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What Drives the Crowd?

A study of user motivations on web-based innovation platforms

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What drives the crowd? - *A study of user motivations on web-based innovation platforms*

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This thesis has been written within the research topic of Crowdsourcing.

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Abstract

Title: What drives the crowd?
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Crowdsourcing has during the last decade gone from an obscure phenomenon to a widely accepted way to improve business processes. As companies struggle to implement crowdsourcing in their operations, purpose-specific online platforms are being launched worldwide, providing companies with access to the crowd through a third party.

The study was performed in collaboration with Realize; a company that provides consultancy services in the areas of business development, ideation, innovation, i.a., interested in the aspects associated with developing and launching a web-based innovation platform (WBIP). Thus, the aim of the study is to provide insight in the motivational drivers and factors that drive user participation and contribution in a WBIP environment. This was approached through interviews performed with existing crowdsourcing platforms, along with results from previous studies on user motivation, organized using the Genex framework - a framework developed to aid developers in designing tools that support creativity in an online context.

The resulting outcome of this study is the FEMM framework; a framework that links specific user motivators with certain activities in the creative process, for which they are used to drive user participation in. This framework provides, in addition to the identification of connections between user motivators and activities in the creative process, examples of tools and functionalities available to Realize in encouraging the partaking in activities. The provided FEMM framework, and associated visualization, will benefit Realize in the process of development, as well as attracting a user base - identifying aspects that are considered necessary, and aspects that could provide Realize with a competitive advantage.

The authors suggest that further studies aim to validate the FEMM framework, mainly through the studying of a significantly larger sample size, in order to increase the external reliability and the generalizability. Other areas include firm incentives, key platform attributes, and risks involved.

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The authors further want to express their gratitude towards the participating companies that have participated in the conducted interviews, providing insight and validation to the proposed theories and frameworks.

A very special thank you goes out to the authors' supervisor Rick Middel for his support and guidance, allowing the freedom to perform the study as the authors found suitable, while still providing feedback, suggestions, and helpful advice.

School of Business, Economics, and Law, June 2014.

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Definitions and abbreviations

Definitions

Crowdsourcing can be defined as "...the intersection of three key elements: the 'crowd,' outsourcing, and advanced internet technologies" (Saxton, Oh & Kishore, 2013), see *Figure a* for a visualization. In this definition, the 'crowd' is in turn defined as "...an undefined, non-professional, and heterogeneous online 'crowd' [of people]..."; i.e. content-creators and collaborators consisting of the general public. The term 'non-professional' does not necessarily have to mean that the crowd has to be external to a company. I Outsourcing in the context of this study refers to the definition by Kishore, Rao, Nam, Rajagopalan & Chaudhury (2003) "...[the] contracting of various internal business needs or functions to outside service providers.". Lastly, 'social web' refers to the technologies and developments in Internet technologies with the introduction of Web 2.0, allowing for massive amounts of user-created content to be produced; thus facilitating interaction and collaboration (O'Reilly, 2005).

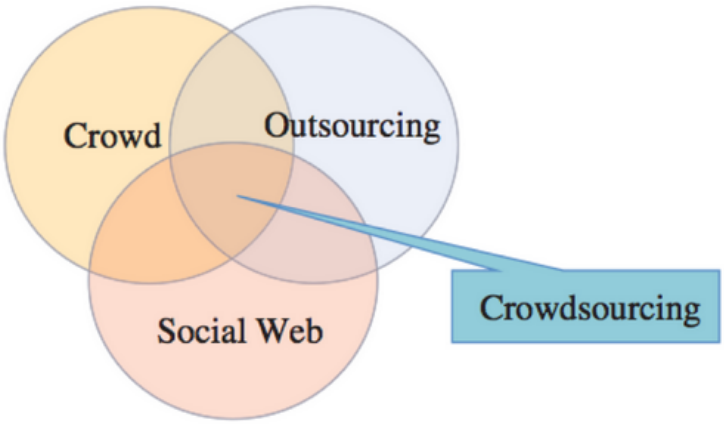

Figure a. Saxton et al., 2013.

