

Thank you for participating!

Which categories of solver valorization influence future ideation contest participation in food industries?

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Abstract

Ideation contests increase in appearance. When properly conducted, they outsource tasks, increase knowledge about customer needs, and increase customer loyalty. However, in ideation contests, solver valorization currently is not properly managed, resulting in negative feelings and word-of-mouth.

To close this knowledge gap, this research investigates which categories of solver valorization influence future ideation contest participation in food industries. For this, two categories of solver valorization as suggested by Hanine and Steils (2019) are used, contribution recognition and social recognition.

These two categories, along with an interaction effect, are tested in an experiment, conducted using four scenarios with corresponding questionnaires. Each scenario has a different presence of the recognition categories. Then, respondents are asked to what extent they intend to participate in the future.

Results show that the presence of contribution recognition does not have an effect, and both the presence of social recognition and the interaction effect have a marginally significant positive effect on future ideation contest participation. Implications from these results are that the presence of social recognition might have the most potential in increasing future contest participation. However, due to research limitations, the presence of contribution recognition might have an effect when the participation reward is higher.

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1. Introduction

1.1 Cause and context

Recently, the topic of co-creation is more relevant than ever (Gruner & Power, 2017). One of the co-creation options that benefits the most from this attention is the ideation contest (Miyazaki, 2022; Piller et al., 2011). An ideation contest is a process, where the organizer makes an open call for help to solve a problem, and rewards the one who solves it. Within this contest, there is an ongoing relationship between the organizer and the helpers (Jiang & Wang, 2020).

Ideation contests have some benefits that make them interesting for organizations. They can be used to outsource tasks, to involve and reach large groups in the process more easily, to increase their loyalty to the organization, to gather new knowledge, and to reveal latent customer needs (Gatzweiler et al., 2017; Kamboj et al., 2018; Zheng et al., 2017). However, ideation contests also have several downsides. When their participation is not properly recognized, participants can develop negative feelings for the organization, which can lead to negative word-of-mouth (Blazevic et al., 2013; Hanine & Steils, 2019). To prevent this, it is therefore important to make sure participants feel recognized.

One sector where co-creation processes, and more specifically ideation contests, are relevant, is the food industry. The food industry is an industry that is known to be competitive (Turi et al., 2014). In competitive markets, organizations must increasingly become more efficient in order to survive (Sheth & Sisodia, 2001). For this, the new ideas provided by ideation contests can be of use. Also, customers in food industries value transparency, which is also valued in ideation contests (Hanine & Steils, 2019; Turi et al., 2014). Because of this, the food industry is a well-known sector in making use of multiple forms of co-creation (Filiari, 2013; Tardivo et al., 2017).

Within the food industry, the developments within the potato chips industry resemble those of the food industries in general (Keijbets, 2008). This means that the potato chip industry is representative of other food industries, meaning that research results for this specific industry can be generalized to other food industries (Vennix, 2016). On top of that, a contest regarding the creation of a new chip flavor was researched before (Acar, 2018). Although in the current research other categories of participation recognition will be examined, it can use Acar (2018) as a foundation. Being able to use this previous research and then combine it with new theory improves the accuracy of the research (Vennix, 2016). This makes the context of the chip flavor contest ideal to test theories on.

Additionally, the most famous practical example of an ideation contest in the Netherlands, where this research will be conducted, was also a contest choosing a new chips flavor, the "Maak de Smaak" contest. This contest included over 600.000 participants, with the winning flavor nowadays being one of the main flavors of the brand (Lay's, n.d.; PepsiCo Nederland, 2012). Based on this generalizability, previous research, and customer experience, the example of an ideation contest creating a new chips flavor is chosen.

1.2 Problem in terms of academic literature

Within the academic literature, there are different authors that have written about co-creation and its consequences. However, a consensus about the best way to manage participation recognition (better known as solver valorization) is missing. This solver valorization is the extent to which participants of an ideation contest are noticed and appreciated in a proper way (Jiang & Wang, 2020; Osburn, 2006). When solver valorization is not handled properly, people will not intend to participate in future events (Füller et al., 2011). This means the organization will miss the aforementioned benefits of the ideation contests (Gatzweiler et al., 2017; Kamboj et al., 2018; Zheng et al., 2017).

Another consequence is that participants can develop negative feelings towards the organizer, which can evolve into a negative attitude towards the organizer of the contest, as well as into an increase in negative word-of-mouth about the organization (Blazevic et al., 2013; Hanine & Steils, 2019). Since this would mean less people are willing to affiliate and purchase from such an organization, it is a cause for concern for them (East et al., 2008).

Hanine and Steils (2019) have suggested that there are three main categories of solver valorization that motivate customers to join and participate in these contests; basic recognition, contribution recognition, and social recognition. Basic recognition is formulated as the minimal acknowledgement of contest participation. Participants want to hear that their contribution is valued. When this is done properly, contribution recognition needs to be included. Contribution recognition means rewarding people for their participation with a prize of financial value. Participants do not want to feel exploited, and want their ideas to be rewarded, whether it is financial or symbolic. If this is settled, social recognition needs to be implemented into the contest. Social recognition is fulfilling the need to be part of a transparent community where participants can interact. In order to create a relationship with the organizer, participants want to feel like they belong to the community, in which transparency and interaction plays a big role. Hanine and Steils (2019) believe that these three categories of solver valorization can

help overcome the negative feelings, including its consequences, that are currently associated with ideation contests (Blazevic et al., 2013; East et al., 2008; Hanine & Steils, 2019).

Currently, the solver valorization categories as defined by Hanine and Steils have not been empirically tested and researched yet. This means that currently, they are merely hypotheses, because they are not proven to be true. Therefore, the categories cannot be used in future research without being tested (McClave et al., 2011). By empirically testing the categories of solver valorization, the literature gap of managing solver valorization in ideation contests can be filled, and suggestions on improvement can be offered in avoiding solver's negative feelings.

1.3 Research question and research objective

When researching the model proposed by Hanine and Steils (2019) within the context of food industries, the objective of the current research is to discover which different types of solver valorization convince participants to take part in the potato chips contest. Thus, in this research, the main research question will be: *Which categories of solver valorization influence future ideation contests participation in food industries?*

Since basic recognition is about minimal acknowledgement, it is inevitably present in every ideation contest (Hanine & Steils, 2019). To fully understand recognition in an ideation contest, it is therefore important to explain basic recognition. However, its inevitable presence also means that basic recognition cannot be excluded from a contest. Since a contest without basic recognition is impossible, it cannot be seen how basic recognition influences future ideation participation. Therefore, basic recognition cannot be used in the research design. Because of this, the research will instead focus on the influence contribution recognition and social recognition may have on future ideation contest participation in food industries. Therefore, the research question will be answered by answering the following two subquestions: *“How does the presence of contribution recognition influence future ideation contest participation in food industries?”*, and *“How does the presence of social recognition influence future ideation contest participation in food industries?”*.

The design of this research will be a 2x2 experiment (see chapter 3), in which each side of the experiment measures the presence and absence of contribution recognition and social recognition. Because of this, a scenario in which both conditions are present will be tested as well. The presence of both contribution and social recognition in a contest design means that they can influence the effect the other has on future ideation contest participation. This means

there could be an interaction effect between both conditions (Field, 2014). Therefore, a third subquestion, *“Is there an interaction effect between contribution recognition and social recognition?”*, will be answered. By answering these three subquestions, the research question can be answered, and therefore, the research objective can be achieved.

