourth chapter incorporates analyzing the collected data. Chapter five will present the conclusion of this study. Finally, in chapter six the results will be discussed related to existing literature. Furthermore, the theoretical and practical implications will be addressed and the directions for further research will be given.

Chapter 2 | Literature review

2.1 Theoretical background

In this chapter the key concepts of this study will be explained in detail. Central cause-and-consequences of the concepts will be clarified. Firstly, the idea of an ideation contest will be explained. Secondly, the concept of solver valorization and the relationship with participation intention will be explained. After that, basic recognition and contribution recognition in the context of ideation contest will be explained. In addition, social recognition in the concept of ideation context will be explained. Furthermore, after clarification of the concepts, the hypotheses of this study will be formulated. Finally, the chapter will end by visualizing the conceptual model.

2.2 Ideation contest and participation intention

Ideation contest is defined as an innovation form in which organizations host competitions to solicit ideas from external solvers (Koh & Cheung, 2022). Solvers in ideation contests are participants that submit their ideas, and their submissions are evaluated by a panel of judges (Mathews et al, 2023). The winning solutions are often celebrated and shared in public, providing an opportunity for community engagement (Tucket et al, 2017). These contests are characterized by their rewards and their competitive nature (Piller & Walcher 2006). Ideation contests can either be internal or external. Internal contests promote ideas that tie in with the organizations existing competencies and technological knowledge, while external contests could lead to more disruptive ideas (Gamber et al, 2022). The size of the crowd participating in ideation contests increases the probability of extremely valuable solutions, thus improving contest innovation performance (Bettiga & Lamberti, 2019).

Holding an ideation contest has several benefits. Firstly, it is an effective way for organizations to elicit novel ideas and creative solutions from collective intelligence (Hou et al, 2021). It is important to have many participants in an ideation contest, as it heavily relies on a large quantity of participants pursuing many different paths of solving a problem simultaneously (Ihl et al, 2019). A greater number of participants in a contest increases the quantity and diversity of ideas, leading to a greater likelihood of better solutions to a problem and perhaps even a few exceptional ideas (Dargahi et al, 2021; Yang et al., 2009). Secondly, an ideation contest offers marketing professionals an easy, practical and cost-effective method to tap into large online communities for creative ideas and out-of-the-box solutions (Wang, 2020). Thirdly, organizations have an opportunity to strengthen their relationship with consumers by creating a community. Organizations can benefit from this by creating a community where participants freely share innovative ideas and content to facilitate and encourage value creation (Martinez et al, 2016). Participants can identify themselves as a member of the community and align their benefits and goals with other members and thus keep participating (Zhao & Zhu, 2014). Fourthly, participants have the opportunity to learn during an ideation contest. It indicates that participants tend to gain new and

valuable product knowledge and practice creative skills by participating in an ideation contest (Alam & Campbell, 2017).

However, managing an ideation contest can be challenging for organizations (Djelassi et al., 2022). Participants who do not win may feel exploited or used by the organization for their creativity, leading to negative word-of-mouth (Vellera et al., 2022). Additionally, the complexity of the requested task requires an investment from the participants in terms of knowledge, skills and time. The participants, in turn, expect to be rewarded in line with their contribution in economic, social or symbolic terms (Djelassi & Decoopman, 2013). In the absence of these terms, participants may develop negative feelings during an ideation contest (Hanine & Steils, 2019). This negative experience can impact future participation, jeopardizing the effectiveness of ideation contests that rely on a large number of participants exploring various problem-solving paths simultaneously (Ihl et al., 2019). However, positive experiences and participant satisfaction during an ideation contest stimulate future interest in such contests (Fuller et al., 2011). Greater participation increases the quantity and diversity of ideas, enhancing the likelihood of finding better solutions and exceptional ideas (Dargahi et al., 2021; Yang et al., 2009). Thus, managing participant satisfaction is crucial to maintaining a high participation rate (Zheng et al., 2011).

In several studies in the context of ideation contests (Zheng et al, 2011; Wang, 2022), participation intention, rather than actual participation, is measured. Behavioral intention is defined as the degree to which a person has formulated a conscious plan to perform a certain behavior (Warshaw & Davis, 1985). A higher intention will eventually lead to a greater likelihood of showing particular behavior, therefore intention is the strongest predictor of the actual behavior of the consumer (Hale et al, 2002). In the context of ideation contest, measuring actual participation in an ideation contest is too difficult; therefore, individual's actual behavior should be predicted by the intention to perform the behavior (Dargahi et al, 2021; Zheng et al., 2011; Morwitz & Fitzsimons, 2004).

As can be concluded, ideation contests can be highly beneficial and profitable, when used in the right way and if careful management is considered. Therefore, insights regarding this type of innovation will be beneficial for practical and theoretical reasons.

2.3 Solver valorization

Solver valorization is defined as the process of assigning value or recognition to participants in an ideation contest (Hanine & Steils, 2019). Solver valorization is a way to avoid negative feelings of participants in an ideation contest through implementing three types of recognition during an contest. The three types of needed recognition from the participants' side are: basic recognition, contribution recognition and social recognition. Basic recognition is recognition for someone's presence and participation in the contest. For example, by sharing relevant information on the future use of

contributions, intellectual property rights, and selection criteria (Hanine & Steils, 2019). Sharing relevant information in advance increases the perception of fairness during an ideation contest (Wang, 2020). Thereby, sharing information and fairness perception can lower the feeling of exploitation among participants (Franke et al, 2013). Contribution recognition is the participants' need for monetary or symbolic rewards to feel recognized and valorized by the organization for their work (Hanine & Steils, 2019). Several studies confirm the importance of playing along in an ideation contest in exchange for rewards (Boss et al, 2017; Ihl et al, 2019; Acar, 2018). Social recognition is participants' need to be part of a community where participants can interact and experience transparency in an ideation contest (Hanine & Steils, 2019). Participating in a community creates a sense of belonging (Hagerty et al, 1992). The feeling of belonging is seen as a valuable indicator of participation in an ideation contest (Scheiner, 2015).

Previous studies have already warned for dissatisfaction among participants in ideation contests (Wang, 2020; Vellera et al, 2022; Djelassi et al, 2022). This is due to the fact that in an ideation contest a great number of participants do not win anything and therefore feel they have been used by the organization for their creativity (Vellera et al, 2022). Additionally, the complexity of the requested task requires an investment from the participants in terms of knowledge, skills and time. The participants, in turn, expect to be rewarded in line with their contribution in economic, social or symbolic terms (Djelassi & Decoopman, 2013). In the absence of these terms, participants may develop negative feelings during an ideation contest. Which generates negative word-of-mouth. Furthermore, perceived experience in ideation contests will determine the participation intention in future contests (Fuller et al, 2011). This participation intention needs to stay high because a greater number of participants in a contest increases the quantity and diversity of ideas, which leads to a greater likelihood of better solutions to a problem (Dargahi et al, 2021; Yang et al, 2009). Thus, a high participation rate is crucial and depends on managing participant satisfaction (Zheng et al, 2011).

On the other hand, a positive innovation challenge experience leads to a better perception of the organization and a willingness to participate in future contests, even though the participants might not win (Vellera et al, 2022). According to Salgado et al (2020), it is important that further research considers the development of a new management tool that more explicitly tackles the issue of a negative experience. Solver valorization is a tool to deal with dissatisfied participants and to keep positive feelings among participants during a contest. This is crucial because participants experience will determine the participation intention in future contest (Fuller et al, 2011). Solver valorization is an effective tool to predict the intention to participate in future contests because it is a way to avoid negative feelings, and satisfied participants are more inclined to participate again (Zheng et al, 2011). As a result, it can only be measured after an ideation contest has taken place. Research on how organizations should

manage their relationship with the participants to avoid negative feelings is still lacking (Hanine & Steils, 2019).

To conclude, implementing these three recognitions in an ideation contest ultimately make the participant feel more valued (Hanine & Steils, 2019). Participants do not want to feel like a simple source of information but to be recognized as real value co-creators by the company. Solver valorization is a concept that recognizes the importance of acknowledging and valuing the contributions of individuals in various contexts. The goal is to create a positive and engaging experience for participants, which positively impacts their motivation, satisfaction and continued participation.

2.4 Basic recognition

Basic recognition is the first level of participation valorization. This is the participants' need for recognition of presence and their participation in an ideation contest (Hanine & Steils, 2019). It also includes sharing relevant information on the future use of contributions, intellectual property rights, and selection criteria. Providing this information in advance will eventually help to reduce participant frustration. Furthermore, giving the reliable information in advance in an ideation contest can build trust. This is because information fraud has recently become a severe problem for keeping participants' interest in online environment competitions (Zhang et al, 2013). Thus, it is important that each solver has access to the same advance information in order to achieve fair play (Wang, 2022). Additionally, sharing relevant information in advance increases the perception of fairness during an ideation contest. Thereby, information sharing and fairness perception can lower the feeling of exploitation among participants (Franke et al, 2013). This is because the perception of fairness can give solvers confidence that they will get what they deserve with their solutions and efforts. Thus, if solvers believe the ideation contest is a fair place where people get what they deserve, their motivation to participate in more ideation contests will increase (Di Gangi and Wasko, 2009; Frank et al., 2013).