Abbreviations

SLR - systematic literature review

WBIP - web-based ideation platform

1. Introduction

1.1 Problem background

During the last decade, crowdsourcing has gone from an obscure phenomenon to a widely accepted way to improve business processes. While companies generally understand that the input of the public in the form of crowdsourcing is an untapped source of information, fresh thinking, and possible business ideas - the resources, brand awareness, and knowledge needed to gain access might not exist within the company itself. Large corporations often launch open innovation initiatives with similar intent, albeit generally at a higher cost and without the added benefits of allowing the public to collaborate in idea generation processes, and thereby missing out on much of the possible synergies and associated available value. This realization has led to the launch of a large number of WBIPs, aiming to tap into the power of the crowd - either for serving itself, or as an external service provider for other companies.

It stands abundantly clear that these WBIPs are very open to collaboration, further extension of their network, and brand awareness, based on the high rate of positive replies resulting from the authors initial contact approaching platforms regarding the participation in this study.

The study has been performed in collaboration with Realize; a company that provides consultancy services in the areas of business development, ideation, innovation, i.a. At the beginning of the study it had identified an opportunity associated with the launch of a WBIP as an extension of its operations based in Gothenburg, Sweden. The aim of this venture is to create a community of creative users, enthusiastic and driven when it comes to ideation and innovation. This study aims to aid Realize in the shaping of this venture.

1.2 Problem discussion

A lack in academia exists regarding what motivates users to participate on WBIPs. Studies have been performed on the motivational factors of crowdsourcing platform users (Brabham, 2008; Brabham, 2010; Brabham, 2012; Chanal and Caron-Fasan, 2010; Leimeister, Huber, Bretchneider & Krcmar, 2009; Frankrone, 2013; Liu, Lehdonvirta, Alexandrova & Nakajima, 2012; Zichermann & Linder, 2010) - many of which are based on interviews with platform users, the motivation of firms to participate in crowdsourcing (Frankrone, 2013; Kleeman, Voss & Rieder; 2008, Weiwei, 2012), as well as the risks associated with interacting with a crowdsourcing platform (Howe, 2006; Liu et al., 2012; Chanal & Caron-Fasan, 2010). However, studies related to the user motivation on platforms for the purpose of innovation, i.e. WBIPs, are scarce. While user motivation is likely to share similar traits between platforms, firm incentives to participate in crowdsourcing and the risks associated with utilizing a crowdsourcing platform are decidedly separate topics and less applicable for aiding in the situation of Realize. Thus, the latter are covered separately, with findings presented in *9. Appendices*.

Further, the lack of research regarding the importance of user motivations provides firms with a difficult situation in applying the existing knowledge stemming from academia. The lack of research is however, less surprising given the fact that the term ‘crowdsourcing’ was coined by Howe (2006a) less than a decade ago.

1.3 Purpose

The purpose of the study is to identify the key drivers and factors that have an impact on motivating users of WBIPs. This is to be accomplished through the study of existing platforms utilizing crowdsourcing as an integral part of their business. Through this approach, the intention is to provide an aggregate of best practices employed regarding user motivations, that in turn can be used to motivate suggestions for implementation of functionality.

The reasoning behind the chosen approach is that by providing a foundation of understanding as to what specific drivers and factors that exist in terms of increasing user participation and collaborative interaction, Realize will have a basis for where to focus its efforts.

1.4 Research question

"What are the key drivers and factors of existing crowdsourcing solutions applicable for motivating the users of a web-based innovation platform?"

1.5 Delimitations

The intention of the study is not to cover crowdsourcing as an isolated phenomenon, as there is a considerable amount of literature on the topic, but rather on the importance of different drivers and factors of crowdsourcing that can drive user participation.

