

## E.3 Shift in Perspective: Case Study of Motivational Factors in an Online Innovation Community

Research

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### 1 Introduction

New product innovations are necessary to attract consumers for companies to survive in the market in the long term in our fast-moving world. One way to gain access to such new creative solutions is through online communities whose members exchange ideas on virtual platforms (Antikainen & Väättäjä, 2010). This explorative research paper investigates the motivational reasons of users who engage themselves on innovation platforms. The aim is to provide practice-oriented design recommendations to support community managers in establishing or improving innovation communities in companies. The improved conditions have a positive influence on the creativity of individual users and thus contribute to the increased innovative power of the entire online community. The study focuses on LEGO Ideas as an example of an online innovation community with members from all over the world. Within the community LEGO models are designed, discussed, re-designed and finally rated by enthusiasts. The best-rated models are then produced as innovative products. The designers of the models receive a share of the sales revenues. The article specifically addresses the following research question: *What key factors motivate online community innovators' engagement?*

### 2 Research background

#### 2.1 Innovation communities

According to Fichter and Beucker (2012) innovation communities are founded by companies to involve users directly in the idea development process. Their main purpose is to accelerate development processes, open new markets and compensate the lack of resources. The success of communities depends largely on the contribution of members, as they are essential to the innovation process, argue Fichter and Beucker (2012). Ruiz, Rao, Cohendet, Sarazin, and Simon (2021) emphasise that innovation communities are characterised by a high level of loyalty among users, as they feel more closely connected to the company. Bartl, Ernst and Füller (2004) see a further advantage in the possibility of carrying out test phases within innovation communities as part of product development.

In addition to the many advantages, there are also some challenges for companies to face when working with innovation communities. Ruiz et al. (2021) mention for example, that a high level of moderation is necessary to ensure that community members focus on specific tasks.

## 2.2 Motivation theory

The motivation of community members to participate actively is one of the most important factors for the success of online communities. Without the active participation of the community members, the exchange of knowledge on the platform would be impossible (Ardichvili, Page, & Wentling, 2003). Thus, the motivation of the members does not only determines the quality and number of contributions, but also the existence and growth of the community (Cheng & Vassileva, 2006). Heckhausen and Heckhausen (2018) define motivation as a collective term for a variety of effects and processes, which all aim to make an individual choose his or her behaviour, in awareness of the expected outcome. While motivation describes a process, motives represent the willingness to act. Motivation thus arises from an interaction between motives (inner needs) and incentives (situational factors) (Reichwald, Ihl, & Seifert, 2004).

### **Intrinsic and extrinsic motivation – The Self-Determination Theory**

The self-determination theory of Deci and Ryan (1985) is one of the most important explanatory models in psychology for the effectiveness of extrinsic and especially intrinsic motivation and therefore chosen for this research. Within the theory a basic distinction is made between intrinsic and extrinsic motivation. The self-determination theory of motivation explains which factors influence the motivation of individuals. The starting point was the observation that (intrinsic) motivation for intrinsically interesting activities is often not increased by (extrinsic) rewards, but on the contrary, reduced. Extrinsic motivation is based on material and immaterial incentives. According to Deci and Ryan (1985), the drive to act is stimulated by external factors such as recognition or reward. In contrast to extrinsic motivation, intrinsic motivation is not focused on the result but serves one's satisfaction and is therefore realized for the sake of the activity (Deci & Ryan, 1985).

### **Relevant motivational categories**

In the field of online communities, the research of Schaffner, Federspiel, Mohr and Wieser (2017) made a significant contribution to understanding the motives of users. Their comprehensive study focused on company-owned online communities and included 12 qualitative interviews as well as a survey of three communities with 223 participants. Through this approach, Schaffner et al. (2017) were able to identify five motives. The following paragraphs take a closer look at these individual motives.

Users driven by the *connection motivation* willingly make new acquaintances and have an intrinsic drive to establish and maintain connections with other members. These people participate in virtual communities because they want to either deepen relationships or strengthen a sense of belonging (Schaffner et al., 2017).

