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Article

«Golden Crowd» – Engaging the Users That Deliver on Your Crowdsourcing Goals

Marketing Review St.Gallen

Provided in Cooperation with:

Universität St. Gallen, Institut für Marketing und Customer Insight

Suggested Citation: Bilgram, Volker; Hahn, Alexander; Füller, Johann (2022) : «Golden Crowd» – Engaging the Users That Deliver on Your Crowdsourcing Goals, Marketing Review St.Gallen, ISSN 1865-7516, Thexis Verlag, St.Gallen, Vol. 39, Iss. 6, pp. 12-20

This Version is available at:

<https://hdl.handle.net/10419/279652>

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Marketing Review St.Gallen

Open Innovation & Crowdsourcing



Schwerpunkt

Mensch oder Maschine –
Wer behält die Vorherrschaft
bei der Kreativität?

«Golden Crowd» –
Engaging the Users That Deliver
on Your Crowdsourcing Goals

Beware of Sore Losers!
Crowdsourcing Might Have Backfiring
Effects Among Participants

AI-Assisted Searching Through
Crowdsourced Solution Space

Human-Machine Creativity –
How AI Can Influence Human
Creativity in Open Innovation

Spektrum

B-to-B-Marketing ist
Hochleistungsmarketing

Rethinking Value Creation
in Brick-and-Mortar Retailing

Believe the Hype?
Herausforderungen und
Herangehensweisen
an das «Metaverse»



«Golden Crowd»

Engaging the Users that Deliver
on Your Crowdsourcing Goals

Companies run branded crowdsourcing contests to achieve two main goals: generate ideas and create brand equity. This paper provides an empirical typology of contest users and reveals five distinct user types: jacks-of-all-trades, devoted brand fans, pure innovators, reward seekers and passive customers. Based on the users' characteristics we derive actionable insights on how to attract, recruit and manage the crowd for different purposes.

Prof. Dr. Volker Bilgram, Prof. Dr. Alexander Hahn, Prof. Dr. Johann Füller

Companies run branded crowdsourcing contests to achieve two main goals: collect and refine innovative ideas and create brand equity within the contest community and beyond by engaging users in meaningful interactions that result in positive attitudes and desirable behavior such as word-of-mouth (Bilgram et al., 2013; Hutter et al., 2010). Therefore, crowdsourcing contests invite individuals such as innovative users or brand fans to solve challenges in return for a prize (Afuah & Tucci, 2012; Boudreau & Lakhani, 2013).

Much research focuses on how companies can design and manage their contests to receive more and better innovative ideas (Leimeister et al., 2009; Pötz & Schreier, 2012). Consumer goods companies and, in particular, those offering high-involvement products increasingly embrace crowdsourcing to intensify consumer–brand relationships. However, research on how to engage different user types to strengthen the company’s brand and balance innovation and marketing purposes is scarce. Which users can create more and better ideas? Which users help in promoting marketing goals such as awareness of the brand or purchase intention?

The research goal of the present empirical research on a branded contest is to provide a better understanding of the heterogeneous crowd and to draw a nuanced picture of the purposes various types of crowd members can serve.

The authors find five distinct groups of user types by employing a two-stage cluster algorithm to data on users’ motivation, ability, and opportunity to engage in the contest. Managers can use the results of this study to target and recruit specific user types. This ensures that the crowd solves their challenges in the best possible manner – be it innovation or marketing, or both.

Theoretical Background

Crowdsourcing is de rigueur in innovation management (Boudreau & Lakhani, 2013) as well as in marketing management (Lawrence et al., 2013). Managers employ crowdsourcing in both domains for various purposes from idea generation, idea evaluation, and problem-solving to strengthening consumer–brand relationships and stimulating word-of-mouth (Bilgram, 2013).

To guide these managerial agendas, researchers have explored the mechanisms for successful crowdsourcing initiatives. Among other parameters, such as tool support, community management or incentive strategy, the design of the community crowd is very important (Prpic et al., 2015). Companies need to align the diversity of their crowd with their crowdsourcing goals since crowd members with different characteristics and skills can help with different challenges.



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The striking advantage of crowdsourcing is the diversity of the individuals in the crowd community (Boudreau & Lakhani, 2013). The heterogeneous crowd with its diversified knowledge, skills and interests can be more efficient in tackling a problem and creating novel ideas than traditional organizational settings such as functional units (Brabham, 2013; Franke et al., 2013). As crowdsourcing contests rely on the self-selection principle, they are open to anyone interested (Howe, 2009). Users do not have to meet specific preselection criteria (Jeppesen & Lakhani, 2010). Consequently, the crowd is a black box or *like a box of chocolates – you never know what you’re gonna get*.