The study will not directly focus on the design or detailed functionality of the medium of access, e.g. the mobile application or website, providing the interface for the WBIP. However, it is highly likely that factors or attributes adding to the growth of, and facilitating access to, the WBIP will be uncovered and associated to user motivations.

Due to the limited time available in which this study is to be performed, as well as the relatively small sample size of interviewed companies that is possible to achieve using the time and resources available, means that any findings or conclusions made in the study is likely to not be considered as highly generalizable.

1.6 Outline of the thesis

The introductory chapter provides a background to the problem, a problem discussion, a discussion of the purpose of this study, the chosen research question, as well as the delimitations of the study. In the methodology chapter it is motivated why certain approaches and methods are chosen, as well as describing the steps taken. The theoretical framework covers existing literature, and aims to extract any applicable theories and models from previously conducted studies. The theoretical framework is used as support in the empirical chapter, as well as a foundation for the analysis. In the analysis the connection between the theoretical and empirical data is discussed, and findings are presented. The conclusion chapter addresses how the findings stemming from the analysis impacts the research question, the study's contribution to academia, and how the findings are applicable to Realize. The suggestions to further research chapter aims to provide alternative topics of study, as well as instructions for how to strengthen the result of this study.

2. Methodology

The aim of this section is to provide an insight into how the study was conducted. Focus lies primarily on the execution and the steps involved in the process, rather than providing an in-depth review of the applicable methodology theories. Other covered topics include reliability and validity of the study, the interview sample, and source criticism observed by the authors.

2.1 Research method

There are two main research methods deciding the approach to data collection, tools utilized, interpretation of data, as well as the possible conclusions to be reached by a study; quantitative and qualitative. By utilizing the quantitative method, one tries to provide a description rather than an explanation as to what causes a given situation. This generally requires a large number of data points to be collected, usually resulting in a large number of respondents with which to interact, and as the results are based on the statistics extracted from the provided answers it is suitable for generalization within a population. Utilizing a qualitative method allows for a more in-depth understanding of the situation through more comprehensive data collection methods, such as interviews. This provides the researcher with a better understanding of the correlation between different factors that impact the situation, suitable for seeing the big picture, but in turns provides less generalizable results. (Holme & Solvang, 1997)

2.1.1 Method of choice

When considering the research question provided by the authors, it is clear that a certain level of generalizability is sought-after in order to provide an applicable, comprehensive framework of key drivers for user motivation to be employed by Realize AB. However, these key drivers and their respective effects are regarded as moderately subjective in nature with regards to the implementing platform, as the effectiveness is likely to depend on time of implementation, unique attributes, and the past experiences of the platform - dimensions that are considerably more difficult to cover using static approaches such as structured interviews or surveys.

In order to provide a comprehensive framework of key drivers for user motivation, the chosen method has been decided to utilize a qualitative research method with a descriptive approach; performing an extensive, in-depth systematic literature review (SLR) to provide an aggregate view of existing motivational drivers, followed by conducting semi-structured interviews with active platforms to firmly establish the applicability in real-world applications.

The SLR provides the authors with ample support for constructing an appropriate interview structure, and the utilization of semi-structured interviews allows the authors to evaluate theory provided by literature, while augmenting the established framework of key drivers with

any factors identified by the interviewed platforms. Thus, as the study is not limited to evaluating the previously defined framework, it can be argued that the chosen descriptive approach holds exploratory traits.

Systematic literature review

The SLR aims to provide a solid foundation of existing knowledge regarding the topic of study, this allows for a better understanding of what is known and aids in the design of the research. Further, the conducting of an SLR provides elements of an evidence-based approach as it seeks to understand the effects of themes and dimensions that have been identified in previous studies, and adds to the transparency of the study as the influencing sources are clearly presented. (Bryman & Bell, 2011, p. 98)

This allows for a better starting point in terms of creating a framework of potential key drivers to user motivation, which in turn can be evaluated against the key drivers identified by the interviewees, as well as their expressed opinions on what can be considered as best practice.