The *motive of helpfulness* applies to people who would like to offer support to others. Within online communities, they share their knowledge and act as problem solvers (Schaffner et al., 2017).

According to Schaffner et al. (2017), people who *strive for status* feel the need for recognition of their competence. They try to influence other members of the virtual community and position themselves as experts within the community.

Schaffner et al. (2017) understand "*learning and competence expansion*" as the motivation of users to expand their knowledge with the help of the community. These users often use the community to search for specific solutions to their concerns within a subject area.

The fifth motivating factor identified by Schaffner et al. (2017) is the *joy and enthusiasm for the topic*. Without an inner joy and an in-depth interest in the topics discussed, participation in a corresponding virtual community is hardly conceivable. This motive, therefore, plays a particularly central role. Users who are motivated by joy in and enthusiasm for the topic see their involvement within the community as a leisure activity.

### 3 Methods

In the context of this research project, qualitative interviews were conducted to identify the motivational factors that lead users to participate in innovation communities. The qualitative content analysis according to Mayring (2010) was chosen for data collection and analysis. Figure 1 shows the chronology of the research project.

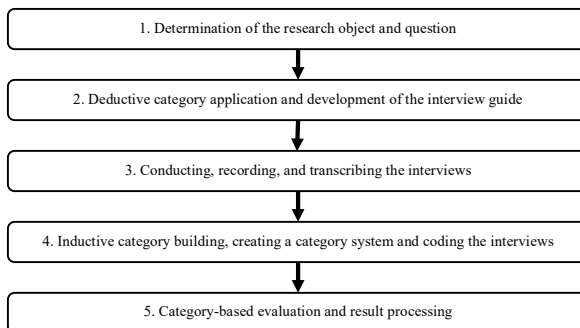


Figure 1: A process model, Mayring (2010)

In the first step, the research object and question were defined. To answer the research question and to combine different methods of data collection and analysis, this research is carried out as a causal case study. This provides a deeper insight into the topic (Yin, 2009). However, it should be noted that this does not lead to statistical generalisability.

In the second step, a literature review was conducted. This involved examining motivational theories that apply to the context of virtual communities. The self-determination theory according to Deci and Ryan (1985). Therefore, the basic classification of the motivation categories was based on the distinction between extrinsic and intrinsic motivational factors. Due to the accuracy and scope of Schaffner et al.'s (2017) studies, their five main motivations form the deductive categories and thus the starting point for this research project. These are "Learning and skill development", "enjoyment of the topic", "affiliation", "helpfulness", "reputation and status", and "monetary or material reward". The deductive approach describes a scientific procedure in which assumptions are derived from theory and transferred to individual cases, e. g. from corporate practice (Mayring, 2010). The interview guidelines were drawn up based on the above-mentioned categories.

During the third step, interview partners were selected and afterwards the interviews were conducted and transcribed. In the search for interview partners, the first task was to identify active innovation communities. Attempts were then made to contact members of the identified communities, e. g. openIDEO, InnoCentive and LEGO Ideas. The process of establishing contact differed from platform to platform. One approach, for example, was the comment function under members' posts. A further option was to reach out via links to other social media platforms. On many platforms, it was not possible to establish contact with users despite registering in the community, as these platforms do not offer any direct contact options. In a second step, the community managers were contacted and asked for support. Overall, the response rate was very low even after the interview request was published in community internal newsletters. The original research plan to conduct three case studies with two interviews each was then discarded. Instead, the case study was focused on the LEGO Ideas platform, as this was the most successful in terms of contact and response rate. To counteract a personal bias, the selection of interview partners was based on diversification of the contribution rate, publications and successes of the users as well as the age of the participants.

The next step was to conduct and transcribe the interviews. Five interviews were held between the 9<sup>th</sup> and the 22<sup>nd</sup> of May 2022. Due to the large distances, the interviews were virtually realized via MS Teams. Depending on the origin of the interviewee, the interviews were either conducted in English or German. Semi-structured interviews were chosen to gain an insight into the emotional and motivational situation of the users in their communities and to be able to go into detail on some questions.