For innovation, this is a benefit rather than a drawback: Innovation managers are highly interested in creating relevant, novel ideas or solutions. The self-selection mechanism ensures that suitable users participate in the contest, i.e., users who are motivated to contribute and qualified to tackle the challenge. Jeppesen and Lakhani (2010) found that 72.5% of the winning submissions in their sample were partially or fully based on existing solutions available to the external user. This strong contribution of external knowledge shows that for companies it does not matter whether the idea comes from the outside – as long as the idea is good and the company’s problem gets solved.

Management Summary

This paper sheds light on the black box crowd by providing an empirical typology of crowdsourcing contest users. It defines five distinct user types based on their motivation, abilities and opportunities. The findings provide guidelines on how to identify these user types, motivate them to participate and manage them throughout the process to achieve innovation and/or marketing goals.

In contrast, traditional market research – which was an early form of user integration – focuses on representative samples of existing target groups. Here, careful sampling of users does matter; otherwise, companies risk basing their decisions on invalid answers from respondents who do not represent their target groups.

In recent days, however, the immense diversity of users in a crowd has become a challenge for companies and requires sophisticated recruitment and management to consistently match the crowd with the goals of the crowdsourcing initiative.

Empirical Approach

Data Collection

To explore this diversity of crowd users, the authors compiled a multi-source data set of the users of the SWAROVSKI GEMS™ Lifestyle Electronics Design Competition 2011. The contest's challenge was to create lifestyle electronics designs, such as mobile phones, notebooks or tablet PCs with incorporated gemstones. In addition to the submission of freely created designs, a configurator was implemented to facilitate participation and attract users that lack the skillset to create high-quality ideas. Besides relying on Swarovski's own community and an established crowdsourcing community for creative tasks, recruiting efforts included announcements on social media, at design schools and in other lifestyle and design communities. The company announced to reward users with a total of 9,000 EUR in prize money. A jury consisting of six experts selected the winners based on several openly available criteria. In total, more than 2,600 users signed up for the challenge and created more than 2,500 ideas.

After completion of the contest, all participants were invited to complete an online survey. The response rate of 6.7% yielded 147 respondents. To test for non-response bias, the means of

early and late respondents regarding their activity on the contest platform were compared and showed no significant differences (Armstrong & Overton, 1977). The survey data was complemented by actual behavioral data of the users on the contest platform.

Measurement

In the data set, the authors included active and passive cluster variables.

The active cluster variables are based on the established MAO-framework of users' motivation, ability and opportunity to engage in various tasks (Jiang et al., 2012; MacInnis et al., 1991). All active cluster variables are measured via established multi-item survey variables. Motivation, defined as the users' desire and readiness to engage in the contest, is operationalized via the two variables of intrinsic and extrinsic motivation (Deci & Ryan, 1985). Ability refers to the users' skills or proficiencies in engaging in the contest challenge and is operationalized via innovator characteristics, such as creative abilities (Füller et al., 2012). Opportunity, defined as the extent to which users perceive the contest as relevant and their skills as suitable to solve the challenge, is operationalized via brand ownership, self-determination and perceived impact (e.g., Deci & Ryan, 1985).

To describe the clusters in terms of desired user behavior, the authors employ the passive cluster variables of brand passion and word-of-mouth (Albert et al., 2013; Alexandrov et al., 2013). Furthermore, actual contest performance is measured via the number of ideas, which is the number of submitted ideas as well as the quality of ideas as measured by the evaluation of the jury. Specifically, the jury selected 309 ideas as promising and the authors counted for each user how many ideas had been selected.

Data Analysis

To analyze this data, the authors employed a two-step clustering procedure. Firstly, they determined the number of clusters. Secondly, they assigned users to clusters. They began by identifying outliers using single-linkage clustering and eliminated 16 users as outliers because they formed clusters of their own (Punj & Stewart, 1983). Next, the authors determined an appropriate number of clusters using Ward's (1963) algorithm. As Ward's algorithm is sensitive to scaling, the authors standardized the active cluster variables by means of a z-transformation (Milligan & Hirtle, 2003). Various test statistics were used to determine an appropriate number of clusters. Duda and Hart's (1973) $Je(2)/Je(1)$ index, the pseudo-

T-squared index as well as Caliński and Harabasz's (1974) pseudo-F index suggested a five-cluster solution. The authors also examined the face validity of this solution by inspecting the dendrograms.