Ahead of the search process involved in the SLR, two separate spreadsheets were created; one holding different keywords that were assumed to generate usable results, and one for the generated search results. The keywords were then combined in order to create a list of search strings with correct search syntax, with the aim of limiting the amount of results and also to make sure that the output had a high relevance. The search engine used was Gothenburg University's "Supersök" (available at *http://ub.gu.se*), with filtering that ensured that the search would only result in full-text journal articles, books, newspaper articles, and reports.
Search strings that generated the most applicable results include:

- crowdsourcing model
- "crowdsourcing model"
- crowdsourcing template
- "crowdsourcing business model"

*(*See *Appendix 9.1* for a detailed representation of the performed SLR*)*

In addition to the initial SLR, additional literature has been acquired through references, terminology, and concepts covered or mentioned in the literature produced by the initial SLR.

Semi-structured interview

The thesis aims to provide insight into a contemporary phenomenon, with a large number of factors affecting the performance of crowdsourcing platforms. In order to take these factors into account, a qualitative approach is called for. However, since a certain amount of

generalizability is requested for the result of this study, the approach of semi-structured interview is suitable. This approach provides structure to the interaction with interviewees, while allowing them to elaborate on examples and factors relevant to their situation (Bryman & Bell, 2011, p. 472).

Further, as pointed out by Björklund & Paulsson (2003), using the semi-structured interview approach allows for more spontaneity compared to that of a structured interview approach. This freedom can lead to a more in-depth discussion regarding the topic, which in turn can provide additional information that might uncover pieces of knowledge that otherwise would have been lost to the interviewer.

The interviews are conducted by communication via e-mail, as the interviewees are very geographically dispersed, allowing the interviews to be conducted with a larger number of platforms within the limited time available for the study, without being limited by availability due to time zone difference. Additional emails are exchanged in order to elaborate on and clarify provided answers, and ask follow-up questions. This allows for the interviewees to partake while being in a familiar environment, and also take the time they need to provide appropriate answers (Meho, 2006).

The choice of email as the interview medium exposes the data collection process to the problem of question order, pointed out by Bryman & Bell (2011, p. 213-214). This is to be considered as having a low impact on the interviewees' responses, as more opinionated and value-based questions are asked in follow-up emails after the initial answers have been provided, allowing for a better control regarding the order of questions.

As pointed out by Meho (2006), there are limitations in choosing email as the medium in which to perform interviews, mainly in terms of richness of the medium, i.e. the possibility to communicate and take in information via multiple sensory input, e.g. through body language, facial expressions, tone, etc. However, while the medium lacks certain dimensions to the input, it also significantly reduces the interviewer-interviewee effects that can stem from a face-to-face or telephone meeting. Further, the level of self-disclosure and openness towards the interviewer in terms of opinionated answers, e.g. personal beliefs, values, and feelings, can be increased by the anonymity provided through online communication (Meho, 2006), allowing for a closer interviewee-interviewer connection.

2.3 Finding platforms

The search for appropriate platforms with which to conduct interviews began with the compiling of a list, drawing upon sources including Board of Innovation (2014), Board of Innovation & mission-e-motion (2011), and Saxton et al. (2013), as well as from the past knowledge and experience of the authors. The list is comprised of roughly 200 platforms of varying orientation and status.

From the compiled list, 114 platforms were approached via email. The reason as to why the number of contacted platforms not being closer to 200 can be attributed to platform inactivity (e.g. short-term projects having finished, failed ventures, etc.), as well as occasional lack of contact information. From the approached platforms, 21 platforms responded favorably to being interviewed, of which 12 platforms completed the interview process.

As the specific nature and orientation of Realize's platform is yet to be decided, the authors have made the decision to study crowdsourcing platforms of various orientations, with the intention to generate results holding a higher chance of applicability in the case of Realize.