Previous research indicates that participants need to feel valued in an ideation contest, therefore they are willing to put more effort into the contest (Zhang et al, 2022). The study by Jain et al (2022) also claimed that when a participant feels valued in a contest, this more quickly leads to participant satisfaction. It can be concluded that participants do not want to serve as a basic information source, instead they want to be acknowledged as genuine value co-creators by the organization (Hanine & Steils, 2019). Previous studies claimed that participants are more likely to participate in an ideation contest if a combination of needs are satisfied (Zhao & Zhu, 2014). This is in line with Hanine and Steils (2019) as they stated that basic recognition is fundamental, and needs to be present before there can be contribution recognition or social recognition. Basic recognition is so strong that in the absence of this recognition, a participant is not inclined to participate again (Hanine & Steils, 2019), even if there is a financial reward in return.

In an ideation contest, the need for basic recognition is quickly satisfied. As a result, providing the right information in advance of an ideation contest is implemented in the majority of ideation contests today (Wang, 2022). As a consequence, basic recognition will not be tested as a separate variable, but will be considered as a condition in which contribution recognition and social recognition can form.

2.5 Contribution recognition

Contribution recognition is the second level of participation valorization**.** This is the participants' need for monetary or symbolic rewards to feel recognized and valorized by the organization for their work (Hanine & Steils, 2019). Rewards can range from symbolic rewards, such as a small discount or giveaways, to monetary rewards. Multiple studies confirmed the importance of monetary rewards in ideation contests (Boss et al, 2017; Ihl et al, 2019; Acar, 2018). Firstly, monetary rewards additionally motivate contest participants who are already intrinsically motivated to participate to make better contributions (Füller, 2010). Secondly, it may also attract an even broader group of people to participate in the contest (Terwiesch and Xu, 2008; Boudreau al, 2011). This is beneficial, because these contests rely heavily on a great number of participants pursuing many different solutions to solve a problem at the same time (Ihl et al, 2019). Thirdly, a monetary reward ensures that participants are generating more appropriate ideas and attracts consumers' attention to participate (Acar, 2018; Boss et al, 2017).

However, some findings are conflicting regarding the importance of money in ideation contests (Zhao & Zhu, 2014). Additionally, studies discussed that the strongest predictor of participation in ideation contests results from personal need and not from the prospect of monetary rewards (Ihl et al, 2019). Another possible explanation against monetary rewards could be that offering a higher monetary reward indicates that the task is potentially complex and requires more resources from competing solvers (Jain et al, 2022). Thus, a higher reward might systematically discourage solvers from reengaging based on their previous experience (Deodhar, 2022). Therefore, symbolic rewards are a good alternative because it lowers the threshold to enter a contest (Ihl et al, 2019). These symbolic rewards have multiple benefits. Firstly, it helps organizations address personalized rewards that require little investment for the organization (Hanine & Steils, 2019). Secondly, symbolic rewards can be more cost-effective for organizations than monetary rewards, as they do not require a large financial investment (Wang, 2020). Thirdly, symbolic rewards could be nonrival, in the sense that all participants are rewarded by the organization for their effort. Using symbolic rewards for this reason can enhance the satisfaction during the competition (Peng et al, 2023).

However, as the crowd is diverse, a certain prize can be perceived as attractive to some solvers but less so to others (Terwiesch and Xu 2008). Therefore, it is interesting to combine symbolic and monetary

rewards in this study. The interesting thing about the attractiveness of a prize, whether monetary or symbolic, it that it increases the value and prestige of winning (Koh, 2019). From this perspective, developing appropriate solutions to the problem becomes even more compelling for solvers. Furthermore, attractive prizes can reinforce solvers' efforts, such as gathering more information or showing commitment above the standard required minimum (Ihl et al, 2019). This behavior of solvers is in line with findings showing that prizes are positively correlated with solvers' duration of participation and number of entries in contests (Koh, 2019). This has the positive effect of an increased participation in future contests. Considering all this, the following hypothesis can be formed:

H1: The presence of contribution recognition has a positive influence on the participation intention in future ideation contests.

2.6 Social recognition

Social recognition is the third level of participation valorization. This is the participants' need to be part of a community where they can interact and where they give their opinion during an ideation contest (Hanine & Steils, 2019). It is important in an ideation contest that participants feel part of a community. A concept to understand this well is the sense of belonging. The sense of belonging refers to the feeling of being connected to a group, community, or environment (Hagerty et al, 1992). A sense of belonging is associated with harmony between the individual and the surrounding environment (Rode, 2013). In the digital environment, sense of belonging measures individuals feeling of attachment to a platform or community (Guo et al, 2016). This concept has been applied to a variety of research to investigate expected outcomes, such as participant loyalty and sustained participation (Lin 2008; Fan et al, 2014), but in the research setting of ideation contests, only a few studies have explicitly examined the sense of belonging (Wang, 2022). Attachment to a group or community is a basic human need (Hagerty et al, 1992). The sense of belonging in ideation contests refers to the feeling of being part of a community of individuals who are working towards a common goal (Gaffora et al, 2015).

Organizations can benefit from this by creating a community where members freely share innovative ideas and content to facilitate and encourage value creation (Martinez et al, 2016). Other ideas to implement a sense of belonging could be done through various means such as leaderboards, progress bars, chat rooms, the option to vote and comment on each other's ideas. These examples can increase the engagement and motivation among participants (Hou et al, 2021). The sense of belonging is seen as one of the essential inner pursuits of solvers when they participate in ideation contests (Zhao & Zhu, 2014). It is well understood that social recognition stimulates intrinsic motivation, and contribution recognition stimulates a participant's extrinsic motivation. It is worth noting that the community elements during ideation contests are an important factor for the success or survival of the ideation contest (Zhao et al, 2012). Although extracting economic value according to some studies is the main

driver for participation intention (Battistella & Nonino, 2012), solvers have an inherent desire for a sense of belonging when engaging in ideation contests (Zhao & Zhu, 2014).

Participants consider their work meaningful and significant as they interact with one another, express their opinions, and feel heard (Zheng et al, 2011). The forming of a sense of virtual community will further increase a participant's sense of belonging and commitment, which lead to strong loyalty and continuous participation (Zhao & Zhu, 2014). Considering all this, the following hypothesis can be formed:

H2: The presence of social recognition has a positive influence on the participation intention in future ideation contests.

2.7 Contribution recognition and social recognition

It is interesting to look at the presence of both contribution recognition and social recognition simultaneously. According to Hanine and Steils (2019), the necessary recognitions reinforce each other. If a combination of internal needs and external needs are satisfied, people are more likely to participate in an ideation contest (Zhao & Zhu, 2014). The majority of the participants in ideation contests will be participating for both intrinsic and extrinsic reasons (Zheng et al, 2011). Furthermore, as the crowd is diverse, a certain prize can be perceived as attractive to some solvers but less so to others (Terwiesch and Xu 2008). As stated before, rewards are positively correlated with solvers' duration of participation and number of entries in contests (Koh, 2019). Beyond that, establishing a virtual community fosters a sense of belonging and commitment among participants, potentially resulting in increased loyalty and increasing participation intention (Zhao & Zhu, 2014). Solver valorization is most effective when all three recognitions are present (Hanine & Steils, 2019). Therefore, synergistic benefits could arise when multiple recognitions are implemented in an ideation contest. Hence, it should be taken into account that contribution recognition and social recognition can reinforce each other and influence participation intention in future contests. Taking all this into consideration, the following hypothesis is formed:

H3: There is an interaction effect between contribution recognition and social recognition, and this has a positive influence on the participation intention in future ideation contests.

2.8 Conceptual model

Considering all the hypotheses that are formulated, the following conceptual model is created (Figure 1).

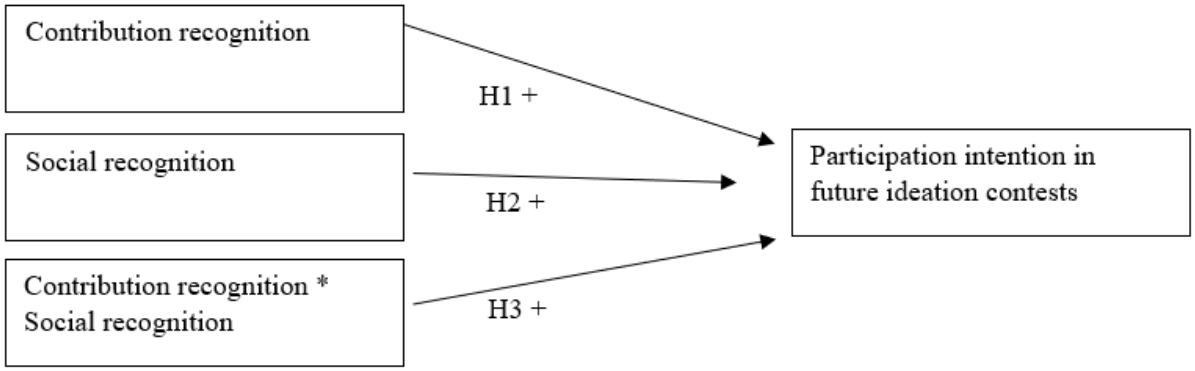

Figure 1. *Conceptual model*

Chapter 3 | Methodology

This chapter deals with the method that is used to answer the research question. Firstly, it introduces the research approach and design. The next section presents the sample and data collection in this study. Following up, the analysis procedure is explained. Next the measurement scales are being discussed. In the last part, the research ethics will be considered.

3.1 Research approach and design

To investigate the research question, a quantitative study was chosen. This approach can examine more observation units than a qualitative research (Bleijenbergh, 2016). In addition, quantitative research can be used to measure correlations and relationships between variables (Meyers, 2019). This results in a broad view of the relationships described in the research question. As mentioned in the introduction, the main research question is, "*To what extent does solver valorization influence the participation intention in future ideation contests?*".