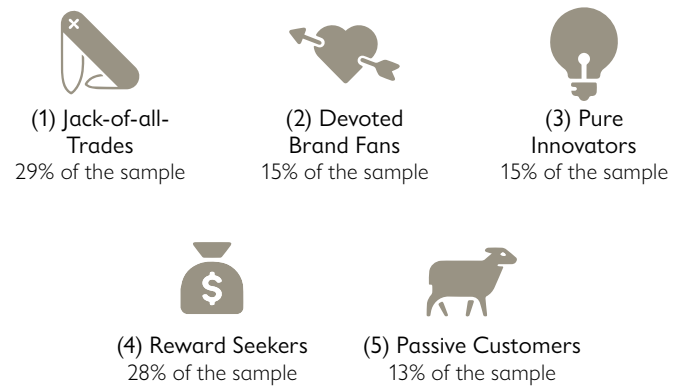
In accordance with the users' motivation, ability, and opportunity to engage in the contest, the resulting groups are called: (1) jacks-of-all-trades, (2) devoted brand fans, (3) pure innovators, (4) reward seekers, and (5) passive customers (see figure 1).

In the second step of this cluster analysis, the authors assigned observations to clusters using a hybrid approach. The authors employed Ward's algorithm to obtain a starting solution and then employed a k-means algorithm to optimize this solution (Arabie & Hubert, 1994; Punj & Stewart, 1983). Next, the authors tested for the distinctiveness of the cluster solution. Kruskal-Wallis tests demonstrated that the means of the variables differ significantly across clusters ($p < 0.01$). Moreover, a multivariate analysis of variance yields additional evidence of cluster distinctiveness as the means of the groups are not equal ($p < 0.01$). When interpreting the cluster solution for content validation, the authors focused on the values of the active cluster variables as shown in figure 2. Additionally, the passive cluster variables are shown.

Results

The analysis uncovered five clusters that differ from one another across the active cluster variables. The groups also show

Figure 1: User Types in the Crowdsourcing Contest



Source: Authors' illustration.

different attitudes and behaviors across the passive cluster variables after the contest.

The largest cluster in the sample is called the **jacks-of-all-trades**, as they bring a lot to the table. They are loyal customers of the brand, innovative, highly motivated and feel empowered by participating in the crowdsourcing challenge. However, looking at how they can contribute to the crowdsourcing contest, the results are divided. On the one hand, they are passionate brand fans who serve as useful brand ambassadors.

Figure 2: Cluster Characteristics

		Jacks-of-all-Trades n=38	Devoted Brand Fans n=20	Pure Innovators n=19	Reward Seekers n=37	Passive Customers n=17
Active Cluster Variables	Innovator's Characteristics	++	o	++	+	-
	Intrinsic Motivation	++	++	++	o	--
	Extrinsic Motivation	++	--	-	+	--
	Brand Ownership	++	++	--	+	++
	Self-Determination	++	+	+	o	-
	Perceived Impact	++	++	+	-	--
Passive Cluster Variables	Brand Passion	+	+	++	-	--
	Word-of-Mouth	++	+	++	-	--
	Quantity of Ideas	o	++	+	-	--
	Quality of Ideas	o	-	++	--	o

++ very high mean of the variable in the cluster, o average mean, -- very low mean

Source: Authors' illustration.

Main Propositions

- 1 The users active in crowdsourcing contests can be categorized into five different types.
- 2 The user types differ in their motivation, abilities and opportunities and show different innovation- and marketing-related behavior in the contest.
- 3 The user types vary in their ability to help achieve marketing and/or innovation goals.
- 4 The categorization has various implications on how to design different elements of a contest, such as the challenge, recruiting and community management.

knowledge and skills of innovators, as they do not contribute high-quality ideas. The devoted brand fans do create by far the most ideas of any group but these are mostly of poor quality. Despite their rather low innovation performance, these users still feel passionate about the brand after the contest and keep spreading the message.