1.4 Practical and theoretical relevance

The practical relevance of this research would mostly be in its managerial implications. When it is clear how important contribution recognition and social recognition can be within ideation contest participation, managers can adjust the ideation contest to align more with the important factors, thus helping them to make their future campaigns more successful. On top of that, the ideation contests will be more suited for the participants, increasing their satisfaction for participation. Although testing both contribution recognition and social recognition in practice can be interesting in general, the context of the potato chips contest used in this research makes it especially interesting for managers working within the food industry, as well as similar industries. For them, this research can be used as a blueprint for their co-creating efforts.

The theoretical relevance of this research is extending the current knowledge about participation intention in ideation contests by testing a scientific model that is not empirically proven yet. In this case, the theory of Hanine and Steils is tested, which aims to provide a solution to the mismanagement of solver valorization in ideation contests. If their theory is tested, the results can improve solver valorization theory, especially in the context of ideation contests.

Testing the theory in practice within the context of an existing industry (food industry) makes the research more interesting, because it can generate industry-specific context and answers. With this information, future researchers can research the ideation contest topic knowing to what extent they should focus on contribution recognition and/or social recognition, while being able to use a specific context that can generalize the results.

1.5 Outline of the thesis

This thesis will continue with chapter 2 (Theoretical Background), where co-creation, ideation contests, and (future) participation will be introduced, and solver valorization and its categories will be defined. After this, the expected relationship between the solver valorization categories and future participation in ideation contests will be displayed in a conceptual model. In chapter 3 (Methodology), the choice for the preferred research method, quantitative research using an

experiment spread through a survey, will be explained and elaborated upon. The research analysis, limitations, and ethical implications will also be discussed in this part.

Afterwards, the experiment will be conducted, and the results of this will be analyzed in SPSS. Then, the results will be analyzed in chapter 4 (Results), in which the hypotheses will be tested. Using the results, conclusions will be drawn in chapter 5 (Conclusion), and the research itself will be discussed in chapter 6 (Discussion).

2. Theoretical background

To find an answer to the research question: “*Which categories of solver valorization influence future ideation contests participation in food industries?*”, it is necessary to understand what ideation contests exactly are, why (future) participation is meaningful in ideation contests, and what the definition of solver valorization is. Answering the three subquestions requires a good understanding of the concepts of contribution recognition and social recognition. Therefore, these concepts will be defined.

2.1 Co-creation/ideation contests

In order to understand ideation contests, it is first important to introduce co-creation. This is because co-creation is an umbrella term for every category, including ideation contests, of interactive collaboration between two parties (Egger et al., 2015; Hsieh & Chang, 2016; Piller & Walcher, 2006). Ramaswamy and Ozcan (2018, p. 202) conducted a study with the goal to define co-creation, resulting in the definition of “enactment of interactional creation across interactive system-environments ... entailing agencing engagements and structuring organizations.” However, according to Ind and Coates (2013), the term co-creation is generally used within the context of organizations working together with people to generate ideas. Therefore, a definition must include the relation between organizations and people. Furthermore, co-creation can also exist in a more indirect form of cooperation instead of interacting, which is influencing (Sarasvuo et al., 2022).

Adding these insights to the definition of Ramaswamy and Ozcan (2018), co-creation in this research will be defined as “*the process of interaction or influence between organizations and people, stimulating creativity, and generating new ideas*”.

Within the context of co-creation, ideation contests can be defined. An ideation contest is a process, in which a “seeker”, mostly an organization, is looking for “solvers”, independent agents who can help to solve a problem, in an open call. Within the ideation contest, there is an active relation going on between the seekers and the solvers, who are provided feedback for their ideas in order to find a better solution. Generally, the seekers reward the solvers, mainly the one that finds the best solution (Jiang & Wang, 2020).

There are a couple of elements that distinguish ideation contests from other forms of co-creation. The first element is that in ideation contests, the specific outcome of the contest is not always known in advance. Since the problem is open, there is not a specific answer, nor a perfect solution to the problem. This means that, although the company will look for the best

solution, it is not always certain what that best solution will look like (Gamber et al., 2021) The second element is that, since the outcome is unclear, creative solutions are wanted. As a result, technical knowledge is not necessarily required for solving the problem, thus allowing a broad group of participants (Hanine & Steils, 2019). The third element is that contestants are allowed to not only submit their own ideas, but to comment on other contributions as well. On top of that, an ideation contest gives the contributor a lot of freedom, resulting in the risk of creating unwanted content as well (Gatzweiler et al., 2017). Both the openness of the contests, and the element of uncertainty make sure that ideation contests provide optimal results for the organizer (Boss et al., 2017).

Adding these specific elements of an ideation contest to the general definition of co-creation, ideation contests will be defined in this research as *“a process, in which an organization asks people in an open call for help to solve a problem in the most creative way possible in exchange for a reward, with ongoing interaction about the possible solutions, enabling an active relationship between the two parties.”*

2.2 Ideation contest participation

Having established what ideation contests are, ideation contest participation will be addressed next. Ideation contest participation means that the participant takes an active role in solving the problem of the organizer, essentially becoming a co-producer. This participation is continuous, because there is an ongoing interaction between organizer and participant (Frow et al., 2015; Jiang & Wang, 2020).

People intend to participate in an ideation contest when the contest offers them learning benefits, such as product knowledge, social benefits, such as developing new relations, personal benefits, such as reputational gains, achievement or self-efficacy, and hedonic benefits, such as interest and pleasure (Nambisan & Baron, 2009). When the contest has ended, sufficient solver valorization can convince participants to participate in a new ideation contest (Zhang et al., 2015).

Participation increases organizational trust, loyalty, and leads to increasing co-creation efforts (Kamboj et al., 2018). On top of that, increased participation can help to involve and reach large groups in the process more easily, to have access to more new knowledge and other resources, to reveal more latent customer needs, and to create commitment with more customers (Frow et al., 2015; Gatzweiler et al., 2017; Zheng et al., 2017).

2.2.1 Future participation

In order to measure participation intention, future participation is a suitable indicator. This is because future participation indicates satisfaction with the previous contest (Jiménez-Barreto & Campo-Martínez, 2018). To improve future participation, solver valorization is important, because participants are more likely to be positive towards the current contest if it was able to value their efforts (Zhang et al., 2015). When the participants are positive towards the contest, they are more willing to participate in future contests (Füller et al., 2011). Therefore, measuring the extent to which participants are willing to participate in future ideation contests indicates whether the current contest was able to validate their efforts.

Future participation is mostly determined in the post ideation stage of the contest. The post ideation stage is the evaluation of the contest by documenting and evaluating ideas, clustering them, and asking feedback from participants by taking a survey (Mohan et al., 2014). Since post ideation is at the end of the contest, the contest can be analyzed completely. Therefore, this post ideation survey afterwards is the perfect opportunity to ask participants about their opinion about the contest, and about their plans to participate again.

2.3 Solver valorization

The definition of solver valorization consists of two elements, solvers and valorization. Solvers are independent agents who react to an open call to participate in an ideation contest (Jiang & Wang, 2020). Valorization is defined as properly noticing and appreciating people and their efforts (Osburn, 2006). Combining the two provides the following definition for solver valorization: *“Properly noticing and appreciating the participants in an ideation contest”*

Hanine and Steils (2019) have defined three different categories of solver valorization, being basic recognition, contribution recognition, and social recognition. As explained in chapter 1.2, basic recognition is inevitably present, and will therefore be introduced, but cannot be subject of any empirical research. The focus of the current research will therefore be on contribution recognition and social recognition. Basic recognition will be shortly introduced in chapter 2.3.1, before delving deeper into contribution recognition in chapter 2.3.2, and social recognition in chapter 2.3.3.