2.3.1 Selected platforms

Platform	Description	URL
ArtistShare	Connects artists with fans in order to share the creative process	artistshare.com
Atizo	Virtual brainstorming	atizo.com
Create My Tattoo	Tattoo design marketplace	createmytattoo.com
DataStation	Innovation management software, services, and consulting	datastation.com
Eyeka	Crowdsourcing through online challenges	en.eyeka.com
IdeaConnection	Results-based open innovation	ideaconnection.com
Kiva	Peer-to-peer lending	kiva.org
Local Motors	Product development community	localmotors.com
Spigit	Social innovation through leveraging crowdsourcing	spigit.com
Mob4Hire	Mobile quality assurance solutions	mob4hire.com
MyFootballClub	Real football club run by crowdsourcing	myfootballclub.co.uk
Quirky	Idea realization community	quirky.com

Table 2.1 Brief descriptions of selected platforms. Compiled by the authors.

2.4 Validity and reliability

2.4.1 Validity

Validity can be separated into internal validity and external validity, where internal validity refers to how good the match is between the researchers' observations and the theories that they develop, while external validity refers to how well the findings from a study can be generalized across social settings. (Bryman & Bell, 2011, p. 395) This study aims to have a high degree of internal validity, being enforced by the fact that the authors develop theories based on findings from both previous studies and interviews conducted with platforms that are active in the field of crowdsourcing. External validity often represents a problem for qualitative studies, as the sample providing the information on which conclusions are drawn is limited in size, and in kind. In order to address this, the authors have aimed to provide a larger sample, consisting of platforms with various orientations, as opposed to a single or few case studies (Bryman & Bell, 2011, p. 395).

2.4.2 Reliability

Reliability can be separated into internal reliability and external reliability, where internal reliability refers to whether or not, when there are more than one researcher, members of the research team agree about what they see and hear during the course of the study. External reliability refers to the degree to which the study could be replicated. (Bryman & Bell, 2011, p. 395). The research team undertaking this study consists of two people, both equally involved in the data collection and development of theories, as well as in the analysis. In order to increase the internal reliability, internal discussions about collected data and findings are frequent, addressing any possible issues of agreeing on a mutual understanding regarding topics and indicators that could potentially be interpreted in different ways. As such, the internal reliability is deemed to be relatively high. Attaining a high degree of external reliability is often difficult when conducting a qualitative study, as it is practically impossible to 'freeze' the social setting of the interviewee at the time of the interview (Bryman & Bell, 2011, p. 395). Evaluating the external reliability with this reasoning, it is considered to be relatively low.

2.5 Source criticism

As previously mentioned in *1.2 Problem discussion,* the term 'crowdsourcing' was established less than a decade ago (Howe, 2006a), due to this fact it is not inconceivable that there are areas of the field that are yet to be studied. Any research performed on a relatively immature field of study is associated with risks, mainly in terms of a lack of general consensus regarding certain topics, classifications, and definitions. The authors aim to contribute to the academia for the field of study that is crowdsourcing, but also recognizes the existence of pitfalls, and the possible shortcomings to which these might contribute.

In order to provide a comprehensive representation of the applicability of the study, and to provide the best foundation for an output with higher generalizability and validity, it is essential to aim for a coverage of the available sources to be as thorough as possible. However, a complete coverage is unfeasible in the current situation; provided the limited time and resources available for this study. To counteract this, the authors have made their best efforts to study an ample amount of previous studies and literature, as well as collecting first-hand data regarding the experiences of existing platforms. (Holme & Solvang, 1997)

3. Theoretical framework

This section aims to provide the reader with an understanding of the relevant theory that has been found on the topic of the study through literature review. This includes the definitions of intrinsic and extrinsic motivation, identified motivators present in WBIP environments, and a framework mapping the creative process and its activities. In addition to this, the authors' understanding of the current state of relevant theory is outlined as a background to the section.

3.1 Background

As the authors have studied existing research for studies and literature supporting the identification of key drivers and factors motivating users in the participation of WBIPs, it has been found that there is a lack of specific academic contribution regarding what motivates people in the different phases, as well as any related activities, of the creative process to engage in such platforms.