In contrast to the devoted brand fans who own several products of the brand the group of **pure innovators** is primarily attracted to the crowdsourcing contest by the actual innovation challenge. They have hardly any previous affiliation with the brand. They also show high levels of intrinsic motivation, but at the same time high extrinsic motivation. Also, they are the most innovative and skilled group of participants. While they generate high-quality ideas, they submit fewer ideas – thus not “polluting” the contest with low-quality submissions. Interestingly, despite low previous brand usage, *pure innovators* develop a strong passion for the brand and intend to engage in word-of-mouth after the contest even more than the *devoted brand fans*.

On the other hand, they submit only an average number of ideas of mediocre quality.

The group of **devoted brand fans** is characterized by very high levels of intrinsic and very low levels of extrinsic motivation. These users enjoy spending time on the platform and feel empowered by expressing their creativity and helping their beloved brand. However, they are not equipped with the

The **reward seekers** experience significantly lower feelings of empowerment during contest participation, meaning they perceive less freedom and self-determination while contributing and do not expect to make an impact on the company’s future through their contributions. While their intrinsic motivation is low, they show a high level of extrinsic motivation. This motivational profile indicates that they primarily participate



Source: © Adobe Stock.

for monetary rewards. With rather strong innovators' characteristics, they also appear to be equipped with the skills to compete for the reward. However, the contribution *reward seekers* make to the contest is surprisingly poor. Not only are their ideas the poorest among all clusters, *reward seekers* also submit far fewer ideas than the average participant. In line with the low empowerment they experience, they do not feel passionate about the brand after the contest and do not intend to spread recommendations for the brand.

The final cluster consists of regular buyers of the brand and is called **passive customers**. These users have a very high affiliation with the brand; however, they differentiate themselves from the other clusters by their poor abilities and very low levels of motivation and empowerment. Similarly, they show very little brand passion and intention to engage in word-of-mouth after the contest. Passive customers contribute very few ideas, which are of average quality.

Implications and Discussion

Monoculture vs. Diversity: How to Assemble the Crowd

The analysis above sheds light on the black box of crowd members and the output they can create in a crowdsourcing contest. Depending on the goals of a crowdsourcing project, insights can be derived regarding the ideal participants and suitable recruiting strategies. In general, three of the five clusters seem to be particularly valuable for companies: *jacks-of-all-trades* (to drive brand equity), *devoted brand fans* and *pure innovators* (to drive idea output and brand equity).

The authors argue that a more targeted recruiting strategy may play an essential role in assembling a suitable crowd and matching it with the challenges to be tackled (see the recommendations for recruiting and activating selected crowd clusters in the box "Lessons Learned").

At the same time, the authors advise against creating "monoculture" crowdsourcing communities as crowdsourcing communities benefit from the diversity of the crowd and different roles users take on in temporary communities. For instance, companies aiming at generating innovative ideas may feel tempted to cater solely to pure innovators as they are the obvious participants of choice due to their innovation skills. However, a typical challenge in any crowdsourcing initiative has to feature initial content on the platform to be attractive to new users. In providing this content, *devoted brand fans* can be a major factor. With their massive content creation, they can help kick-start the

initiative and lure more and possibly more innovative users. Generally, the authors recommend that companies maintain the diversity of the crowd while emphasizing recruiting efforts for particular users that support the goals of the project.

Pure Innovators: Innovation Prowess and Future Brand Fans

Managers looking for high-quality ideas should hunt for *pure innovators*, who are keen to solve problems and have the skills and knowledge to submit superb ideas. In the case of SWAROVSKI GEMS™, designs created by users served as an inspiration for new product development (for some examples see Millard, 2012) and for communication with consumers and partners. For instance, SWAROVSKI GEMS™ prototyped outstanding user ideas to exhibit innovative use cases of how gemstones can be used in products at B2B trade fairs. Although pure innovators join crowdsourcing contests almost exclusively for the innovation challenge, the analysis revealed that over the course of the crowdsourcing initiative they could also be turned into brand fans willing to serve as influencers. This is even more remarkable as *pure innovators* were not a priori part of the customer base and typically had no prior relationship with the brand.