2.3.1 Basic recognition

The first category of solver valorization is basic recognition. Hanine and Steils (2019) described basic recognition as “minimal recognition of the presence and participation of participants within the ideation contest, where their participation is at least valued and acknowledged”. Basic recognition is seen as an important factor to enter an ideation contest (Campos-Blázquez et al., 2020). Respondents need to experience basic recognition in order to be able to feel rewarded by monetary recognition (Latha, 2013; Nobre & Ferreira, 2017). Providing participants with basic recognition will also lead to an increased word-of-mouth, since participants are more proud of their participation (Nobre & Ferreira, 2017).

Recognition is seen as a basic need, which helps people to affiliate with each other. People want to be recognized because they want to gain trust and to be respected. When recognition is established, people strive to obtain validation, respect and prestige. To get this, people are concerned with the organization, want to help to achieve their goals, and desire to cooperate (Rochat, 2009).

In most social activities, recognition is not only a basic need that needs to be fulfilled, but a requirement for the activity itself as well (Tibbetts & Dale, 2007). Since ideation contests have an interactive element between the organization and participants, recognition of the participants is therefore not only wanted by the participants, but also necessary.

2.3.2 Contribution recognition

The second category of solver valorization is contribution recognition. Contribution recognition within an ideation contest is to reward people for their participation with a prize of financial value (Hanine & Steils, 2019).

In Hanine and Steils (2019), contribution recognition is divided into two categories: financial and symbolic. Where Hanine and Steils make a difference between financial and symbolic rewards, most scientific literature consider them as one category, synonymous to contribution recognition; monetary rewards (Ihl et al., 2012; Piller et al., 2011). Therefore, the general category of monetary rewards will be discussed first. The categories financial and symbolic recognition, and their differences, will be discussed later on in chapter 2.3.2.2.

2.3.2.1 Monetary rewards

Monetary rewards can be a suitable way of recognition for multiple reasons. First, monetary rewards attract a larger crowd in ideation contests. Second, with a large reward waiting, participants can be motivated to submit more creative solutions (Acar, 2018). Third, increasing rewards can also not only increase the creativity of the results, but the quality as well. When a higher reward is promised if the result is sufficient, the participants are more motivated to come up with better solutions, therefore performing better (Liu & Li, 2017). Fourth, some

participants feel their efforts are more validated when they receive monetary compensation for their efforts (Haro et al., 2014). Fifth, organizations can steer the perceived importance of the ideation contest by determining the value of the contest rewards. With the reward value, they also show how willing they are to use the results from the participants (Vossen, 2013). However, offering monetary rewards can also have downsides. For example, although the monetary rewards provide more participants, the participants will not submit more ideas each. On top of that, when the reward is too small, the participants will put less effort in their ideas, even decreasing the quality and quantity of their solutions (Acar, 2018).

Additionally, when participants can win a monetary reward, they are more invested in their own idea, which can give them a chance to win. Therefore, participants are less eager to share their ideas with other participants, and the ideation contest may become more of a competition, and less of a collaboration project (Ihl et al., 2012). Another downside is that, in order for monetary recognition to have an effect, it is dependent for respondents to be able to experience basic recognition (Latha, 2013; Nobre & Ferreira, 2017).

Participants prefer monetary rewards above non-monetary rewards when their personal need in the innovation domain is of lesser importance, or when they don't want to engage in collective elements of the ideation contest, such as evaluation and providing comments and feedback on other contributions (Piller et al., 2011). Also, the market in which the ideation contest is being held influences the effect of monetary rewards. For example, when the contest is in a money market, such as the potato chips contest used in the current research, the influence of monetary rewards on participation are more likely to be positive. On the other hand, in other markets, such as social markets, monetary rewards would have a negative effect (Vossen, 2013).

2.3.2.2 Financial rewards & symbolic rewards

Hanine and Steils (2019) distinguish two categories of monetary rewards; financial rewards and symbolic rewards. Financial rewards are any reward that provides a sum of money, while symbolic rewards are any material items, experiential rewards or digital tokens that are presented as a reward for co-creation participation (Hanine & Steils, 2019; Thürridl & Kamleitner, 2016).

A benefit for financial rewards, in comparison to symbolic rewards, is the prevention of cheating within the ideation contest. Both their personal guilt and the shame of their relatives make contestants less likely to cheat when promising financial rewards, and therefore submit their own, creative ideas (Jin & Huang, 2014).

There are several benefits for symbolic rewards. First, in most cases, symbolic rewards are cheaper for the co-creation organizer, and therefore easier to implement than financial

rewards (Burger & Kleinert, 2020). Second, the rewards are more unique. Because of this exclusivity, the symbolic reward can be seen as scarce, and more valuable (Daniele, 2020). Third, symbolic rewards are more suited for creative processes than financial rewards (Daniele, 2020).

2.3.2.3 Hypothesis 1: Contribution recognition

Using all this information, a hypothesis for the first subquestion “*How does the presence of contribution recognition influence future ideation contest participation in food industries?*”, can be formed.

This hypothesis is that, because of the positive response towards both financial and symbolic rewards, the presence of contribution recognition will have a significant positive influence on future ideation contest participation.

2.3.3 Social recognition

The third category of solver valorization is social recognition. Social recognition within an ideation contest is “*Fulfilling the need to be part of a transparent community where participants can interact*” (Hanine & Steils, 2019). Their definition consists of three key elements, being transparency, community, and interaction. Since Hanine and Steils have not defined these three elements, common definitions in literature will be used, reinforced with details that are more specific for ideation contests.

Research from Nobre and Ferreira (2017) suggests that social recognition in ideation contests is highly valued. When done properly, the participants enjoy the sense of community, as well as the social interactions within the contest. This is partly stimulated by the desire of people to feel part of an organization. If the participants feel like they are part of the organization, they are more likely to actively participate in their relationship.

2.3.3.1 Transparency

The first key element within social recognition is transparency. A common definition of transparency used within co-creation literature is “the extent to which the network actors reveal their true motivations, goals, and agenda through regular exchanges and updates of relevant information regarding economic strategies and situations, organizational policies and technical level (skills/abilities/expertise)” (Chakraborty, 2018, p. 340; Eggert & Helm, 2003).

This definition suggests that transparency works in two ways, being both the responsibility of the organizer and the participant. However, since the current research investigates the relevance of adjusting the ideation contest design in order to increase participation intention, it will focus on the transparency of the organizer, who has to persuade the participant to participate. If an organization wants to be transparent, it should provide information in a way

that allows participants to clearly identify the most relevant information (Dubbink et al., 2008; Kaptein & Wempe, 2003). This means that transparency in ideation contests is specifically about “*organizations revealing recent, true and relevant information about themselves, in order to provide clarity to participants*”. Transparency allows an organization to show their integrity (Cambier & Poncin, 2020). This helps to increase relationship satisfaction between participant and organizer, therefore decreasing the chance of participants dropping out. Organizer transparency especially raises relationship satisfaction when the interdependence between both parties is high, which is common in ideation contests (Chakraborty, 2018; Pinho et al., 2014).