Quantitative studies use numerical information to obtain scientific knowledge (Field, 2013). This was the most appropriate method to measure the extent to which solver valorization affects consumers participation intention in future contest. This is because quantitative research provides output in numbers that can be analyzed to validate hypotheses (Meyers, 2019). An online experiment was conducted to obtain numerical information by using Qualtrics. The purpose for this was that previous research has found that human social presence in an experiment can affect and determine consumer behavior and attitudes (Argo et al, 2005). Therefore, it could be argued that the presence of a researcher could affect the outcomes of this study. Moreover, according to Baron et al (2002), online surveys offer several benefits, including rapid data collection, the ability to reach a diverse audience irrespective of their geographical location.

The experiment design was a 2 (contribution recognition included vs. contribution recognition not included) x 2 (social recognition included vs. social recognition not included) between-subjects design (Table 1). This research was conducted by using a scenario-based experimental design. The reason for this was that this research method has a great degree of internal validity because it enables manipulation and control of variables (Kim & Jang, 2014). It allows for accurate predictions of theories or existing models. This design is well suited for this study because solver valorization is tested as an existing theory. Furthermore, experimental design facilitates the measurement of the effects of contribution recognition and social recognition while controlling other factors that may influence these concepts. Additionally, scenario-based experimental designs are useful for both theoretical and practical understanding and multiple stakeholders can benefit from this research (Vezzoli et al, 2015). In this case, managers who initiate an ideation contest can use the results of this study to their advantage. The main motivation behind selecting a between-subjects design was to mitigate the impact of fatigue and practice effects (Field & Hole, 2002). More concrete, this design ensured that previous answers in one

condition did not influence the answers in another condition, as respondents were only questioned once. In order to minimize the effects of random influences in the experiment, the respondents were allocated randomly across the four different conditions (Field & Hole, 2022).

Table 1. *Experimental design*

		Contribution recognition	
		Absent	*Present*
Social recognition	*Absent*	Control group (1)	Only contribution recognition (2)
	Present	Only social recognition (3)	Both (4)

The content of the experimental design was close to reality and had already proven to be a good tool for research. The ideation contests in the scenarios were set up by looking at the "Do us a Flavor" contest from Lays. Thus, the task in the ideation contest had already been tested once in practice. Furthermore, Acar (2018) employed a comparable ideation contest in his experimental design, indicating that this type of ideation contest had been utilized in prior research. Nevertheless, it is important to acknowledge that choosing for an online experiment introduced certain drawbacks in comparison to a traditional experiment. For instance, respondents tend to have less attention and do not understand the instructions as well as in a lab experiment (Finley & Penningroth, 2015). This is due to the fact that the online experiment is unsupervised (Huber & Gajos, 2020). However, the possible disadvantages associated with conducting an online experiment were addressed by providing clear instructions and questions, and implement attention checks in the questionnaire. Additionally, no brand name was used in this research to avoid current biases based on previous experiences. Appendix 1 lists the questionnaire and the scenarios in this experiment.

Lastly, the scenarios were manipulated in the following manners. Contribution recognition was manipulated by including a monetary reward and a symbolic reward. The winner received an amount of €5.000 and the ideas that were not chosen received a free sample of the winning product. This is realistic in the context of the scenario because similar idea competitions also used a similar reward (Acar, 2018). Furthermore, in order to avoid random influences, the introduction of all scenarios was identical. Social recognition was manipulated by including social elements. Participants were able to share ideas with each other, interact with each other, cast their votes and therefore become part of the community. In the scenario in which contribution recognition and social recognition both were present, the manipulation was done by literally combining the words from scenario 2 and scenario 3 to allow for comparison in the analysis. Therefore, it included both rewards as social elements.

3.2 Data collection

In this study, a questionnaire was used as a means of data collection. After a scenario had been assigned to the respondents, they were given a questionnaire to answer. This was an appropriate way of collecting data because it allowed for the collection of a large amount of information in a relatively short period of time (Given, 2008). The participants received a questionnaire in Dutch (Appendix 2). The questionnaire was in Dutch to counteract differences in translations to decrease the chance of different interpretations of the same question. This questionnaire has an introduction explaining the concept of an ideation contest. Then participants were randomly assigned to one of the four scenarios that can be found in Appendix 1: (1) a control group scenario with no manipulation, (2) a scenario with only contribution recognition, (3) a scenario with only social recognition, and (4) a scenario with both contribution and social recognition. The control group was an important part in this experiment. Through this group, it can be determined that the research results are arising from the manipulation of the independent variables and not because external variables (Field & Hole, 2002). Scenarios are defined as a tailored structured future context, in a narrative writing style (Ramirez et al, 2015). Scenarios are written with a purpose, in this case to generate results for this study. All the participants were asked to imagine themselves in a situation where they are allowed to invent a new flavor for their favorite food brand. An existing brand was not used to avoid existing associations and biases of the brand influencing the research results. The scenarios in this study describe a scenario in which the needs of solver valorization are clearly reflected without the participant's knowledge. The format and words in each scenario are similar as far as possible. The answers should be manipulated by the different conditions of the scenarios and not because of the difference in choice of words.

After the introduction and the scenarios there is a questionnaire consisting of four sections of questions: (1) four questions on demographic variables as control variables, (2) three questions on the dependent variable, (3) questions on manipulation checks and (4) questions regarding the attention check. The number of manipulation and attention checks depended on which scenario the respondents got. Additionally, one more question was asked if participants had participated in such a contest before. This question is relevant for analyzing the difference between the groups who are familiar with ideation contests and those who are new to ideation contests. The items were measured through a seven-point Likert scale. The items were based on previously tested scales to ensure validity. Choice options varied from very strongly disagree, strongly disagree, disagree, neutral, agree, strongly agree, to very strongly agree. In the last part of the questionnaire the participants were thanked for their participation. The questionnaire consisted of, depending on the scenario, between eight and twelve questions. It took approximately 3 minutes to fill in.

3.3 Sample size

Respondents were approached through the researcher's personal network, via social media (e.g. Facebook, LinkedIn and WhatsApp) and through face-to-face contact. After participating in the experiment, respondents were asked to share the link with their friends and families. The sampling methods that were used were the convenience sample and the snowballing technique. These methods had the advantage of being fast, low budget and easy to use (Given, 2008). However, it should be noted that these sampling methods had some disadvantages. More precisely, these sampling methods were susceptible to the selection bias. This bias occurs when the selection process is not random and other factors influence who is included in the sample respondents do not present the entire population of interest (Beauchemin & González-Ferrier, 2011). Therefore, respondents were gathered outside the researcher's own network by using an open LinkedIn profile. The fact that not everyone had the same chances of being included in this research will be taken into account as a limitation.

In this study a ANOVA was conducted, the argumentation for this will be argued later. The G*Power was used to find the appropriate sample size. G*Power is a tool to calculate statistical power analyses for many different tests (Faul et al, 2007). For this particular research the sample size should contain at least 188 respondents, and 44 respondents per group according the G*Power tool. The recommended minimum cell size for an ANOVA is 20 participants per experimental group (Hair et al, 2014). Larger sample sizes are more able to maintain acceptable levels of statistical power, therefore the goal was to gather more participants than the minimum. Using a convenience sampling approach, a survey was administered to a total of 396 individuals whose native language was Dutch. However, only 259 participants completed the survey, meaning that 137 respondents did not reach the end of the survey. Across all scenarios, a total of 54 individuals did not pass the attention check, so they were removed from the dataset. Consequently, the final sample consisted of 205 respondents (Table 2).

In addition, the current study aimed for equal or approximately equal sample size per group. However, since respondents were removed from the data set the groups varied between 44 respondents and 64 respondents. Since the minimum sample size per group was 44 respondents, it was accepted. Nevertheless, the inequality of the group sizes will be considered as a limitation.

Table 2. *Number of participants per scenario*

	N
Scenario 1	50
Scenario 2	64
Scenario 3	44
Scenario 4	47

The demographic variables were examined (Table 3). Firstly, 56% of the respondents were male versus 43% respondents were female. The remaining respondents preferred not to share their gender. Second, 44% of the respondents in the final sample were between 18 and 24 years of age. In addition, 23% of the respondents fall between 25 and 34. Furthermore, 20% of the respondents are between 50 and 65 years old. The small portion of remaining respondents fall into the other age categories. Thirdly, the participants' monthly gross income is quite spread out. It is noticeable that over 60% of the respondent have a gross monthly income of up to €3000. More than 33% is above this, and the remaining respondents chose not to tell. Fourthly, striking in this sample is that over 46% of the respondents has the educational level HBO/Bachelor. In addition, nearly 27% has completed a university master's degree. In general, the respondents in this sample are highly educated. The remaining respondents fall among the other education levels with roughly equivalent percentages. Finally, it is worth noting that over 82% of the respondents did not participate in any similar ideation contest and 14% did participate before. The remaining respondents do not know if they have participated before.