The downside is that *pure innovators* are a rare and hard-to-recruit user type. Managers need to approach the recruitment strategy of this group differently as *pure innovators* usually

Lessons Learned

- 1 Managers should proactively manage the black box crowd via analyzing psychological and behavioral traits of the users and adjusting the recruiting strategy.
- 2 By recruiting *jacks-of-all-trades*, managers can drive brand equity.
- 3 By recruiting *devoted brand fans* and *pure innovators*, managers can drive idea output as well as brand equity.
- 4 By designing the contest challenge less competitively, managers can avoid *reward seekers*.
- 5 For *passive customers*, managers can design convenient and engaging tasks, such as betting on winning ideas.

are neither following the brand nor buying its products. One promising strategy to attract *pure innovators* is a combination of targeted search and the self-selection principle. First, companies should select the right places to seed the “call for contributions”. Second, they need to rely on the mechanism of self-selection so that only interested and capable users who enjoy solving the task and have a realistic chance of winning the contest will opt to participate in the challenge. A promising place for seeding a crowdsourcing challenge are so-called “communities of interest” that are relevant to the crowdsourcing challenge. For instance, subreddits on Reddit, Facebook groups or subsections on Medium or Quora are valuable online platforms that may be utilized. While crowdsourcing contests are usually conducted

Crowdsourcing contests can be both a viable innovation and branding tool if they attract the right people for the task.

online, managers should not forget about offline sources of talent to tackle the challenges, such as universities, meetups, associations, conferences and events. For a more targeted search, the authors suggest involving colleagues with specific domain knowledge in the area of the innovation challenge to learn about specific communities of innovators, e.g., where they meet, how they communicate and what motivates them.

Finding *pure innovators*, however, is only half the battle. Attracting and convincing them to participate may be an even trickier challenge – especially in modern times where the competition for attention has escalated. The present research shows that *pure innovators* have hardly any prior brand affiliation and just enjoy being creative and solving problems. Thus, companies can attract them by focusing less on the brand narrative and more on the innovation challenge. For example, managers can share background information and domain knowledge, such as relevant new technologies or consumer trends, to address *pure innovators’* interest in problem-solving and their intrinsic motives, such as tackling challenges and learning about new technologies.

Devoted Brand Fans: Loyal Influencers and Massive Content Creators

For companies primarily interested in creating brand equity, the *devoted brand fans* are the “go-to-crowd”. They are loyal customers who love to support the brand without expecting monetary compensation. Participating in branded contests makes

them feel included and empowered. As a result, *devoted brand fans* spread positive messages that help companies increase awareness for the contest and build brand equity.

In line with their dedication to the brand, devoted brand fans also contribute a vast number of ideas albeit of relatively poor quality. Such users will boost the crowdsourcing contest by creating a lot of content and ideas. In doing so, they kick-start the community activity and help overcome the dilemma that users usually do not want to be among the first to contribute in a crowdsourcing environment.

Devoted brand fans are already customers of the brand, so managers can recruit them via customer databases or by seeding their “call for contributions” in their own social media channels. Additionally, managers should consider creating their own brand communities to ensure easy and ad-hoc access irrespective of the algorithmic limitations of social media platforms owned by third parties.

In terms of contest design, it is important that the goals of the contest are reflected in the incentive strategy. Specifically, crowdsourcing contests that aim to improve brand equity should consider offering rewards for certain user behaviors, such as sharing content or inviting other users. Moreover, companies can tailor the nature of the rewards to the intrinsic motives that drive this group of participants. Recognition by the company or non-monetary rewards, e.g., special branded devotional items or invitations to visit company sites, can serve as potent incentives. As *devoted brand fans* feel highly empowered in the contest environment, these feelings of self-determination and meaning can be supported by coherent storytelling, intensive moderation by the company’s experts and transparent communication on how the contest impacts the company’s future.

Jacks-of-all-Trades: Backbone of the Community and Brand Advocates

Just like the *devoted brand fans*, the *jacks-of-all-trades* are regular customers of the brand and constitute a large part of the contest crowd, forming the backbone of the community with an extremely versatile profile. They are highly motivated, feel tremendously empowered during the contest and show both passion for the brand and intent to engage in word-of-mouth behavior after participation. The only drawback is their less than superior contribution of ideas, since both quantity and quality are only average. Companies are advised to capitalize on the *jacks-of-all-trades* to increase the community and make their platform an attractive and vivid place. Furthermore, this group is predestined to become advocates of the brand.

With regard to recruitment and activation of this part of the crowd, the same strategies apply as for the *devoted brand fans*.