2.3.3.2 Community

The second key element within social recognition is community. Within ideation contests, a community is usually defined as “a specialized, non-geographically bound community, based on a structured set of social relationships among admirers of a brand. Like other communities, it is marked by a shared consciousness, rituals, and traditions, and a sense of moral responsibility” (Muñiz & O’Guinn, 2001, p. 412; Skålén et al., 2015, p. 598). However, this definition is not satisfactory, because it still includes the general concept of community, which therefore needs to be explained.

According to Tonnies and Loomis (2017), a community is a group of people, created by the mutual understanding of those people that they need each other to fulfill their needs. This community is not created by reason, but by instinct instead.

Wilkinson (2023) adds to this that community is defined by two main factors. The first is an interpersonal bond, created by a mutual interest or another shared part within their lives. The second is social interaction between the members of the community.

Adding these insights to the original definition of community within ideation contests, a community in the current research will be defined as “*an interacting group of people, based on a structured set of social relationships, marked by a shared consciousness, rituals, and traditions, and a sense of moral responsibility, which has an interpersonal bond due to their mutual interest in the problem of the organizer.*”

To create this sense of community, organizations must treat the participants as equals. This means that the ideation contest must be designed as a collaboration, where the organization considers, uses, and gives feedback on the contest input provided by the community (Skålén et al., 2015). If a sense of community is achieved, participants will become more loyal to the organization, and develop negative feelings towards rivaling organizations (Kuo & Feng, 2013). Other advantages of community building can be that organizations have an insight in customer reception on topics such as new products or actions, as well as increasing

collaboration opportunities in actions, such as ideation contests (Laroche et al., 2012). These advantages are combined with high efficiency of communicating through these communities, as well as being relatively low-cost (Laroche et al., 2012; Kaplan & Haenlein, 2010).

2.3.3.3 (Social) interaction

The third key element of social recognition is interaction. Since in the definition of Hanine and Steils (2019) specifically the interaction within communities is included, the focus will be on social interaction.

A common definition for social interaction is “two or more autonomous agents co-regulating their coupling with the effect that their autonomy is not destroyed, and their relational dynamics acquire an autonomy of their own” (De Jaegher et al., 2010, p. 441; Schönherr & Westra, 2019). However, some authors argue that this definition is incomplete. For example, Sherif (2017) argues that, despite the fact that the autonomy of the agents is preserved, their norms, values, and attributes are shown within the interaction, and are subject to change. Also, although De Jaegher et al. (2010) suggest the relational dynamics become autonomous, they do not become completely independent from their context. This is because in interaction, personal identities are changed by the social context the person is in (Kelly, 2019). Integrating this critique in the definition, interaction in the current research will be defined as *“two or more parties controlling a mutual connection, influencing each other while keeping their autonomy.”*

When participants can interact with others, self-worth is improved, as well as their feeling of importance (Kawamichi et al., 2016). Interaction in ideation contest collaboration specifically gives people a shared purpose. With this shared purpose, people gain the experience of participation, feel recognized, and have fun (Lee et al., 2012).

2.3.3.4 Hypothesis 2: Social recognition

Understanding more about social recognition, a hypothesis can be formed for the second subquestion, *“How does the presence of social recognition influence future ideation contest participation in food industries?”*

The hypothesized answer to this question is that, because of the positive influence that transparency, community and social interaction have on participation, the presence of social recognition will have a significant positive influence on future ideation contest participation.

2.3.3.5 Hypothesis 3: Interaction effect contribution and social recognition

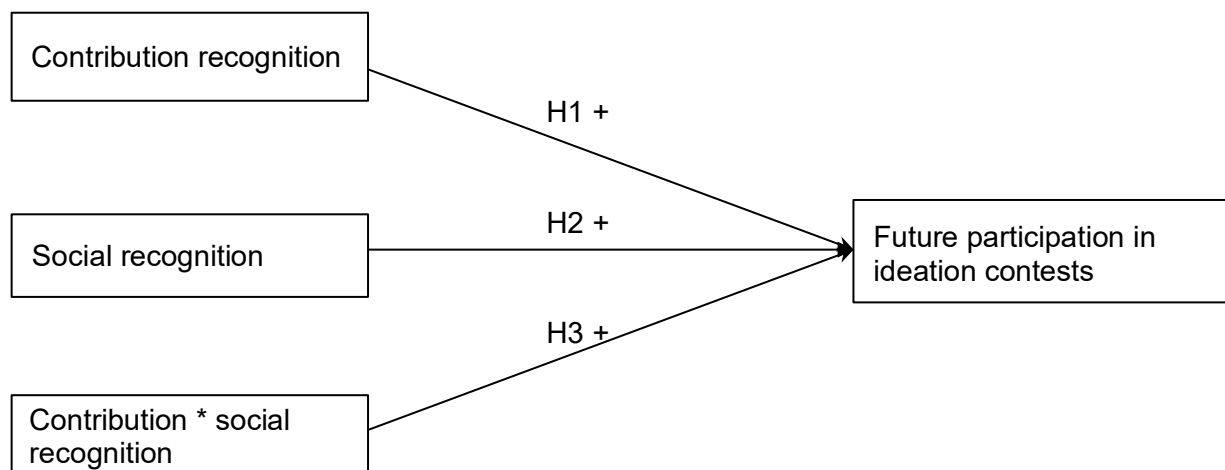
Now knowing more about both contribution recognition and social recognition, a hypothesis can be formed for the third and last subquestion, *“Is there an interaction effect between contribution recognition and social recognition?”*, as well.

The hypothesis for this question is that, since in theory, the presence of both contribution recognition and social recognition would have a stronger effect than both of them separately, it is expected that there is a significant positive interaction effect between both.

2.4 Conceptual model and hypotheses

Literature indicates a significant positive effect of both contribution recognition and social recognition on future participation in ideation contests. These effects, as well as a presumed interaction effect, are described in the following conceptual model:

Figure 1: Conceptual model



For this, the following hypotheses were proposed:

Table 1: Hypotheses

Number	Hypothesis
H1	The presence of contribution recognition will have a significant positive influence on future ideation contest participation.
H2	The presence of social recognition will have a significant positive influence on future ideation contest participation.
H3	There is a significant positive interaction effect between contribution recognition and social recognition.

It is suggested by Hanine and Steils (2019) that social recognition will have a larger effect than contribution recognition. Also, since they suggest it is best when both are present, the interaction effect is also presumed to be significantly positive.

3. Methodology

The next step in answering the research question, “*Which categories of solver valorization influence future ideation contests participation in food industries?*”, is to define how the research will be conducted.

3.1 Research method

The research will be quantitative. When a variable is researched with quantitative methods, it is possible to rank the answers, which allows statistical analysis on the results (McClave, 2011). In quantitative research, it is possible to collect data in an objective way, and it is possible to transform this data into statistical, measurable evidence to prove a statement (Watson, 2015). Furthermore, the research used by Hanine and Steils (2019), that is being tested, was conducted using a qualitative research method. Using quantitative methods to review their research can confirm their results, thus solidifying the results, or provide new insights (Malina et al., 2011).

The proposed method of data collection will be an experiment. An experiment is a research form in which one or more of the research variables are manipulated to see their effect on an outcome variable (Field, 2014, p. 874). In this case, each group sees a text, manipulated to highlight one of the recognition categories, with a different recognition category for a different group. The choice for an experiment is made because it is the only way to investigate what differences a small change in the circumstances can make, like the addition of a specific type of solver valorization in this research, on the participation intention in future contests. Thus, it can show what the effect is of the solver valorization (Vennix, 2016).