A first interview was held as a pre-test before the actual research phase. According to Kaiser (2014), this test can be used to review the structure of the interview guide and the comprehensibility of the questions and, if necessary, to optimize them by making adjustments for the following interviews. Subsequently, four further interviews were conducted with the optimized interview guide.

In the fourth step, inductive categories were formed based on newly identified motivations. In contrast to the deductive approach, the inductive category application derives generally valid findings from individual observations, e.g. interviews (Mayring, 2016). The identified inductive categories are “appreciation and recognition” and “monetary and material reward”. Afterwards, a system of categories (see Figure 2) was created. These categories serve to analyse research-relevant aspects based on the previously transcribed interviews (Mayring, 2016). The interviews were subsequently coded according to the categories using a colour scheme and an Excel spreadsheet. To reduce personal bias, a second independent coding was carried out by the research group.

In the fifth and final step, the results were evaluated, processed and recommendations for action were derived.

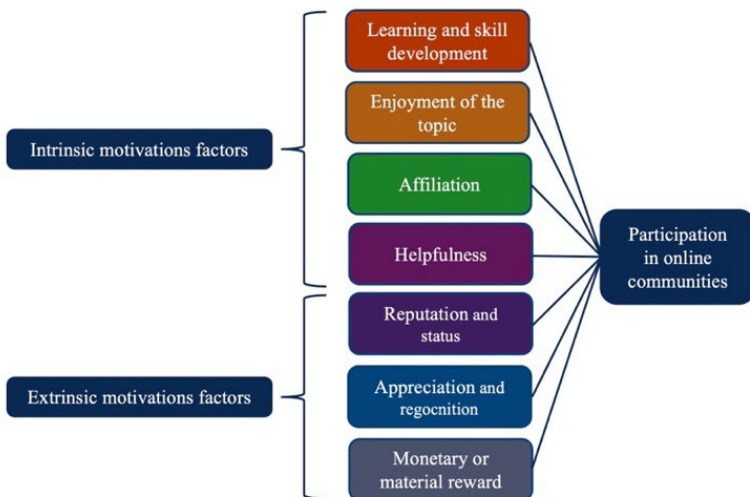


Figure 2: Category system

### 3.1 Research context: LEGO Ideas

The LEGO Ideas platform is an innovation community run by the LEGO Group. It allows users to submit suggestions for new LEGO products. The main goal is to involve a wide range of users in the company's innovation process. Therefore, members are invited to submit new product ideas, which then can be voted by community members. When 10,000 votes are reached, LEGO designers decide whether the product idea goes into production or not. If a product is sold, the creator receives 1% of the profit the product generates.

There are three different ways to participate on the platform: The first one is to submit an idea as described above. The second option is to participate in "contests" on various topics. These are limited in time, and participants can win a Lego set as a prize. The "activities" form the final possibility of participation, these are limited to very simple models and the theme changes weekly. They are specially designed for beginners or users with limited time.

To communicate with other members, users can leave their remarks, praise, and suggestions for improvement in the comments section of the published products. Additionally, there is a "Staff Pick" feature that allows LEGO staff to highlight individual certain works themselves. These are then displayed on the Ideas homepage ('LEGO Ideas', 2022).

## 4 Results

The interviews made it possible to identify various motivations for the active community participation. At first glance, intrinsic motivation plays a more decisive role. However, extrinsic incentives should not be neglected either. The results, broken down into motivational categories, are presented in Figure 3, and are explained in detail in the following subchapters.