Reward Seekers: Stimulating the Competitive Element

The benefit of reward seekers is somewhat ambiguous. In a way, they fit the nature of the crowdsourcing contest very well as they are reward-driven and highly competitive. They have little intrinsic motivation and seem to participate mostly for external reward. In the same vein, they hardly feel empowered during the contest and show no passion for the brand, let alone become active ambassadors. Unfortunately, their ambition to win the contest prize does not equate to the quantity and quality of the ideas they contribute. Some reward seekers may be opportunistic, hoping for a lucky contest victory with shallow or re-used ideas. As *reward seekers* show little to no contribution to building brand equity or generating ideas, the authors recommend designing contests that do not overstate the

competitive nature but foster a spirit of collaboration to attract fewer reward seekers. Nevertheless, including a minor share of *reward seekers* in the contest may stimulate competitiveness within the community and eventually result in better output.

Passive Customers: Present but in Need of the Right Interaction Format

Passive customers were the smallest cluster in the sample. Across all cluster variables, they score very low except for brand ownership. These customers seem to be rather traditional buyers who do not care about being involved in this type of co-creation. It might be ascribed to their brand ownership that they still follow the initiative despite a lack of empowerment and passion for the brand. Generally, *passive customers* appear to be a little “out of place” in the contest. Companies should connect these customers with appropriate content and links to utilize their brand interest. For example, some more conventional marketing initiatives, such as raffles or links to related shopping oppor-

Figure 3: Recommendations on How to Harness, Recruit and Manage Different Types of Users

User Type	Qualities and how best to harness them	How to recruit and manage them
Jack-of-all-Trades	<ul style="list-style-type: none"> • Backbone of the community • Spread positive word-of-mouth 	<ul style="list-style-type: none"> • Recruit via your existing social media channels or customer databases • Provide a coherent story and meaning to your challenge
Devoted Brand Fans	<ul style="list-style-type: none"> • Massive content creators that turn the contest into a vibrant innovation community • Participation nourishes and intensifies their bond with the brand and word-of-mouth behavior • Intrinsic motivation may help to stimulate a sense of collaboration rather than pure competition 	<ul style="list-style-type: none"> • Recruit via your existing social media channels or customer databases • Ensure Devoted Brand Fans do not pollute the contest with entirely irrelevant content • Integrate non-monetary incentives that support intrinsic motivation (recognition, feedback, resources from experts etc.) • Reward them for activities beyond creating ideas, e.g., sharing content, inviting other users and supporting other users
Pure Innovators	<ul style="list-style-type: none"> • Contribution of outstanding ideas • Participation in the innovation challenge may turn them into legit brand fans • Brand ambassadors engaging in word-of-mouth 	<ul style="list-style-type: none"> • Search for them in specific communities of interest both online and offline (e.g., subreddits, subsection on Medium; or in research groups, meetups) • Attract them by focusing less on the brand but the innovation challenge, e.g., by providing the latest insights and data relevant to the challenge and interesting to these special users
Reward Seekers	<ul style="list-style-type: none"> • No direct value added for brand equity (neither brand passion nor word-of-mouth) or idea generation (low-quality ideas) • Might spur the competitiveness of the contest and potentially increase the quality of submissions 	<ul style="list-style-type: none"> • Do not cater to opportunistic customers in crowdsourcing initiatives too much • Therefore, do not overstate the competitive nature of your contest and the monetary incentives
Passive Customers	<ul style="list-style-type: none"> • Contributors of very few but solid ideas • Contest serves as a starting point to interact with them in different ways 	<ul style="list-style-type: none"> • Their attention to the brand should be redirected and utilized in more conventional ways • Make sure you do not confuse your customers

Source: Authors' illustration.

tunities (e.g., special editions), may serve as viable means to activate *passive customers*. Companies may also want to try to include a task in the contest that specifically caters to passive customers' needs. For instance, these users could help evaluate ideas by betting on the winning idea, which represents a more conventional customer activity and role. Measures that cater to *passive customers* need to be carefully designed and integrated in the crowdsourcing initiative to avoid confusing them.

One promising strategy to attract pure innovators is a combination of targeted search and the self-selection principle.

Conclusion

Our empirical research draws a detailed picture of the various protagonists in crowdsourcing contests and provides actionable insights on how to attract, recruit and manage the crowd for different purposes. Figure 3 provides an overview of our findings and recommendations. With the rather small sample size and the strong brand in our case study, we hope that future research can draw a more robust and balanced picture by analyzing larger sample sizes and a wider variety of contests. The findings highlight that crowdsourcing contests can be both a viable innovation and branding tool if they attract the right people for the task. By carefully recruiting the crowd, companies can ensure the right mix of creative minds and brand lovers that can deliver on innovation and/or marketing goals. ■

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