The experiment that will be conducted will be a 2x2 experiment. This specific experimental design is used because it is effective in showing the effect of two different conditions on a dependent variable, as well as the interaction between the two conditions (Field, 2014). For this design, the two conditions, being contribution recognition and social recognition, are divided into four different groups. In the first group, both conditions are absent, in the second group, only social recognition is included, in the third group, only contribution recognition is added, while in the fourth group, both conditions are present. The experiment design is shown in Table 2.

Table 2: Experimental design

		Contribution recognition?	
		No	Yes
Social recognition?	No	Group 1 (Control group)	Group 2 (Contribution)
	Yes	Group 3 (Social)	Group 4 (Contribution + Social)

This experiment will be conducted using a survey. A survey is a common way to reach large groups of respondents (Vennix, 2016). This survey will be spread through social media of the researchers. Using social media makes it easy to distribute the survey to reach large groups (Maireder & Schwarzenegger, 2012; Schuster, 2013). This helps the research gather an amount of respondents that is large enough to be reliable (Vennix, 2016). On top of that, since most ideation contests are distributed in a similar way, social media is a relevant distributor (Piller et al., 2011).

3.2 Research procedure

The content of the experiment will be based on an ideation contest, Do Us A Flavor, in which participants were asked to create a new chip flavor, and is described in a research by Acar (2018). This experiment will begin with the introduction of a scenario. Depending on which group the respondent will be in, a different scenario will be presented, in which no recognition group is implemented (group 1), contribution recognition is used (group 2), social recognition is used (group 3), or both categories are active (group 4).

In scenario 1 (control group), the respondents get a short introduction of the contest they had to presume they had already participated in. This introduction includes the product they had to create, the elements they needed to include, how their entry was judged, and what they could have won (no tangible reward). Scenario 2 (contribution recognition) is manipulated by the inclusion of a financial reward, being 5000 euros for the winner, as well as a symbolic reward, being a free sample for each participant. In scenario 3 (social recognition), instead of the reward manipulation, it was manipulated by adding social elements to the contest, such as having a transparent way of determining the winner, creating a sense of community for the participants, and allowing participants to interact with each other. In scenario 4 (contribution + social), both the rewards and the social elements were present (see Appendix A).

When the respondents are properly introduced to their scenario, they are asked to answer several questions in a survey (see Appendix B).

First, an attention check will be held, in order to test whether the scenario is understood and properly read by the respondent (Hauser et al., 2018). This attention check consists of one question for groups 1-3, and two for group 4. For the group without manipulation, respondents have to answer how each contest submission was judged. For the groups that had contribution rewards added as manipulation (2 & 4), respondents have to answer what the reward was for the winning submission. For the groups where the social elements were added as manipulation (3 & 4), respondents have to answer how the winner is decided. If a respondent answers this question wrong, he fails the attention check, and the results from that specific respondent will not be used.

Next, a manipulation check is implemented in order to identify whether the respondents are aware of the context used in the experiment. A manipulation check is a question in which it is tested whether the respondent reacted to the manipulation. If the score of the manipulation check is significant (1,96 standard error above average), it can be assumed that the manipulation in each scenario is effective (Hauser et al., 2018). To test this, one question is used for each manipulation. For the contribution manipulation, the respondents are asked whether the rewards in the scenario are appealing to them, and for the social manipulation, they are asked whether the opportunity to vote on the best submissions are appealing to them. After answering the manipulation check, three questions about increasing levels of participation intention will be asked, in which respondents can indicate to what extent they will plan, they are excited, and they will try to participate in a future ideation contest after reading the scenario (Zheng et al., 2011). The Likert scores of these three questions will be combined and divided by three to form an average score for participation intention.

Next, the respondents are asked if they have participated in a similar ideation contest before, in order to see whether they already have experience with the subject.

Finally, demographic information, such as gender, age, income, and highest level of education will be retrieved, in order to look for possible control variables (Im et al., 2021).

With this questionnaire, a pretest is first conducted. A pretest is issuing the questionnaire to a smaller group before the actual data collection, in order to evaluate and improve the questionnaire (Buschle et al., 2021). This pretest sample consists of a couple of respondents, who can give feedback in order to improve the questionnaire. After this, the questionnaire is adjusted and redistributed.

The required sample size for this experiment is determined using the G*Power-tool by Faul et al., 2009. Using effect size of 0.25 for the F for a medium effect, an alpha of 0.05 for, four groups, and three questions regarding the independent variable, the G*Power-tool indicates a required sample size of 188 for an ANOVA between groups, with at least 44 respondents in

each group. To reach these minima, 394 respondents were gathered, with after deletion, leaving 205 respondents in total, including 44 to 64 respondents per group.

3.3 Data analysis

The data will be analyzed using IBM SPSS Statistics 28. During the data collection, incomplete responses and respondents that failed the attention check will be deleted. When the remaining sample meets the conditions of the G*Power test (at least 188 total, and 44 per group), data collection is sufficient, and data analysis can commence. This begins with the performance of some tests in order to check the remaining sample for homogeneity of variance, and normality of the distribution.

Homogeneity of variance means that the spread within each group is roughly the same. This means that the data is consistent, and can be used to retrieve accurate results. To check the homogeneity, the Levene's test is conducted. If the Levene's test does not score significant (<0.05), the assumption is made that the data is homogeneous (Field, 2014).

Normality of distribution consists of two elements, skewness and kurtosis. Skewness means to what extent the scores are symmetrically distributed. Kurtosis means the extent to which the scores cluster in the middle. If one of the two is significantly different from what it is supposed to be (between 1.96 and -1.96), the data is not normally distributed, and the data cannot be treated with the proposed measures (Field, 2014).

After this, two methods will be used in order to see whether the model measures what it needs to measure. The first method is by using the manipulation checks. The means of the manipulation checks will be compared to the average of the Likert scale (being 1 to 7, the average is 4). This will be done using a t-test comparison. If the means of the manipulation checks are more than 1.96 standard errors above a score of 4, it can be assumed that the manipulation is significantly effective. The second method is by using the eta squared. The eta squared indicates the explained variance of the model, the amount of which the differences between groups are due to the factors that are included in the model. On a scale from 0 to 1, the closer the eta squared is to 1, the more variance is explained, and the better the model measures what it needs to measure (Field, 2014).

When these tests are conducted, and the conditions are met, the groups will be combined in several groups that match the conditions. For this, the contribution recognition group (2) and the combination group (4) will together form a variable called "contribution", and the social group (3) and the combination group (4) will together form a variable called "social". To see

whether there are any significant differences between the presence and absence of each condition, as well as to see whether there is an interaction effect, a one-way analysis of variance (ANOVA) will be used. An ANOVA is a way to compare the means of two samples, to see whether they are significantly different (Field, 2014).

3.4 Data collection limitations and research ethics

Research limitations are systematic biases that are not controlled in a research, and can influence the outcome (Theofanidis & Fountouki, 2018). In the current research, there are a couple of limitations regarding data collection. One limitation is that, because the experiment is distributed through social media of the researchers, the results will be skewed towards their demographic (Murnan, 2004). Since the researchers are students, this will probably mean that students will be overrepresented in the research, while other age groups may be underrepresented. Therefore, it is important to check whether the age groups within the sample are normally distributed, in order to prevent sample bias (Field, 2014)

Another limitation of the research is that it is conducted in a short time period, since the thesis process only takes six months. For this reason, it is not possible to include countless respondents, therefore influencing validity (Vennix, 2016).