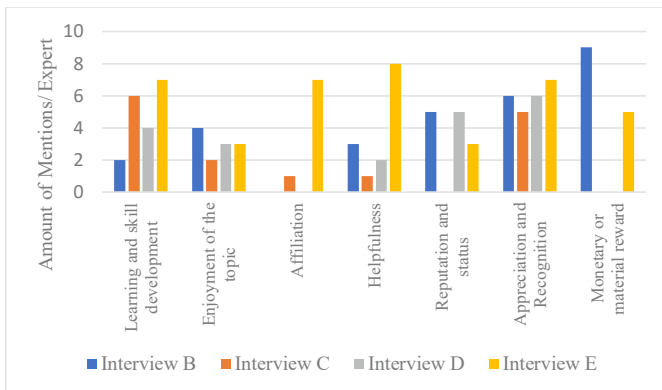


Figure 3: Number of motivational categories mentioned

#### 4.1 Intrinsic motivational factors

*Learning and skill development* is the second most frequently coded motivational category and the most mentioned intrinsic motivation category with 19 mentions in total. For all four interviewees, it is important to be able to develop themselves and their skills on LEGO Ideas. The feedback from other users on their published LEGO sets plays an important role. Especially the critical and constructive feedback from other community members is mentioned as one of the driving factors for skill development. Interviewee C even said that negative feedback was the main factor that helped him progress:

*“I think that the negative feedback would actually motivate me more, because then I get the criticism, and then I can sort of be better to do what I’m actually good at, so they are actually the people who stabilize my future of building.”*  
(Interview C, lines 25–28)

At the same time, Interviewee D mentioned that looking at the published sets provides him with new inspiration for ideas and building techniques. Thus, the constructive feedback in the comment function and the review of other works form the basis for further development for the interviewees.

All participants grew up with LEGO and the enthusiasm for building with bricks. LEGO Ideas is a hobby for them, which is why the *enjoyment of the topic* was a decisive factor for all of them to participate on the platform in the first place:

*“I’ve always been into LEGO. I think that’s always been something I’ve done. From a young age, and I never really grew out of it like most people did, I guess.”* (Interview E, lines 208–209)

The interviewees enjoy expressing their creativity and creating things that they have always desired from LEGO, but which have never been produced. With 12 mentions, however, this category is only in third place among the intrinsic motivations that keep users active in the community.

*Affiliation* is the least relevant intrinsic motivating factor of the four interviewees with only 8 citations. Only interviewee E felt that belonging to the community was a relevant motivating factor. For him, the exchange on the platform is essential. Furthermore, he emphasises that he has met many like-minded people through the platform and has also been able to make new friends. For all other participants, social interaction with other members does not play a major role. They are active on LEGO Ideas to show their creations and develop new ideas but are not interested in friendships or other social contacts.

For more intensive contact with other LEGO enthusiasts, they often use other more local forums outside LEGO Ideas:

*“So, you really have to go to forums outside, there is not much interaction between people on Ideas.” (Interview B, lines 171–172)*

In addition to further development, *helpfulness* is also important to the interviewees. With 14 mentions, this is the second most frequently mentioned intrinsic category. All participants stated that they are happy to help other users and enjoy giving advice and sharing their knowledge. Interviewee E is asked for help particularly often because of his high ranking 10k membership, which is given to very active and successful users. He is excited when he can make other people happy with his support. Interviewee D, on the other hand, as a new member, is more reserved with his willingness to help but would help at any time if he could.

## 4.2 Extrinsic motivational factors

The biggest motivating factor for all interviewees on LEGO Ideas is *appreciation and recognition*, with 24 citations. For all participants, the recognition of what they have created and their creativity is very important, which is why praise and positive feedback from other users are the decisive motivation to remain active in the community:

*“[...]just to see that other LEGO fans [...]say something like: hey cool or cool idea, I wouldn't have thought of it, cool model, cool implementation, cool building techniques and so on. That actually motivates from the very first comment” (Interview D, lines 67–71)*

Without the comments of other users, the interviewees would quickly lose their motivation to publish further works. For interviewees C, D and E, it was also an enormous motivational boost when they received recognition for their work from the LEGO community managers.

With 13 mentions, the acquisition of *reputation and status* is quite important for most interviewees, except for Interviewee C. Making a name for themselves in the community and being known to other users is a goal that some work towards:

*“And then, of course, eternal fame beckons if I had achieved that. That's also clear, of course.” (Interview B, lines 33–34)*

Interviewee E in particular enjoys his publicity on LEGO Ideas and the increased interest in his work that comes with it.