What has been found in literature is the motivators that motivate people to engage in online crowdsourcing platforms (Brabham, 2010; Brabham, 2012; Chanal and Caron-Fasan, 2010; Leimeister, Huber, Bretchneider & Krcmar, 2009; Frankrone, 2013; Liu, Lehdonvirta, Alexandrova & Nakajima, 2012; Zichermann & Linder, 2010), where many studies are based on interviews performed with platform users. However, what existing research is lacking is what motivates people in the different phases of the creative process, what activities that stimulate people's motivators, and what motivators that motivate people to undertake certain activities. For this reason, the Genex framework (Shneiderman, 1998; Shneiderman, 2000; Kipp, Wieck, Bretschneider, & Leimeister, 2013) is added to the theoretical framework. From this framework the different phases of the creative process, and the activities that make up these phases, can be derived.

In the empirical study these possible connections are investigated and evaluated against the expressed opinions and experiences of existing WBIPs, through the information collected during semi-structured interviews. The intention of the authors is to provide a framework that can be utilized by Realize in identifying key foci, as well as any applicable functionality in the development of a WBIP. In addition to its applicability in the case of Realize, the authors strive to generate a valuable contribution to the academia through the combination of existing literature on the Genex framework with its connection to the creative process (Shneiderman, 1998; Shneiderman, 2000; Kipp et al., 2013) and the motivational aspects that drive user participation. It is believed that this amalgamation can be achieved through the common activities that are found in the creative process, and the motivational factors that drive individuals to undertake or partake in such activities; as Kipp et al. (2013) provide

substantiated reasoning as to what activities are included, and the found literature on motivational factors in a WBIP context (Brabham, 2010; Brabham, 2012; Frankrone, 2013; Leimeister et al., 2009) have clear connections to similar activities.

The authors aim to connect the Genex framework with the identified motivators; providing insight into how they are connected, what motivators that are important to certain activities, and try to explain the underlying reasons as to why that is the case. The reasoning and results of which are presented in the sections *5. Analysis* and *6. Conclusions*, respectively.

3.2 Intrinsic and extrinsic motivation

In order to understand what motivates individuals to partake in any activity, including the active participation in an online community, it is important to understand the underlying psychological factors and dimensions that relate to motivation, and more specifically to the orientation of motivation. Ryan & Deci (2000a; 2000b) have established the Self-Determination Theory (SDT), in which they define the two main orientations of motivation; intrinsic and extrinsic motivation, as well as their respective effects on human behavior.

Intrinsic motivation is "...the doing of an activity for its inherent satisfactions rather than for some separable consequence." (Ryan & Deci, 2000b) and "...the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn." (Ryan & Deci, 2000a), i.e. performing a task due to feelings of self-enjoyment, curiosity, or similar internal rewards related to the task itself.

Extrinsic motivation is defined as "...the performance of an activity in order to attain some separable outcome...." (Ryan & Deci, 2000a), which puts it on the other end of the scale in terms of orientation; with an associated reward external to the task as the main source of motivation, typically received at a point in time separate from the performance of the task, rather than the enjoyment of performing the task itself. This reward is not necessarily a reward in absolute remarks, but could also include the avoidance of punishment or fulfillment of a posed threat, such as parental sanctions for a student not doing its homework.

Notably, extrinsic motivational factors can have a detrimental effect on any intrinsic motivation associated to a task, as pointed out by Ryan & Deci (2000a) "...all expected tangible rewards made contingent on task performance do reliably undermine intrinsic motivation.". While this highlights the need for prudence in choosing which motivational dimensions to emphasize, it is also important to keep in mind that the extrinsic motivational factors that have been determined to have the greatest negative effects on intrinsic motivation are "...threats, deadlines, directives, pressured evaluations, and imposed goals..." (Ryan & Deci, 2000a), and that certain extrinsic motivational factors can "...represent active, agentic states." (Ryan & Deci, 2000b).