This research also takes research ethics into account. Research ethics are important because they help to protect the respondents, and to make sure no harmful information is spread. On top of that, they assist with keeping academic and scientific integrity (Israel & Hay, 2006). Therefore, several measures are taken in research conduction to assure the respondents are protected. First, no information is asked that is not necessary to complete the experiment. Second, this information stays confidential, and will not be shared outside of the research. Third, respondents were able to choose not to share specific data, adding an "I prefer not to say" option. Fourth, respondents could ask for their data to be destroyed after the research was conducted. Using these measures, this research was able to collect the necessary data, while protecting the respondents, as well as staying integer.

4. Results

In this chapter, the hypotheses of this thesis will be tested, and the main results of this research will be presented.

4.1 General findings/assumptions

Initially, after spreading the survey, 394 respondents were gathered, roughly equally divided among each group. However, these needed to be filtered in order to retrieve a valid data set. To do this, a total of 123 incomplete responses were deleted. After this, the attention checks were used to delete the respondents that did not understand the scenario, and therefore provided irrelevant responses, with 23 failing the check in the control scenario, 6 in the contribution scenario, 22 in the social scenario, and respectively 2 and 14 (one being double) in the combined scenario. Subtracting these from the response set leave a total of 205 respondents. Since the attention checks for the contribution group failed less often than the checks for the other three, this results in a group distribution of respectively 50 respondents in the control group, 64 in the contribution group, 44 in the social group, and 47 in the combined group (Appendix C1), all falling within the G*Power threshold of a total sample size of 188, and 44 per group (Faul et al., 2009).

Next, the assumptions of homogeneity of variance and the normality of distribution are tested. For the homogeneity of variance, the Levene's test is conducted (Appendix C2). As we see, the significance stays above the threshold of 0.05, which means the test is not significant, and therefore, the assumption of homogeneity of variance is not violated.

For the normality of distribution, when testing the groups on skewness and kurtosis, both values stay between -1.96 and 1.96, which means there is not a significant deviation (Appendix C3).

Now that the sample survived these tests, the next question is whether the sample measures what it needs to measure. To answer this question, the effectiveness of the manipulation checks and the observed power were measured. To measure the manipulation checks, the means were used. Since all manipulation check means are more than 1.96 standard errors above the average Likert score of 4 (S2: Mean=5,13, Std. Error=,169; S3: Mean=5,41, Std. Error=,167; S4-1: Mean=5,00, Std. Error=,219; S4-2: Mean=4,81, Std. Error ,216) it can be assumed that all manipulations are significant (Appendix C4).

To measure the observed power, an univariate test in SPSS presents a R squared of 0.041 (Appendix C5). This means that the explained variance of the model is very low, which

suggests that there might be more important factors for the differences between scores that are not taken into account.

Despite the low explained variance, the model measures what it needs to measure, and meets all conditions and assumptions. This means that the sample is sufficient, and that the conditions for this research, as proposed in chapter 3, were met.

After testing sample assumptions, the validity of participation intention needs to be tested. This is done by checking whether the scores of the three factors making up participation intention (participation planning, participation excitement, and participation effort) are not significantly different from what is expected (Field, 2014). In this case, since the three factors are increasing in commitment, it is expected that participation intention will decrease with each factor. Therefore, the measures are valid if each score is significantly lower (more than 1.96 times the score of the standard errors lower) than the previous one. Since this is the case (Participation_Planning Mean=4,04, Std. Error=,102; Participation_Excitement Mean=3,77, Std. Error=,099; Participation_Effort Mean=3,45, Std.Error=,100), it can be assumed that the collected data is valid (Appendix C6).

4.2 Results hypothesis 1: Contribution recognition

The first hypothesis that is tested in the experiment is whether there is a significant influence of contribution recognition on future participation in ideation contests. For this, the means of the average participation intention were compared between the presence of the contribution variable (group 2 and 4), and the absence (group 1 and 3). For this, the full model is tested with an ANOVA (Table 3).

Table 3: ANOVA intention average between conditions

Tests of Between-Subjects Effects					
Dependent Variable: <i>Intentie_Average</i>					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14,808 ^a	3	4,936	2,833	,039
Intercept	2865,353	1	2865,353	1644,474	<,001
contribution	4,300	1	4,300	2,468	,118
social	6,437	1	6,437	3,694	,056
contribution * social	5,377	1	5,377	3,086	,080
Error	350,225	201	1,742		
Total	3252,222	205			
Corrected Total	365,033	204			

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

When looking at these results, it is noticeable that, with a significance level of .118, there is no significant effect of contribution recognition. This means that the hypothesis that there is a significant influence of the presence of contribution recognition on future participation in ideation contests is rejected.

4.3 Results hypothesis 2: Social recognition

The second hypothesis tested is the presence of a significant influence of social recognition on future participation in ideation contests. In this case, the means of the average participation intention were compared between the presence (group 3 and 4) and absence (group 1 and 2) of social recognition. Using the same ANOVA (Table 3), it can be seen that, with a 95% confidence interval, there is still no significant difference. However, when looking at the significance level, there is reason to believe that there can be a significant effect with a smaller confidence interval. Because the significance of social recognition is .056, the significance level is < 0.1 . Therefore, social recognition is significant with a confidence interval of 90%. However, because of this lower confidence interval, the effect is only marginally significant. Since age, income, and education are included in the survey, it could be possible to see whether there could be a significant effect with a 95% confidence interval with one of those three included as covariate. However, according to the G*Power-tool, the sample size is not large enough. For an ANCOVA, the sample size should at least consist of 279 respondents (3 numerator df, 4 groups, 3 covariates). Even when using only one of those covariates, the required sample size stays the same. Because in the current sample, after deletion, 205 valid responses are left, the required sample size could not be met.

In conclusion, the presence of a marginally significant effect means that the hypothesis that the presence of social recognition has a significant influence on future ideation contest participation cannot be rejected. However, because the effect is not significant with a confidence interval of 95%, the hypothesis cannot be fully accepted. Thus, the hypothesis is marginally accepted.

4.4 Results hypothesis 3: Interaction effect contribution and social recognition

The third hypothesis that is tested in this research is whether there is a significant interaction effect between contribution recognition and social recognition. Since the experiment included a group where contribution recognition and social recognition were tested (group 4), this interaction effect can be found in the same way as the previous two hypotheses were tested. Therefore, the same ANOVA can be used as presented in Table 3 except now, the contribution*social metric is used. The SPSS-output shows that there is no significant effect with a confidence interval of 95%. However, since the significance is .080, using the 90% confidence interval causes the interaction effect to be significant (< 0.1). This makes the interaction effect marginally significant. Therefore, the hypothesis for this question that the interaction effect between both contribution and social recognition is significant can be (marginally) accepted.

5. Conclusion

Using the results from the analysis, the three subquestions, and subsequently, the main question of this research can be answered.

For the first subquestion, *“How does the presence of contribution recognition influence future ideation contest participation in food industries?”*, the hypothesis was created that contribution recognition would have a significant positive effect on future ideation contest participation in food industries. However, contrary to this belief, the results suggest there is no indication of any kind of influence of contribution recognition on the participation intention.

For the second subquestion, *“How does the presence of social recognition influence future ideation contest participation in food industries?”*, it was hypothesized that the presence of social recognition would also have a significant positive effect on future participation in ideation contests. Although not fully significant, there is a marginally positive effect of social recognition on participation intention.

For the third subquestion, *“Is there an interaction effect between contribution recognition and social recognition?”*, the hypothesis was that the interaction effect between contribution recognition and social recognition would have a significant positive effect on future ideation contest participation. The results show that there was indeed a significant effect, albeit only marginally significant.