The least important motivating factor overall for the participants is the *monetary or material reward*, with only 6 mentions. Interviewee B, for example, would like to win a set or money, but since the probability of this is very low, it is not a motivating factor for him to participate. Only for Participant E, the chance to win a prize is an additional incentive to participate on LEGO Ideas:

*“I think one important thing besides the community is also just the motivation it gives you some more reasons to build instead of just building on your own because there are prizes [...]” (Interview E, lines 96 – 98)*

In the following chapter, recommendations for action for the LEGO Ideas community managers are discussed based on the results of the interview analysis.

## 5 Discussion

Through the evaluation of the qualitative interviews, it can be determined that overall, almost twice as many intrinsic as extrinsic motivating factors were named by the users. Consequently, intrinsic motivation plays a greater role when it comes to constantly encouraging users to participate.

The research question “What are the key factors motivating the engagement of online community innovators?” can be answered using the results obtained in chapter 4. For most of the respondents, the joy of the topic was the driver and thus the motivating factor to register as a user on the LEGO Ideas platform. As a member of the online community, the motives of *appreciation and recognition and learning and skill development* ranked at the top. After the publication of their work, the users’ appreciation and feedback as positive and constructive comments are most important. The ability to feel a sense of belonging to a group, on the other hand, does not play a major role.

To provide practice-oriented design recommendations for community managers the points that are already implemented in LEGO Ideas are listed. This is followed by the recommendations for action that can be drawn from the interviews.

As appreciation and recognition are very important for the participants, it can be concluded that comment and like function, as already implemented in LEGO Ideas, is one of the most significant ways to express recognition. To motivate users on the platform, users who have been active on LEGO Ideas for a long time found the competitions on LEGO Ideas particularly helpful. Although these do not contribute to the actual goal of the platform, they help users to gather new ideas and engage with LEGO and must have a clear framework and mission. The existing demarcation of official LEGO comments ensures direct visibility. This is important, as these were perceived as a special incentive by the interviewees.

Furthermore, the following suggestions for improvement emerged from the interviews. For better interaction, interviewees C and E favoured a chat function. This allows for a better connection between community members, and conversations do not have to be conducted through the comments. It provides an easy way to create more belonging within the community so that users do not have to go to other platforms for more communication. Constructive feedback and the possibility of individual development were also frequently mentioned. To enable these directly, an option should be created for users that encourage constructive comments. For example, highlighting particularly useful comments is suitable for this. Users should have the opportunity to revise a presented LEGO model with the help of the comments. In this way, the further development of the product and the user can be promoted in the same way. Especially for beginners on the platform, it can be a challenge to get familiar with certain building techniques. For this purpose, it was desired that LEGO offers the possibility to publish information videos or conduct workshops on LEGO Ideas. Furthermore, a mobile website or app was requested as this can massively increase access to the site and therefore interactions.

In conclusion, the following suggestions for the development of a creative innovation community can be noted:

- providing comment and like function for user contributions
- highlighting constructive comments and adding an option to revise the current model
- offer side activities without a focus on the actual goal
- provide official comments on the model in a separate category
- create a chat function for users
- provide workshops or other opportunities to share what has been learned
- offer universal accessibility via app

### 5.1 Limitations and implications for future research

The main limitation of this study is that only five users were interviewed for this research, and they are all part of the same innovation community. Therefore, it is difficult to derive generalized findings that can be transferred to other innovation platforms. Furthermore, LEGO Ideas differs from other innovation communities through a very strong focus on user creativity and less on technical and detailed knowledge. Nevertheless, the interview partners showed high suitability to contribute to the topic of the case study due to their successful engagement in the innovation community. In the future, it will be necessary to investigate motivational factors in more detail. As a result, more comprehensive qualitative research on this topic should be conducted that includes the perspective of more members of the Lego Ideas community as well as the motives of users from other innovation communities.

Furthermore, the practical suggestions for the further development of the innovation community must be elaborated in detail and the addressed motivational factors need to be examined. Conceivable methodological approaches are focus group discussions combined with a modified success factor analysis, for example following Heinrich & Pomberger (2001). Based on the experiences of the research project, specific preliminary work should be performed before contacting community members so that it is clear how users can and may be reached on the platforms.