Table 3. *Demographic variables*

Variable	Category	N	Percentage
Age			
	<18	7	3.4%
	18-24	91	44.4%
	25-34	48	23.4%
	35-49	10	4.9%
	50-65	42	20.5%
	>65	6	2.9%
	private	1	0.5%
Gender			
	Male	114	55.6%
	Female	89	43.4%
	private	2	1.0%
Monthly income			
	<1.000	53	25.9%
	1.000-2.000	33	16.1%
	2.001-3.000	40	19.5%
	3.001-5.000	51	24.9%
	5.001-10.000	11	5.4%
	>10.000	7	3.4%
	private	10	4.9%
Education			
	VMBO	3	1.5%
	MAVO	5	2.4%
	HAVO	16	7.8%
	VWO	9	4.4%
	MBO	16	7.8%
	Bachelor's degree	95	46.3%
	Master degree	55	26.8%
	PhD	0	0
	Private/other	6	3.0%
Experience			
	Yes	28	13.7%
	No	169	82.4%
	I don't know	8	3.9%

3.4 Analysis procedure

The collected data were analyzed using IBM SPSS Statistics 27. This study was examined using an experimental design. This experiment had two independent variables and one dependent variable, all with a metric of measurement. The purpose of this experiment was to examine whether there was a difference in participation intention in the future between the different groups. Differences might arise due to the manipulated scenarios the respondents were confronted with. Based on these characteristics, a two-way ANOVA was appropriate for this study (Appendix 5). In order to examine all hypotheses, the data underwent a process of renaming, preparation, and transformation to create a dataset suitable for analysis. Furthermore, manipulation checks were performed. In addition, the reliability of the variables was assessed and detailed descriptive statistics were provided to characterize the data. Finally, the assumptions for the ANOVA were checked. The findings from this analysis will be presented in the next chapter.

3.5 Measurement scales

The questionnaire consisted of (1) four questions on demographic variables as control variables, (2) three questions on the dependent variable, (3) questions on manipulation checks and (4) questions regarding the attention check. The number of manipulation and attention checks depended on which scenario the respondents got. Additionally, one more question was asked if participants had participated in such a contest before. This question was relevant for analyzing the difference between these groups who are familiar with ideation contest and those who are new to ideation contest. The items were measured through a seven-point Likert scale. Choice options varied from very strongly disagree, strongly disagree, disagree, neutral, agree, strongly agree, to very strongly agree.

Firstly, in the light of potential misinterpretation of experiments caused by respondents reading too quickly or unclear instructions (Finley & Penningroth, 2015), attention checks were conducted. Respondents that failed this attention check, were excluded from this research. The respondents had to choose between two answers regarding the recent scenario. They had no possibility to go back in this scenario, because this study wanted to assure that the respondents paid attention. Secondly, four manipulation checks were implemented in the questionnaire. This was to determine if the respondents had correctly interpreted the scenario and whether they were attracted to the manipulation (Hoewe, 2017). The manipulation checks were measured on a 7-point Likert scale. Later in the study, it will become clear whether the manipulation checks were useful. An average score on the manipulation checks above 3.5 is interpreted as working manipulation checks. No choice was made to remove respondents from the study if they scored below. This was only to see if the manipulation of the scenario in question had come across well on average. Third, to measure participation intention in future contests (three items), a scale from Zheng et al. (2011) was used. The items were based on previously tested scales to ensure validity. This study looked at the extrinsic reasons for entering an ideation contest, such

as money and gaining status. It also looked at the intrinsic reasons for participating in an ideation contest, such as being part of a community. The items used to measure participation intention have been used in several studies and have proven useful for measuring this dependent variable (Zheng et al, 2021; Alexandris et al, 2007). Therefore, it was chosen to use these items for measuring participation intention. Fourthly, there were control variables included in this study, because when examining behavior in an open-innovation context the background of a respondent may hold significance (Beck et al, 2021). The control variables were: age, gender, income and educational level. These control variables could be important according to the study by Beck et al. (2021) and were therefore included in this study.

In summary, in the first part of the questionnaire respondents were tested at the attention check whether they read correctly, and in the second part with the manipulation checks whether they were attracted to the manipulation. In the third part the dependent variable was measured. In the last part the control variables were measured.

3.6 Research ethics

Considering that throughout the study there is contact with participants to obtain information about the research question, it is important that research ethics are included throughout the whole study (Goodwin et al, 2003). For this reason, it is important to mention that the research ethics in this study are based on the general ethical principles of the American Psychological Association (APA) (Pope & Vetter, 1992). In the questionnaire, respondents were honestly informed about the purpose of the study. Thereby, it was stated that the results would be processed anonymously and that the results of the study would only be used for this study. All information used for this study was clearly stated in the reference list to prevent plagiarism.

Chapter 4 | Results

This chapter presents the analysis conducted and the results obtained in this study. Initially, the manipulation checks will be discussed to ensure the validity of the experimental conditions. Next, the results will be presented from the reliability analysis, which assesses the consistency of the dependent variable. Furthermore, the descriptive statistics of the study will be provided, offering a summary of the main characteristics of the data. Following that, the assumptions of the statistical treatment will be examined to ensure their validity. Lastly, the chapter concludes with the results of the hypothesis testing and any additional analyses conducted.

4.1 Manipulation checks

To determine whether the manipulations in the created scenarios were seen as attractive by the respondents, manipulation checks were performed (Appendix 3). In total there were four manipulation checks divided into four scenarios. The scenarios contained a statement, measured on a 7-point Likert sale, where participants were asked to what extent the manipulation was attractive to them. In scenario 1, with the control group, logically no manipulation check was done. In scenario 2, with the contribution recognition, the mean score strongly indicated that participants were attracted to the manipulation in the scenario (*M = 5.13, SD = 1.35*). In scenario 3, with the social recognition, the mean score also strongly indicated that participants were attracted to the manipulation in the scenario (*M = 5.41, SD = 1.10*). In scenario 4, with both recognitions, the manipulation checks from scenario 2 and scenario 3 had been repeated. In scenario 4 the mean score strongly indicated that participants were attracted to the manipulation in the scenario (*M = 5.00, SD = 1.50 & M= 4.81, SD =1.48*). It can be concluded that all manipulation checks have been successful, because the averages of the checks are all 5 or higher. An average score on the manipulation checks above 3.5 is interpreted as working manipulation checks. This was only to check if the manipulation of the scenario in question had come across well on average.

4.2 Reliability analysis

The reliability of scales used in the questionnaire will be addressed (Appendix 3). The Cronbach's Alpha has been used to measure the internal consistency (Hair et al, 2014). The Cronbach's Alpha measured the internal consistency of the set of items belonging to each construct. The internal consistency of the construct participation intention consisted of three items measured the participation intention. An alpha coefficient of >.70 was required (Field, 2013). The result showed that the Cronbach's Alpha was .925 for these items and therefore it can be concluded that these three items indeed measured the construct of participation intention. Additionally, the internal consistency of these items were high (Table 4). The Cronbach's Alpha would hardly improve if items were deleted. Therefore, it has been decided to continue the analysis with these items measuring the construct.

Table 4. *Reliability analysis*

Construct	N of items	Cronbach's Alpha (α)
Intention	3	.925

4.3 Descriptive statistics

The descriptive statistics of the groups were examined (Table 5). The means were measured on a 7-point Likert scale. This reflected the participation intention when different manipulation and no manipulation were present. The mean score of the control group in the experiment was 3.58, with a standard deviation of 1.27. The mean score of group two with contribution recognition included was 3.61, with a standard deviation of 1.36. The mean of this group was slightly higher than the mean of the control group. However, it could be concluded that the difference was minimal. The average score of group three with social recognition as the manipulation was 4.27, with a standard deviation of 1.39. This score was remarkably high compared to the control group and the contribution recognition group. The mean score of group four with contribution recognition and social recognition combined as the manipulation was 3.65, with a standard deviation of 1.25.

Table 5. *Descriptive statistics*

Group	Mean	SD
1	3.58	1.27
2	3.61	1.36
3	4.27	1.39
4	3.65	1.25

4.4 Assumptions

To measure the effect of solver valorization on participation intention, a two-way ANOVA was conducted. Before conducting an ANOVA, certain assumptions had to be checked (Appendix 4). These assumptions were related to the sample size, the independency of observations, homogeneity of variance, and a normally distribution of the dependent variable tested within the different groups (Hair et al, 2018). This will be explained later in the text.

Firstly, the recommended minimum cell size for an ANOVA is 20 participants per experimental group (Hair et al, 2014). This assumption was met. Secondly, regarding the independency of observations, all respondents were assigned to different groups of the scenarios. This was done randomly by Qualtrics, and therefore it was assumed that the respondents completed this experiment independently. This assumption was met, also considering that the participants participated in the experiment in an individual setting (i.e. different ID values).

Thirdly, the homogeneity of the variance hypothesis was tested with the help of the Levene's test. This test indicated whether the variance in scores is the same for each comparison group (Field, 2013). The

Levene's test for homogeneity of variances showed no statistically significant difference between variances between groups (Table 6), which meant that the assumption of homogeneous variance was met.

Table 6. *Homogeneity of variance assumption*

	Levene Statistic	Df1	Df2	p
Participation intention	.389	3	201	.761

Fourthly, the dependent variable had to be normally distributed to meet the assumption of normality. Since the sample size of each group had to be at least 20 (Hair et al, 2014), and the G*Power sample size was met, it can be assumed that the dependent variable is normally distributed. To verify that this dependent variable was normally distributed, the skewness and kurtosis (Hair et al, 2018) were examined. All scores are between -2 and +2 (Table 7), for this it can be assumed that the distribution is normally distributed (Hair et al, 2014). Thus, this assumption was met. Since all four assumptions were met, the ANOVA was validated and could be performed.