Table 4: Outcome of the hypothesis

Number	Hypothesis	Results
H1	The presence of contribution recognition will have a significant positive influence on future ideation contest participation.	Rejected
H2	The presence of social recognition will have a significant positive influence on future ideation contest participation.	(Marginally) Accepted
H3	There is a significant interaction effect between contribution recognition and social recognition.	(Marginally) Accepted

This all leads to an answer to the main research question, "*Which categories of solver valorization influence future ideation contests participation in food industries?*". Out of the several categories, both social recognition and the interaction effect have a significant positive effect on future ideation contests participation in food industries, although this effect is only marginally significant. Contribution recognition does not have a significant effect on the participation intention in future ideation contests.

In comparison to academic research, this conclusion is contradictory. This is because academic research suggests that all sorts of solver valorization have a significant effect, while this research suggests that solver valorization is less effective than thought, with two effects that are only marginally significant, and one effect that is not significant at all.

6. Discussion

After the conclusion, there is still some room for discussion. What do the results mean for the theory? What are the practical and societal implications? Were there any limitations for the research? What kind of future research comes next?

6.1 General discussion

The results that are gathered have their own implications and meaning within both the research process and the general field of ideation contests.

In the case of the first subquestion, *“How does the presence of contribution recognition influence future ideation contest participation in food industries?”*, the results were not what was expected from earlier research. In the literature, it is claimed that contribution recognition does have an effect on the future participation intention, whereas it was not present in this research.

A possible explanation could be the value of the financial reward offered within the experiment. The reward should be sufficient, should it have any effect, and when the reward is too small, it can even be counter-effective (Acar, 2018). On top of that, when the reward of a contest is too low, the organizer indicates that the contest is not important (Vossen, 2013). Since contribution recognition is not significant, the proposed reward of 5000 euros might indeed be too small to have a positive effect. This idea could have been reinforced in the attention check question, where the other option is 25000 euros. This could strengthen the belief that the actual reward is too low, increasing the negative effect. Another explanation could be that the research design failed to carry over basic recognition to the respondents, since the effect of contribution recognition depends on the extent to which the respondents experience basic recognition (Latha, 2013; Nobre & Ferreira, 2017).

In the case of the second subquestion, *“How does the presence of social recognition influence future ideation contest participation in food industries?”*, contrary to the expectations from the literature, only a marginal effect was found. This effect only became significant after changing the confidence interval. Although the result itself is not fully significant, because it is not significant enough with a normal confidence interval, it shows that focusing on social recognition in future research can be worth the effort.

The unexpected results could be caused by the fact that the experiment was conducted through an online survey. A survey is not an interactive way to collect data (Vennix, 2016). Because of this, there is less interdependence between organizer and participant, which

means that transparency could not be experienced by the participants as much as was needed to feel recognized (Chakraborty, 2018; Pinho et al., 2014). Using a survey could also mean that the interactive elements of the ideation contest have been experienced less by the respondents. Because of this, the participants might have felt less important in the contest, as well as less recognized (Kawamichi et al., 2016; Lee et al., 2012). Also, when looking at possible effects regarding age, income and education, the sample size was not large enough. If the research would have contained at least 279 respondents (according to the G*Power tool by Faul et al., 2009), covariates could have been researched that might have had a stronger significant effect. However, current results did not indicate that any of those covariates could have been significant.

In the case of the third subquestion, *“Is there an interaction effect between contribution recognition and social recognition?”*, where it was expected from the literature that the effect would be significant, only a marginally significant effect was found as well. Part of this is because both contribution recognition (due to the lower amount) and social recognition (due to the survey disadvantages) were not as present in the research design as necessary, therefore also interacting less significantly. Another explanation could be that the introduction of a monetary reward creates more competition within a contest, instead of collaboration (Ihl et al, 2012). This competition undermines the idea that an ideation contest must be seen as a collaboration, in order to achieve a sense of community needed for social recognition (Skálén et al., 2015).

6.2 Theoretical implications

For the theory, the outcome of this research mainly has implications for the solver valorization categories created by Hanine and Steils (2019), because these were tested using quantitative research. Results were that the presence of contribution recognition did not have a significant effect on future contest participation, and the presence of social recognition, as well as the interaction effect, had a marginally significant effect. These results mostly contradict the theory of Hanine and Steils, who claimed that all categories would have a significant effect. Therefore, the outcome of this current research would imply that solver valorization (and its categories) does not have such a strong effect as earlier theorized. However, Hanine and Steils' claim that the presence of social recognition would have a stronger effect than that of contribution recognition is in line with the outcome of this current research. In general, testing Hanine and Steils' solver valorization categories provided new insights in solver valorization theory in ideation contests, especially in the context of food industries.

For other research, such as Acar (2018), Vossen (2013), Ihl et al. (2012), and Skålen et al. (2015), the results are also relevant, since they are in line with their findings. Therefore, this research reinforces the accuracy of their theories (Vennix, 2016).

6.3 Managerial and societal implications

The outcome of this research can be very valuable for managers that wish to organize an ideation contest. This is because this research implies that offering a reward does not work if it is too low. Therefore, if managers want to use financial incentives to ensure participation, they should make sure the reward is valuable enough, in order to make the contest look important. This could be done by looking at the rewards of similar successful campaigns, as well as pretesting the contest to see whether the reward is attractive enough. However, when choosing between implementing contribution and social recognition in the contest, it is implied that it could be more beneficial to focus on the social aspects, since respondents react marginally more positively to that. Since transparency, community and interaction are the three core values within social recognition, the managers should in that case make sure their ideation contest is transparent, include community-building elements and improve interaction options. A way to achieve all three is by setting up a forum, which is easy to access, where the latest updates are provided, and where people have the opportunity to vote and comment on each other's creations.

The results of this research are especially interesting for managers within a food industry, because the research was conducted with this industry in mind. In food industries, the specific example of potato chip contests was used for the survey, so they, as well as similar industries, can benefit even more from the results. Within this industry, the research shows that money is not a motivation for people to participate, while social efforts are. Using these results, organizations might be more successful when they focus more on making their contests more transparent, community-driven and interactive, and less on monetarily rewards.

For society, the research also might provide an interesting insight. Because the social recognition was marginally perceived as more positive, while the contribution recognition did not provide other results, it shows us that people might care more about societal values than rewards. They might want to participate because they want to fit in, belong, and feel more rewarded by social values than by monetary values.

This is even more interesting with the results that the interaction of both was not more significant than the presence of only social recognition. This could mean that people are less

interested when money is involved, because then it looks like they do it for the money instead of the social aspects.

6.4 Research limitations

A reason why the hypotheses did not have the results as expected could be that something went wrong during the research. To analyze this, some flaws in the research design will be discussed. One problem was that, despite the use of an attention check, and the positive perceivment of the manipulation checks, it could still be that the imaginary element of the scenarios influenced the outcome of the research. Especially with something tangible as a monetary reward, but also with the sense of social belonging, it could be that people react differently if they are actually exposed to it, instead of being confronted in a hypothetical scenario.

Another problem was that, when the main effects were not significant enough, the sample was not large enough to delve deeper into the data, using tools such as an ANCOVA.

Both problems can be linked to the research limitations that are included with writing a thesis. In the thesis process, there are no resources to conduct a more realistic experiment, or more time to collect enough respondents for a more specific analysis (Vennix, 2016).