### Online Appendix

The online appendix is available at: <https://cloudstore.zih.tu-dresden.de/index.php/s/16okk4xcdL3aXTP>

The appendix contains:

- A1\_Interview guide
- A2\_Coding guideline
- A3\_Analysis of the Interviews
- A4\_Information on the interview partners

### Literature

- Antikainen, M., & Väättäjä, H. (2010). Rewarding in open innovation communities—How to motivate members. *International Journal of Entrepreneurship and Innovation Management*, 11(4).
- Ardichvili, A., Page, V., & Wentling, T. (2003). Motivation and barriers to participation in virtual knowledge-sharing communities of practice. *Journal of Knowledge Management*, 7(1), 64–77.  
<https://doi.org/10.1108/13673270310463626>
- Bartl, M., Ernst, H., & Füller, J. (2004). Community Based Innovation—Eine Methode zur Einbindung von Online Communities in den Innovationsprozess. In C. Herstatt & J. G. Sander (Eds.), *Produktentwicklung mit virtuellen Communities* (pp. 141–167). Gabler Verlag. [https://doi.org/10.1007/978-3-322-84540-5\\_7](https://doi.org/10.1007/978-3-322-84540-5_7)
- Cheng, R., & Vassileva, J. (2006). Design and evaluation of an adaptive incentive mechanism for sustained educational online communities. *User Modeling and User-Adapted Interaction*, 16, 321–348.  
<https://doi.org/10.1007/s11257-006-9013-6>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Berlin: Springer Science & Business Media.  
<https://doi.org/10.1007/978-1-4899-2271-7>

- Fichter, K., & Beucker, S. (2012). *Innovation Communities: Kooperation zahlt sich aus*. Berlin.
- Heckhausen, J., & Heckhausen, H. (2018). *Motivation und Handeln* (5th ed.). Springer-Verlag. <https://doi.org/10.1007/978-3-662-53927-9>
- Heinrich, L. J., & Pomberger, G. (2001). Erfolgsfaktorenanalyse – Instrument fuer das strategische IT-Controlling. HMD – Praxis der Wirtschaftsinformatik, 217, 19–28.
- Kaiser, R. (2014). *Qualitative Experteninterviews. Konzeptionelle Grundlagen und praktische Durchfuehrung* (1st ed.). Springer-Verlag. <https://doi.org/10.1007/978-3-658-02479-6>
- LEGO Ideas. (2022, June 1). Retrieved from <https://ideas.lego.com/howitworks>
- Mayring, P. (2010). *Qualitative Inhaltsanalyse: Grundlagen und Techniken* (12th ed.). Weinheim: Beltz-Verlag.
- Mayring, P. (2016). *Einfuehrung in die qualitative Sozialforschung: Eine Anleitung zu qualitativem Denken* (6th ed.). Weinheim: Beltz-Verlag.
- Reichwald, R., Ihl, C., & Seifert, S. (2004). *Kundenbeteiligung an unternehmerischen Innovationsvorhaben. Psychologische Determinanten der Innovationsentscheidung* (Arbeitsberichte Des Lehrstuhls Für Allgemeine Und Industrielle Betriebswirtschaftslehre No. 40). Technische Universität München.
- Ruiz, É., Rao, M., Cohendet, P., Sarazin, B., & Simon, L. (2021). *Communities of Innovation: How Organizations Harness Collective Creativity and Build Resilience*. World Scientific. <https://doi.org/10.1142/12208>
- Schaffner, D., Federspiel, E., Mohr, S., & Wieser, F. (2017). Online-Communities: Was die User motiviert und wie sie aktiviert werden. In *Dialogmarketing Perspektiven 2016/2017* (pp. 87–107). Wiesbaden: Springer Gabler. [https://doi.org/10.1007/978-3-658-16835-3\\_5](https://doi.org/10.1007/978-3-658-16835-3_5)
- Yin, R. K. (2009). *Case study research: Design and methods. Applied social research methods series* (Vol. 5).