Table 7. *Normality assumption*

	Control (1)	Contribution (2)	Social (3)	Both (4)
Skewness	1.202	.817	1.400	1.298
Std. Error Skewness	.170	.170	.170	.170
Kurtosis	-.562	-1.346	-.039	-.319
Std. Error Kurtosis	.338	.338	.338	.338

4.5 Hypothesis testing

Since all assumptions were met, a two-way ANOVA analysis was conducted (Table 8). The independent variables were contribution recognition and social recognition, and the dependent variable was participation intention. The partial eta squared is low for all variables, the partial eta squared explained the percentage of the variance in the dependent variable that can be attributed to the independent variables (Field, 2013). This will be included as a limitation. First, there was no significant main effect of contribution recognition on participation intention, $F(1,201) = 2.468$, $p = .118$. Second, there was a marginally significant main effect of social recognition on participation intention, $F(1,201) = 3.694$, $p = .056$. This effect is only 0.006 away from being significant, and therefore marginally significant. Third, there was no significant interaction effect between contribution recognition and social recognition $F(1,201) = 3.086$, $p = .080$.

Table 8. *Two-Way ANOVA results*

Source	df	F	p	Partial Eta Squared
Contribution	1	2.468	.118	.012
Social	1	3.694	.056	.018
Contribution * Social	1	3.086	.080	.015

Hypothesis 1

'The presence of contribution recognition has a positive effect on the participation intention in future ideation contests.'

To test whether the presence of contribution recognition increases participation intention in future ideation contests, as opposed to the absence of contribution recognition, a two-way ANOVA was conducted (Table 8). The main effect of contribution recognition on participation intention was not significant. Therefore, hypothesis 1 was rejected.

Hypothesis 2

'The presence of social recognition has a positive influence on the participation intention in future ideation contests.'

To test whether the presence of social recognition increased participation intention in future ideation contests, as opposed to the absence of social recognition, a two-way ANOVA was conducted. The main effect of social recognition on participation intention was marginally significant. Therefore, hypothesis 2 was marginally accepted.

Hypothesis 3

'There is an interaction effect between contribution recognition and social recognition, and this has a positive influence on the participation intention in future ideation contests.'

To test whether the presence of both contribution recognition and social recognition increased participation intention in future ideation contests, a two-way ANOVA was conducted. The interaction effect of contribution recognition and social recognition on participation intention was not significant. Therefore, hypothesis 3 was rejected.

4.6 Additional analysis

In order to get more insights, additional analyses were carried out with the demographical variables age, income and education. However, for all these variables only insignificant results were found. Additionally, for the variables gender and experience also no significant results were found. In conclusion, no additional insights that could be gathered by including these variables in the model. Therefore, no additional analyses were included in this study.

Chapter 5 | Conclusion

In this chapter, an interpretation of the key findings that were vital to address the hypotheses and the research question is provided. A more elaborative discussion and interpretation of these results and some additional results will be given in next chapter. The main aim of this research was to find an answer to the research question: *'To what extent does solver valorization influence the participation intention in future ideation contests*?'. Three hypotheses were developed to answer this research question (Table 9).

The first hypothesis expressed an expectation that the presence of contribution recognition would have a positive effect on the participation intention in future ideation contests. Although differences were found between the experimental group (contribution recognition) and the control group, contribution recognition was found to have no significant effect on the participation intention in future ideation contests. This contrasts with the result of Hanine and Steils (2019), where they claimed contribution recognition is a way for organizations to attract participants to participate in ideation contests. In this study no significant evidence is found for that claim. In conclusion, the first hypothesis is rejected.

The second hypothesis expressed an expectation that social recognition would have a positive effect on the participation intention in future ideation contest. Again, differences were found between the experimental group (social recognition) and the control group. Social recognition was found to have a marginally significant effect on the participation intention in future ideation contests. This means that the group with social recognition has a marginally significant higher level of participation intention than the control group. This is in line with the study of Hanine and Steils (2019), as they stated that building a relationship with the participants through a community can be rewarding beyond financial and symbolic rewards. In this study there is marginally significant evidence found for that claim. In conclusion, the second hypothesis is accepted.

The third hypothesis expressed an expectation that the interaction between contribution recognition and social recognition would have a positive effect on the participation intention in future ideation contests. Although differences between the experimental group (contribution and social) and the control group were found, the interaction between contribution and social recognition does not have a significant effect on the participation intention in future ideation contests. This contrasts with the result of Hanine and Steils (2019), where it is claimed that contribution recognition and social recognition combined would have more impact than the recognitions apart from each other (Hanine & Steils, 2019). It was assumed that a combination of different rewards and social elements would satisfy more needs and therefore increase participation intention. The study found no significant evidence for that claim. Finally, the third hypothesis is rejected.

In conclusion, the answer to the main question is the following, social recognition has a positive influence on the participation intention in future contests. As a result, solver valorization is partially useful if the objective is to increase participation intention in ideation contests. The next chapter will focus on possible explanations for why social recognition as a component of solver valorization has a stronger impact than contribution recognition.

Table 9. *Overview of the hypotheses*

Hypothesis		**Results**
H1	The presence of contribution recognition has a positive effect on the participation intention in future ideation contests.	Rejected
H2	The presence of social recognition has a positive influence on the participation intention in future ideation contests.	Marginally accepted
H3	There is an interaction effect between contribution recognition and social recognition, and this has a positive influence on the participation intention in future ideation contests.	Rejected

Chapter 6 | Discussion

This chapter concludes the research by examining the results in relation to the existing literature and engaging in a comprehensive discussion. The discussion of the main results will include the theoretical contribution. In addition, the managerial implications are discussed. The chapter ends with the limitations of the current research and possible topics for future research.

6.1 Discussion of main results

First of all, the current study could not provide evidence supporting the claim that implementing contribution recognition in an ideation contest leads to increased participation intention. This finding contradicts other studies that have suggested that monetary and symbolic rewards will increase the participation rate in ideation contest (Acar, 2018; Boss et al, 2017; Koh, 2019). The current study challenges most of the research which emphasizes the importance of monetary rewards in focusing individuals interest in ideation contests. There may be several reasons why contribution recognition was not significant in this study. Ales et al. (2017) found that offering multiple rewards can be more effective than a winner-takes-all approach. In the experiment conducted by this study, only the winner received a cash prize, which could explain the lack of significance. Another possible explanation for the non-significant effect of contribution recognition could be that offering a higher monetary reward indicates that the task is potentially complex and requires more resources from competing solvers. Thus, a higher reward might systematically discourage solvers from reengaging based on their previous experience (Deodhar, 2022). The current study contributes to the existing body of literature by showing that participants' interest to participate in ideation contests often stems from other needs besides monetary rewards (Ihl et al., 2019). This is illustrated by participants' willingness to freely share their innovations with other organizations or the public (Von Hippel, 2005), although participants are aware that the probability of not winning money is higher. In conclusion, a noteworthy contribution of this study is the perspective that neither monetary nor symbolic rewards needs to be significant factors for participants to participate in future ideation contests.

Secondly, it was hypothesized that social recognition would have a positive effect on the participation intention, which could be confirmed. Multiple studies confirmed the importance of social elements in ideation contests (Wang 2022; Martinez et al, 2016). Social aspects in ideation contests were found to be the strongest motivators, such as elements providing a sense of belonging and bonding with other solvers which is critical for participating (Scheiner, 2015). These elements are building a community where participants can interact and share ideas and have a sense that their voices are being heard. The current study contributes to the existing body of literature by showing that intrinsic factors like social needs are a good predictor for the participation rate in ideation contests (Dargahi et al, 2021). This concept has been applied to a variety of research to investigate expected outcomes, such as participant sustained participation (Lin 2008; Fan et al, 2014). In the research setting of ideation contests, limited

studies have explicitly examined the sense of belonging (Wang, 2022). In conclusion, a noteworthy contribution of this study is the perspective that forming a sense of virtual community will further increase a participant's sense of belonging, which may lead to strong continuous participation (Zhao & Zhu, 2014).

Thirdly, the interaction effect of contribution recognition and social recognition on participation intention was not significant. This is in contrast to the study from Hanine and Steils (2019), as they stated that contribution recognition and social recognition will reinforce each other. Furthermore, studies concluded that participants are more likely to participate in an ideation contest if a combination of needs are satisfied (Zhao & Zhu, 2014). The explanation for this finding would be that the majority of the participants in ideation contests will be participating for intrinsic and extrinsic reasons (Zheng et al, 2011). However it should be noted that, as the crowd is diverse, a certain prize can be perceived as attractive to some solvers but less so to others (Terwiesch and Xu 2008). The respondents in this study, did not seem to be attracted by the combination of the needs. The current study contributes to the existing body of literature by concluding the interaction between contribution recognition and social recognition is not needed when the objective is to encourage participants to engage in another ideation contest.

6.2 Practical implications

This study shows that certain components of solver valorization have a significant result on participation intention. This study sought to measure the extent to which solver valorization can ensure that participants have the intention to participate again another time in a similar ideation contest. In doing so, this study also demonstrated in which areas solver valorization is not necessary, or does not help in getting participants to reenter similar ideation contests. The results from this study will be relevant for business practitioners and may help managers in optimizing their innovation initiatives in which the organization can spend their recourses on the right contribution in ideation contests.

Firstly, this experiment showed that there is no significant effect of contribution recognition on participation intention. The findings of this study contradict multiple studies that have suggested that monetary rewards attract consumer attention to participate (Acar, 2018; Boss et al., 2017). There may be several reasons why contribution recognition was not significant in this study. In the experiment, there was a winner-takes-all approach with the money. Studies have shown that offering multiple rewards can be more effective than a winner-takes-all approach (Ales et al, 2017). Additionally, in this study there was a fairly high cash reward awarded to the winner, namely €5.000. This may also have influenced the non-significant effect. A possible explanation of this finding is that offering a higher monetary reward indicates that the task is potentially complex and requires more resources from competing solvers. Thus, a higher reward might systematically discourage solvers from reengaging based on their previous experience (Deodhar, 2022). These insights can help business practitioners and

managers in several ways. The results tell us that before giving out a high reward, it should be carefully considered. It may even backfire if participants associate a high reward with complexity of the task, leading to reduced participation (Deodhar, 2022). Thereby, a winner-takes-all approach may not increase participation intention. Rather, managers might opt for multiple cash prizes (Ales et al, 2017).