Additionally, a possible reason for the disappointing results regarding the contribution recognition could be that the financial reward in the experiment was not sufficient enough. If this is indeed true, the research is mostly irrelevant for any ideation contest that provides rewards of a larger monetary value.

Within the research process, the lack of practical experience with ideation contests from the researchers, as well as their student background may have influenced the experiment, which may have caused the scenario to not be perfectly representative for everyone. Also, the switch between English in the research process, and Dutch in the experiment may have caused some elements to be lost in translation, therefore decreasing validity (Vennix, 2016).

6.5 Future research

All of this would imply for current research that solver valorization does not have such a large effect on future contest participation as expected. However, taking the research limitations into account, this does not mean that it is not worth further investigation. In fact, this research provides several interesting insights for future research. In the case of contribution recognition, it could be tested what would be the most effective value of the financial reward for such contests within the food industry, and what effect this optimal reward would have. In the case

of social recognition, since there is an indication that there could be a significant effect, an interesting approach could be to see which specific kind of social recognition would have such an effect. Also, it could be interesting to conduct a similar research to the current one, instead only focusing on social recognition, and including sets of covariates to see whether certain demographic groups are easier to persuade than others for future participation. In the case of including both contribution and social recognition, it could be interesting to research whether monetary rewards actually decrease the effect of the social element in the contest.

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8. Appendix

Appendix A: Scenario

A1: Scenario (in English)

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 A (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 B (contribution)

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 C (social)

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 D (contribution + social)

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.

A2: Scenario (in Dutch)

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 A (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 B (contribution)

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 C (social)

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 chipsmerk.

Scenario D (contribution + social)

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.

Appendix B: Survey

B1: Survey (in English)

Likert scale:

(1= very strongly disagree, 2= strongly disagree, 3= disagree, 4= neutral, 5= agree, 6= strongly agree, 7= very strongly agree)

Scenario 1:

Attention check

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

- Consumer panel
- Special committee

Scenario 2:

Attention check

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

- 5000 euros
- 25000 euros

Manipulation check

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

- The rewards provided in this ideation contest is appealing to me (Likert)

Scenario 3:

Attention check

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

- CEO of the company
- Participants

Manipulation check

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 (Likert)

Scenario 4:

Attention check

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

- 5000 euros
- 25000 euros

The winner is decided by the..

- CEO of the company
- Participants

Manipulation check

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

- The rewards provided in this ideation contest are appealing to me (Likert)
- The opportunity to vote on the best submissions in this ideation contest was appealing to me (Likert)

All scenarios:

Participation intention

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

- I plan to participate in similar ideation contests from the same company in the future (Likert)
- I am excited about the idea of participating in a similar ideation contest from the same company in the future (Likert)
- I will try to participate in similar idea contests from the same company in the future (Likert)

Experience

I have participated in similar ideation contests before

- Yes
- No
- I don't know

Demographics

What is your gender?

- Male
- Female
- Other
- I prefer not to say

What is your age?

- Younger than 18
- 18-24
- 25-34
- 35-49
- 50-65
- Older than 65

- I prefer not to say

What is your monthly income before taxes?

- Less than 1.000€
- 1.000€ - 2.000€
- 2.001€ - 3.000€
- 3.001€ - 5.000€
- 5.001€ - 10.000€
- More than 10.000€
- I prefer not to say

What is your highest level of education?

- VMBO
- MAVO
- HAVO
- VWO
- MBO
- HBO/Bachelor's degree
- Master's degree
- PhD
- Other
- I prefer not to say

B2: Survey (in Dutch)

Likertschaal:

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

Scenario 1:

Attention check

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

- Panel van consumenten
- Speciaal comité

Scenario 2:

Attention check

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

- 5.000 euro
- 25.000 euro

Manipulation check

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

- Ik vind de beloningen die worden uitgereikt in deze wedstrijd aantrekkelijk (Likert)

Scenario 3:

Attention check

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

- De CEO van het bedrijf
- De deelnemers

Manipulation check

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 (Likert)

Scenario 4:

Attention check

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

- 5.000 euro
- 25.000 euro

De uiteindelijke winnaar wordt gekozen door:

- De CEO van het bedrijf
- De deelnemers

Manipulation check

Beoordeel alstublieft de volgende stellingen, gebaseerd op het voorafgaande scenario:

- Ik vind de beloningen die worden uitgereikt in deze wedstrijd aantrekkelijk (Likert)
- Ik vind de mogelijkheid om te stemmen op het beste idee in deze wedstrijd aantrekkelijk (Likert)

Alle scenarios:

Participatieintentie:

Beoordeel alstublieft de volgende stellingen, gebaseerd op het voorafgaande scenario:

- Ik denk dat ik in de toekomst deelneem aan soortgelijke ideeënwedstrijden van hetzelfde bedrijf (Likert)
- Ik ben van plan in de toekomst deel te nemen aan soortgelijke ideeënwedstrijden van hetzelfde bedrijf (Likert)
- Ik doe in de toekomst zeker mee aan soortgelijke ideeënwedstrijden van hetzelfde bedrijf (Likert)

Ervaring

Ik heb eerder deelgenomen aan een vergelijkbare ideeënwedstrijd

- Ja
- Nee
- Weet ik niet

Demografie

Wat is uw geslacht?

- Man
- Vrouw
- Anders
- Zeg ik liever niet

Wat is uw leeftijd?

- Jonger dan 18
- 18 - 24
- 25 - 34
- 35 - 49
- 50 - 65
- Ouder dan 65
- Ik zeg dat liever niet

Wat is uw geschatte maandelijkse (bruto) inkomen?

- Minder dan 1.000€
- 1.000€ - 2.000€
- 2.001€ - 3.000€
- 3.001€ - 5.000€
- 5.001€ - 10.000€
- Meer dan 10.000€
- Ik zeg dat liever niet

Wat is uw hoogste opleidingsniveau?

- VMBO
- MAVO
- HAVO
- VWO/Gymnasium
- MBO
- HBO/Bachelor Universiteit
- Master Universiteit
- PhD
- Anders
- Ik zeg dat liever niet

Appendix C: SPSS output

Appendix C1: Group distribution frequency

Group_Total					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	50	24,4	24,4	24,4
	2	64	31,2	31,2	55,6
	3	44	21,5	21,5	77,1
	4	47	22,9	22,9	100,0
	Total	205	100,0	100,0	

Appendix C2: Levene's test

Test of Homogeneity of Variance						
			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

Appendix C3: Group distribution statistics

Statistics		
Group_Total		
N	Valid	205
	Missing	0
Mean		2,43
Median		2,00
Mode		2
Std. Deviation		1,094
Variance		1,197
Skewness		,148
Std. Error of Skewness		,170
Kurtosis		-1,278
Std. Error of Kurtosis		,338

Appendix C4: Mean scores manipulation checks

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
S2: Man Check_1	64	5,13	1,351	,169
S3: Man Check_1	44	5,41	1,106	,167
S4: Man Check_1	47	5,00	1,504	,219
S4: Man Check_2	47	4,81	1,484	,216

Appendix C5: R Squared

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
Group_Total	14,808	3	4,936	2,833	,039	,041
Error	350,225	201	1,742			
Total	3252,222	205				
Corrected Total	365,033	204				

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

Appendix C6: Participation Intention factor scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Participation_Planning	205	1	7	4,04	1,461
Participation_Excitement	205	1	7	3,77	1,411
Participation_Effort	205	1	7	3,45	1,429
Valid N (listwise)	205				