Secondly, this experiment showed that there is a significant effect of social recognition on participation intention, which is important for organizations. This implies that the social elements in an ideation contest are so important to a participant that the intention to participate is lower without this recognition. These elements are: building a community where participants can interact, share ideas and have a sense that their voices are being heard. Added to this is the ability to vote on each other's ideas, so participants feel that their voices are important to the final outcome. Managers could implement these practical elements to enhance the satisfaction among participants. The results related to social recognition do have limited generalizability. The scenarios tested in this study were only about a food ideation contest. The results may differ from other industries. In conclusion, managers frequently have a limited budget, and the results of this study recommend to invest in social elements during an ideation contest rather than offer financial and symbolic rewards.

Thirdly, the results are most useful to managers and organizations in the food industry. The experiment conducted was similar to Lays' 'Do us a Flavor' competition. Therefore, it expands the understanding of solver valorization within the specific domain of ideation contests in the food industry. In addition, managers in the food industry should take into account that rewards are not that important as compared to social recognition. In addition, chips can be seen as a low involvement product. These products are bought often with minimum attention and effort, because they are not vital and do not have a great impact on consumers' lifestyle (Jain, 2019). The obtained results hold practical significance for managers dealing with low involvement products.

6.3 Limitations and directions for future research

This study has several limitations that are discussed below, while offering suggestions for future research to supplement or improve certain aspects of the study. A first limitation of this study is the low adjusted R-squared value the model, indicating that the model does not fit well. The adjusted R-squared is the proportion of variance in the dependent variable predicted by the statistical model (Field, 2013). A higher value would have been desirable. However, a lower model fit is acceptable and still valuable, because human behavior in research is hard to predict (Hair et al, 2018). Additionally, the partial eta squared explains the percentage of the variance in the dependent variable that can be attributed to the independent variables (Field, 2013). For all variables the partial eta squared is low, and would have generated better results, had it been higher.

A second limitation is the role of the researcher in this study and the sampling methods used. Respondents were approached through the researcher's personal network, via social media (e.g. Facebook, LinkedIn and WhatsApp). The convenience sample is used, which implies that the sample was not completely random. Therefore, generalizations of the findings of current research should be interpreted with caution. Follow-up research could use a more randomized sampling method to increase generalizability of results.

A third limitation of this study arises in the scenario of contribution recognition. In this scenario, participants can not clearly indicate whether they find the monetary rewards or the symbolic rewards attractive. If they were able to do so, the results might have been different. As previous research indicates, the amount of the monetary reward is perceived to be associated with the complexity of the contest (Jain et al, 2022). Therefore, symbolic rewards are a good alternative to include because it lowers the threshold to enter a contest (Ihl et al, 2019). This study did not made a distinction between symbolic and monetary rewards in the scenario's. Follow-up research could clearly examine the effect of symbolic and monetary rewards on participation intention in ideation contest.

Fourthly, this study was only conducted on Dutch respondents. This implies that no consideration was made for other cultures. Similar to Hanine and Steils (2019), the population included respondents of a Western country. It would be interesting if multiple cultures were represented among the respondents to increase the generalizability. Especially since different cultures react differently in online ideation contests (Lin et al, 2018). As a consequence, the results of the current study might not apply to respondents from Eastern countries. For instance, Chinese participants in an ideation contest find it highly important to be able to communicate with other participants during the contest (Jiang & Wang, 2020), therefore they could have scored different in the experimental group regarding social recognition. In conclusion, the role of culture in the effect of solver valorization on participation intention might be an interesting perspective for future research.

In addition, the sample of this study did not appear to be homogeneous, since high educated people and respondents under thirty years of age were clearly overrepresented. This may influence the final results. The influence of rewards and social elements in an ideation contest may differ by per group and education level. This is confirmed by the study by Zhang & Chen (2022), which indicated that participants behavior and what they value in an ideation contest is determined by various demographic characteristics. These are characteristics such as age, gender, participation experience, educational level and cultural background. Further research can focus on a sample with respondents who are more different from each other in terms of demographic characteristics in order to get a better picture of the community.

In the fifth place, the ideation contest took place in the context of the food industry. To improve the generalizability of the results, the study should be repeated in other contexts (Karachiwalla & Pinkow, 2021). The study could be repeated in the context of the toys industry. The organization LEGO has already held several successful ideation contest, and they would benefit from knowing more about solver valorization regarding their type of industry. They will benefit from this knowledge, because holding a successful ideation contest already improved their brand engagement and financial situation (Hanine & Steils, 2022).

Another drawback of current research concerns the sample size. Initially, the sample consisted out of 396 participants, whereas the final sample consisted out of only 259 participants. The results showed that a large proportion of the original respondents dropped out of the survey after a few questions. Therefore, it must be questioned whether the experiment was clear enough for the respondents since almost 35% dropped out. Moreover, a reasonable number of respondents did not pass the attention check. This in turn caused 54 participants to be dropped out from the sample. Because of this, one has to wonder if the attention check was too difficult for the respondents. Giving all these eliminations of respondents, the size of the experimental groups was not evenly distributed. However, no group was underrepresented and the study was able to continue. The statistical power would have increased if the sample consisted of more people.

Lastly, the experiment consisted of written scenarios with narrative text. The purpose of the scenarios was to paint as realistic a picture as possible in which the participants could see themselves playing along. Therefore, the ideation contest was chosen to be as similar as possible to Lays' "Do us a Flavour" contest. However, it can be questioned whether the ideation contest in the scenario was seen as realistic. Normally, a participant encounters such an ideation contest in an advertising setting, which can strongly influence the effectiveness of such an ideation contest. Moreover, in practice, the time spent by the participants to empathize with the scenarios is short. This is reflected in the number of participants that did not pass the attention check. As a result, participants miss important information in the scenario, making the experiment more unclear, which ultimately leads to low external validity. One way to improve the external validity is to redo the scenarios in a field experiment with real-life interactions.

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Appendix 1 (translated into English)

Introduction

Dear respondent,

Thank you in advance for your participation in this experiment. We are Anna, Bram, Daniël and Jesse, and we are conducting our Marketing thesis at Radboud University Nijmegen. This research is about ideation contests. In short, an ideation contest is a way for customers to submit new ideas and creations to a company that organizes the contest.

We would like to ask you to participate in this short experiment and answer a few questions about a contest regarding the creation of a new chips flavor. It is important to note that participating in this experiment is voluntary, and you can choose to withdraw at any time. Your responses will be anonymized and kept confidential.

Participation in this experiment will take about 3 minutes. Please answer each question sincerely. For this, there will be an attention check question included.

If you have any questions or comments about this experiment, please let us know and contact via bram.degroot@ru.nl.

By continuing with this experiment, you agree that your answers will be used for this research. Thank you in advance for your participation!

Scenario 1: Control group

Please read the following scenario carefully to be able to answer the questions.

You entered an ideation contest to develop a new flavor for your favorite brand of potato chips! You used your imagination and creativity to come up with a new flavor. Your entry included the following three elements: the name, the ingredients of the flavor and the motivation why this flavor will win the contest. The results of the ideation contest were released in 2 months. Each entry was judged by a special committee. The winner's idea was implemented in real life and sold in supermarkets.

Scenario 2: Contribution recognition

Please read the following scenario carefully to be able to answer the questions.

You entered an ideation contest to develop a new flavor for your favorite brand of potato chips! You used your imagination and creativity to come up with a new flavor. Your entry included the following three elements: the name, the ingredients of the flavor and the motivation why this flavor will win the contest. The results of the ideation contest were released in 2 months. Each entry was judged by a

special committee. The winner's idea was implemented in real life and sold in supermarkets.

The winner of the contest was awarded 5,000 euros. All other participants whose ideas were not chosen received a free sample of the winning product.

Scenario 3: Social recognition
Please read the following scenario carefully to be able to answer the questions.
You entered an ideation contest to develop a new flavor for your favorite brand of potato chips! You used your imagination and creativity to come up with a new flavor. Your entry included the following three elements: the name, the ingredients of the flavor and the motivation why this flavor will win the contest. The results of the ideation contest were released in 2 months. Each entry was judged by a special committee which voted on the 10 best ideas submitted. Then the 10 best ideas were presented on a website, where you had the chance to vote for your favorite flavor to determine the winner.

Participants in this contest had the opportunity to share their ideas with each other in the forum on the website, comment on them and share their stories. You were able to be part of the community of your favorite food.

Scenario 4: Contribution recognition and social recognition
Please read the following scenario carefully to be able to answer the questions.
You entered an ideation contest to develop a new flavor for your favorite brand of potato chips! You used your imagination and creativity to come up with a new flavor. Your entry included the following three elements: the name, the ingredients of the flavor and the motivation why this flavor will win the contest. The results of the ideation contest were released in 2 months. Each entry was judged by a special committee which voted on the 10 best ideas submitted. Then the 10 best ideas were presented on a website, where you had the chance to vote for your favorite flavor to determine the winner.

The winner's idea was implemented in real life and sold in supermarkets. The winner of the contest was awarded 5,000 euros. All other participants whose ideas were not chosen received a free sample of the winning product. Participants in this contest had the opportunity to share their ideas with each other in the forum on the website, comment on them and share their stories. You were able to be part of the community of your favorite food.

Questionnaire

All questions are Likert scale unless stated otherwise.
(1= very strongly disagree, 2= strongly disagree, 3= disagree, 4= neutral, 5= agree, 6= strongly agree, 7= very strongly agree)

Scenario 1: Attention check

Q1: Based on the scenario earlier, please answer the following question. Each submission was judged by..

a. Consumer panel
b. Special committee

Scenario 2: Attention check and manipulation check

Q1: Based on the scenario earlier, please answer the following question. The reward of the winning submission was..

a. 5000
b. 25000

Q2: Based on the scenario earlier, please indicate your thoughts on the following: The rewards provided in this ideation contest is appealing to me.

Scenario 3: Attention check and manipulation check

Q1: Based on the scenario earlier, please answer the following question. The winner is decided by the..

a. Organizer
b. Participants

Q2: Based on the scenario earlier, please indicate your thoughts on the following: The opportunity to vote on the best submissions in this ideation contest was appealing to me.

Scenario 4: Attention check and manipulation check

Q1: Based on the scenario earlier, please answer the following question. The reward of the winning submission was..

a. 5000
b. 25000

Q2: Based on the scenario earlier, please answer the following question. The winner is decided by the..

a. Organizer
b. Participants

Q3: *Based on the scenario earlier, please indicate your thoughts on the following:*

1. The rewards provided in this ideation contest are appealing to me
2. The opportunity to vote on the best submissions in this ideation contest was appealing to me

Scenario 1, 2,3 and 4: Participation intention in future contests (DV)

Q1. I plan to participate in similar ideation contest from the same company in the future

Q2. I am excited about the idea of participating ina similar ideation contest from the same company in the future.

Q3. I will try to participate in similar ideation contest from the same company in the future.

Scenario 1, 2, 3 and 4: Experience

Q1. I have participated in similar ideation contests before

a. Yes
b. No
c. I don't know

Scenario 1, 2, 3 and 4: Demographic questions

Q1. What is your gender?

a. Male
b. Female
c. Other
d. I prefer not to say

Q2. What is your age?

a. Younger than 18
b. 18 - 24
c. 25 - 34
d. 35 - 49
e. 50 - 65
f. Older than 65
g. I prefer not to say

Q3. What is your monthly income before taxes?

a. <€1000
b. €1000 - €2000
c. €2001 - €3000
d. €3001 - €5000
e. €5001 - €10000
f. >€10000
h. I prefer not to say

Q4. What is your highest level of education?

a. Pre-vocational Secondary Education (VMBO)
b. Lower General Secondary Education (MAVO)
c. Senior General Secondary Education (HAVO)
d. Pre-University Education (VWO)
e. Secondary Vocational Education (MBO)
f. Bachelor's Degree (HBO/Bachelor Universiteit)
g. Master's Degree
h. Post-doctoral (PhD)
i. Other
j. I prefer not to say

Appendix 2 (translated into Dutch)

Introduction
Beste respondent,

Bij voorbaat dank voor uw deelname aan dit experiment. Wij zijn Anna, Bram, Daniël en Jesse, en voeren onze Marketing scriptie uit aan de Radboud Universiteit Nijmegen. Dit onderzoek gaat over ideeënwedstrijden. Kort gezegd is een ideeënwedstrijd een manier voor klanten om nieuwe ideeën en creaties in te dienen bij een bedrijf dat de wedstrijd organiseert.

Wij willen u vragen deel te nemen aan dit korte experiment en een aantal vragen te beantwoorden over een wedstrijd met betrekking tot het creëren van een nieuwe chipssmaak. Deelname aan dit experiment is vrijwillig en u kunt zich op elk moment terugtrekken. Uw antwoorden worden geanonimiseerd en vertrouwelijk behandeld.

Deelname aan dit experiment duurt ongeveer 3 minuten. Gelieve elke vraag oprecht te beantwoorden. Om dit te controleren zal er een attentie check in het experiment zitten.

Als u vragen of opmerkingen heeft over dit experiment, laat het ons weten en neem contact op via bram.degroot@ru.nl.

Door verder te gaan met dit experiment gaat u ermee akkoord dat uw antwoorden worden gebruikt voor dit onderzoek. Bij voorbaat dank voor uw deelname!

Scenario 1: Control group
Lees het volgende scenario aandachtig door om de vragen te kunnen beantwoorden.
U heeft recent meegedaan aan een ideeënwedstrijd om een nieuwe smaak te ontwikkelen voor uw favoriete merk chips! U heeft uw fantasie en creativiteit gebruikt om deze nieuwe smaak te bedenken. Uw inzending bevatte de volgende drie elementen: de naam, de ingrediënten van de smaak en de motivatie waarom deze smaak de wedstrijd zou moeten winnen. De resultaten van de ideeënwedstrijd werden na 2 maanden bekendgemaakt. Elke inzending werd beoordeeld door een speciaal comité. Het idee van de winnaar werd in het echt uitgevoerd en verkocht in de supermarkten.

Scenario 2: Contribution recognition
Lees het volgende scenario aandachtig door om de vragen te kunnen beantwoorden.
U heeft recent meegedaan aan een ideeënwedstrijd om een nieuwe smaak te ontwikkelen voor uw favoriete merk chips! U heeft uw fantasie en creativiteit gebruikt om deze nieuwe smaak te bedenken. Uw inzending bevatte de volgende drie elementen: de naam, de ingrediënten van de smaak en de motivatie waarom deze smaak de wedstrijd zou moeten winnen. De resultaten van de ideeënwedstrijd werden na 2 maanden bekendgemaakt. Elke inzending werd beoordeeld door een speciaal comité. Het idee van de winnaar werd in het echt uitgevoerd en verkocht in de supermarkten.

De winnaar van de wedstrijd kreeg 5.000 euro. Alle andere deelnemers van wie de ideeën niet werden gekozen, kregen een gratis sample van het winnende product.

Scenario 3: Social recognition
Lees het volgende scenario aandachtig door om de vragen te kunnen beantwoorden.
U heeft recent meegedaan aan een ideeënwedstrijd om een nieuwe smaak te ontwikkelen voor uw favoriete merk chips! U heeft uw fantasie en creativiteit gebruikt om deze nieuwe smaak te bedenken. Uw inzending bevatte de volgende drie elementen: de naam, de ingrediënten van de smaak en de motivatie waarom deze smaak de wedstrijd zou moeten winnen. De resultaten van de ideeënwedstrijd werden na 2 maanden bekendgemaakt. Elke inzending werd beoordeeld door een speciaal comité dat de 10 beste ingezonden ideeën selecteerde. Vervolgens werden de 10 beste ideeën gepresenteerd op een website, waar u de kans kreeg te stemmen op uw favoriete smaak om de winnaar te bepalen. Het idee van de winnaar werd in het echt uitgevoerd en verkocht in de supermarkten.

Deelnemers in deze wedstrijd konden hun ideeën met elkaar delen op het forum op de website, commentaar geven op elkaar en hun verhalen delen. U kon deel uitmaken van de community van uw favoriete chips merk.

Scenario 4: Contribution recognition and social recognition

Lees het volgende scenario aandachtig door om de vragen te kunnen beantwoorden.

U heeft recent meegedaan aan een ideeënwedstrijd om een nieuwe smaak te ontwikkelen voor uw favoriete merk chips! U heeft uw fantasie en creativiteit gebruikt om deze nieuwe smaak te bedenken. Uw inzending bevatte de volgende drie elementen: de naam, de ingrediënten van de smaak en de motivatie waarom deze smaak de wedstrijd zou moeten winnen. De resultaten van de ideeënwedstrijd werden na 2 maanden bekendgemaakt.

Elke inzending werd beoordeeld door een speciaal comité dat de 10 beste ingezonden ideeën selecteerde. Vervolgens werden de 10 beste ideeën gepresenteerd op een website, waar u de kans kreeg te stemmen op uw favoriete smaak om de winnaar te bepalen. Het idee van de winnaar werd in het echt uitgevoerd en verkocht in de supermarkten.

De winnaar van de wedstrijd kreeg 5.000 euro. Alle andere deelnemers van wie de ideeën niet werden gekozen, kregen een gratis sample van het winnende product. Deelnemers in deze wedstrijd konden hun ideeën met elkaar delen op het forum op de website, commentaar geven op elkaar en hun verhalen delen. U kon deel uitmaken van de community van uw favoriete chipsmerk.

Questionnaire
Alle vragen hebben een Likertschaal, tenzij anders vermeld.

(1= helemaal oneens, 2= grotendeels oneens, 3= oneens, 4= neutraal, 5= eens, 6= grotendeels eens, 7= helemaal eens)

Scenario 1: Attention check

Q1: Beantwoord alstublieft de volgende vraag, gebaseerd op het voorafgaande scenario. Elke inzending werd beoordeeld door een:

a. Panel van consumenten
b. Speciaal comité

Scenario 2: Attention check and manipulation check

Q1: Beantwoord alstublieft de volgende vraag, gebaseerd op het voorafgaande scenario. De prijs voor het winnende idee was:

a. 5000 euro
b. 25000 euro

Q2: Beoordeel alstublieft de volgende stelling, gebaseerd op het voorafgaande scenario: Ik vind de beloningen die worden uitgereikt in deze wedstrijd aantrekkelijk.

Scenario 3: Attention check en manipulation check

Q1: Beantwoord alstublieft de volgende vraag, gebaseerd op het voorafgaande scenario. De uiteindelijke winnaar wordt gekozen door:

a. De CEO van het bedrijf
b. De deelnemers

Q2: Beoordeel alstublieft de volgende stelling, gebaseerd op het voorafgaande scenario: Ik vind de mogelijkheid om te stemmen op het beste idee in deze wedstrijd aantrekkelijk.

Scenario 4: Attention check en manipulation check

Q1: Beantwoord alstublieft de volgende vraag, gebaseerd op het voorafgaande scenario. De prijs voor het winnende idee was:

a. 5000 euro
b. 25000 euro

Q2: Beantwoord alstublieft de volgende vraag, gebaseerd op het voorafgaande scenario. De uiteindelijke winnaar wordt gekozen door:

a. De CEO van het bedrijf
b. De deelnemers

Q3: Beoordeel alstublieft de volgende stelling, gebaseerd op het voorafgaande scenario:

1. Ik vind de beloningen die worden uitgereikt in deze wedstrijd aantrekkelijk.
2. Ik vind de mogelijkheid om te stemmen op het beste idee in deze wedstrijd aantrekkelijk.

Scenario 1,2,3 en 4: Participatie intentie in toekomstige ideation contest (DV)
Q1. Ik denk dat ik in de toekomst deelneem aan soortgelijke ideeënwedstrijden van hetzelfde bedrijf.
Q2. Ik ben van plan in de toekomst deel te nemen aan soortgelijke ideeënwedstrijden van hetzelfde bedrijf.
Q3. Ik doe in de toekomst zeker mee aan soortgelijke ideeënwedstrijden van hetzelfde bedrijf.

Scenario 1,2,3 en 4: Ervaring

Q1. Ik heb eerder deelgenomen aan een vergelijkbare ideeënwedstrijd
a. Ja
b. Nee
c. Weet ik niet

Scenario 1,2,3 en 4: Demografische variabelen

Q1 Wat is uw geslacht?
a. Man
b. Vrouw
c. Anders
d. Ik zeg dat liever niet

Q2 Wat is uw leeftijd?
a. Jonger dan 18
b. 18 - 24
c. 25 - 34
d. 35 - 49
e. 50 - 65
f. Ouder dan 65
g. Ik zeg dat liever niet

Q3 Wat is uw bruto maand inkomen?
a. minder dan €1000
b. €1000 - €2000
c. €2001 - €3000
d. €3001 - €5000
e. €5001 - €10000
f. meer dan €10000
g. Ik zeg dat liever niet

Q4. Wat is uw hoogst behaalde opleidingsniveau?
a. VMBO
b. MAVO
c. HAVO
d. VWO/Gymnasium
e. MBO
f. HBO/ Bachelor Universiteit
g. Master Universiteit
h. PhD
i. Anders
j. Ik zeg dat liever niet

Appendix 3

Manipulation checks

Statistics

		S2: Man Check_1	S3: Man Check_1	S4: Man Check_1	S4: Man Check_2
N	Valid	64	44	47	47
	Missing	141	161	158	158
Mean		5,13	5,41	5,00	4,81
Std. Error of Mean		,169	,167	,219	,216
Std. Deviation		1,351	1,106	1,504	1,484
Variance		1,825	1,224	2,261	2,202
Range		6	6	6	6
Minimum		1	1	1	1
Maximum		7	7	7	7

Reliability analysis

Reliability Statistics

Cronbach's Alpha	N of Items
,925	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Onafhankelijk_1	7,22	7,300	,845	,895
Onafhankelijk_2	7,49	7,290	,895	,854
Onafhankelijk_3	7,81	7,684	,805	,926

Descriptive analysis

Descriptives

Intentie_Average

		N	Mean	Std. Deviation	Std. Error	90% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
						Lower Bound	Upper Bound			
1		50	3,5800	1,27030	,17965	3,2788	3,8812	1,00	6,33	
2		64	3,6146	1,35981	,16998	3,3308	3,8983	1,00	6,00	
3		44	4,2652	1,38762	,20919	3,9135	4,6168	1,00	7,00	
4		47	3,6454	1,24994	,18232	3,3393	3,9514	1,00	6,00	
Total		205	3,7528	1,33768	,09343	3,5985	3,9072	1,00	7,00	
Model	Fixed Effects			1,32000	,09219	3,6005	3,9052			
	Random Effects				,15667	3,3841	4,1215			,06278

Appendix 4
ANOVA assumptions

Homogeneity of variance

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Intentie_Average	Based on Mean	,389	3	201	,761
	Based on Median	,445	3	201	,721
	Based on Median and with adjusted df	,445	3	194,878	,721
	Based on trimmed mean	,403	3	201	,751

Normality check

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Group_1	205	1,00	,00	1,00	50,00	,2439	,03007	,43049	,185	1,202	,170	-,562	,338
Group_2	205	2,00	,00	2,00	128,00	,6244	,06489	,92905	,863	,817	,170	-1,346	,338
Group_3	205	3,00	,00	3,00	132,00	,6439	,08624	1,23472	1,525	1,400	,170	-,039	,338
Group_4	205	4,00	,00	4,00	188,00	,9171	,11772	1,68556	2,841	1,298	,170	-,319	,338
Valid N (listwise)	205												

Appendix 5

SPSS Output

Between-Subjects Factors

		N
contribution	,00	94
	1,00	111
social	,00	114
	1,00	91

Descriptive Statistics

Dependent Variable: Intentie_Average

contribution	social	Mean	Std. Deviation	N
,00	,00	3,5800	1,27030	50
	1,00	4,2652	1,38762	44
	Total	3,9007	1,36331	94
1,00	,00	3,6146	1,35981	64
	1,00	3,6454	1,24994	47
	Total	3,6276	1,30866	111
Total	,00	3,5994	1,31565	114
	1,00	3,9451	1,34739	91
	Total	3,7528	1,33768	205

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Intentie_Average	Based on Mean	,389	3	201	,761
	Based on Median	,445	3	201	,721
	Based on Median and with adjusted df	,445	3	194,878	,721
	Based on trimmed mean	,403	3	201	,751

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

a. Dependent variable: Intentie_Average

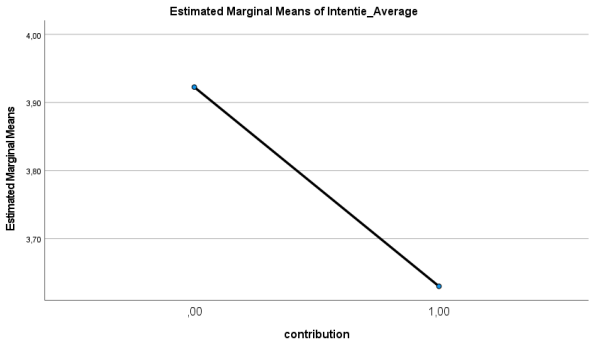
b. Design: Intercept + contribution + social + contribution * social

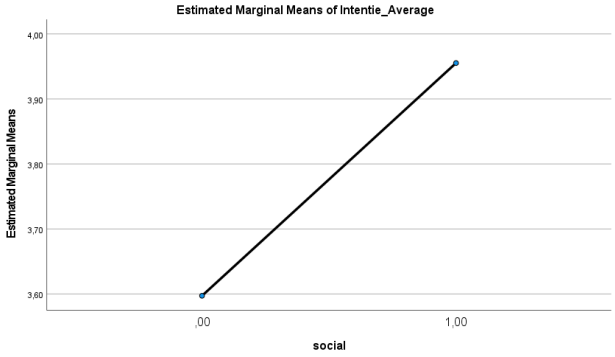
Tests of Between-Subjects Effects

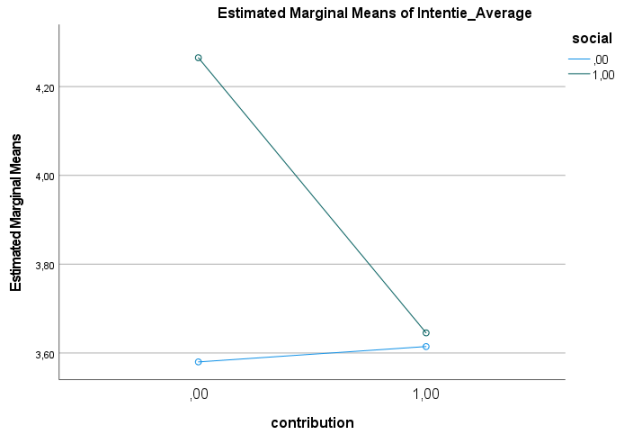
Dependent Variable: Intentie_Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14,808[a]	3	4,936	2,833	,039	,041
Intercept	2865,353	1	2865,353	1644,474	<,001	,891
contribution	4,300	1	4,300	2,468	,118	,012
social	6,437	1	6,437	3,694	,056	,018
contribution * social	5,377	1	5,377	3,086	,080	,015
Error	350,225	201	1,742			
Total	3252,222	205				
Corrected Total	365,033	204				

a. R Squared = ,041 (Adjusted R Squared = ,026)


Estimated Marginal Means of Intentie_Average
Estimated Marginal Means
4,00
3,90
3,80
3,70
,00
1,00
contribution


Estimated Marginal Means of Intentie_Average
Estimated Marginal Means
4,00
3,90
3,80
3,70
3,60
,00
1,00
social


Estimated Marginal Means of Intentie_Average
social
,00
1,00
Estimated Marginal Means
4,20
4,00
3,80
3,60
,00
1,00
contribution