3.3 User motivations

As pointed out by Howe (2008, p. 282), attracting a "vibrant, committed community" is in most cases the most important factor when working with crowdsourcing. In order to engage and motivate a community, one must look to the motivations of individuals; what are the dimensions that push an individual into undertaking a task and to participate. This general topic has been covered in more detail in the introductory section of *3. Theoretical framework*, and what follows in this section is a compilation of the different motivational dimensions that have been identified in the studied literature.

As there are several studies on the existing motivations, multiple overlapping or identical dimensions have been identified under different names. To the extent possible, these dimensions are grouped under commonly descriptive labels to improve readability, while in some cases multiple dimension names referring to highly similar motivations and themes but in somewhat different settings have retained their original names. The motivational dimension's inclination towards intrinsic or extrinsic values is mapped, and references to studied literature supporting its importance is provided.

Addiction & Contribution to a collaborative effort

The motivator *Contribution to a collaborative effort* appeals to the desire for group affiliation and sense of belonging that can be satisfied through working towards a common goal. *Addiction* can in many situations be an enhanced version of the *Contribution to a collaborative effort* motivator, as the individual seeks to deepen the belongingness with the group to a level that puts that need ahead of other personal needs. Both of these aspects to the motivator are referred to frequently by Brabham (2010; 2012) in the case study of Threadless - an online t-shirt company that built a business model around the crowdsourcing of t-shirt designs, pointing to factors such as 'love of community' and how the desire to contribute was driving users to a level of participation that was referred by the users as 'addiction'. This is pointed out as an important factor, as the 'love of community' is an identified driver of participation.
This motivator is considered to be intrinsic to the user, mainly due to its inherent connection to satisfying a personal need; there is no defined external reward associated to the activities involved.

Altruism

It is this motivator that causes the inherent willingness to work for the well-being of others found with many individuals. Albeit strongly related to the *Addiction & Contribution to a collaborative effort* motivator, a connection also made by Brabham (2012) "...altruistic reasons may be driving someone to give to the common effort.", *Altruism* has been identified as a separate motivator.

The authors argue that what sets *Altruism* apart from the previous motivator is that it focuses more on the selflessness in the actions that are inspired, to help people, rather than actions that try to satisfy the desire to belong. Frankrone (2013) continues to build on this notion, adding passion and belief: "...some members of the crowd, particularly unpaid volunteers, are often motivated by a sense of altruism or passionate belief in the cause to which they contribute.". This motivator is considered to be strongly intrinsic, as the user is driven by passion of the cause, even lacking the personal gain in terms of satisfying a desire that could lead to external effects - albeit undefined - that can be found with the previous motivator.

Career options/advancement

Career options/advancement refers to the desire to increase one's career options, or to drive its advancement through participation and interaction with potential employers or agents that are directly or indirectly connected to a potential employer. As this desire to a large extent is addressed through acts of self-marketing, it could be argued that it should be grouped together with the motivator *Self-marketing & Appreciation/recognition*. The authors however, argue that the latter has a stronger focus on gaining the respect and expressed appreciation from other people, emphasizing on prestige and respect, rather than actions that aim to increase one's chances of acquiring a certain position. As pointed out by Leimeister et al. (2009): "...participants were motivated to a certain extent by the possibility to be considered in the preferred application procedure... [when applying for a job]...". Similar observations were expressed by Brabham (2012), along with the opportunity to undertake freelance work as another form of career advancement (Brabham, 2010). This motivator is considered mainly extrinsic in nature, given the sought possible external reward in the form of a job opportunity or other kinds of *Career options/advancement*. It does hold intrinsic traits, since career advancement might relate to an individual's hopes and dreams, however, the most common setting dictates that this is an extrinsic motivator.

Curiosity

Curiosity is a motivator that is very intrinsically aligned; the definition of intrinsic being "...the inherent tendency to seek out novelty and challenges... to explore, and to learn." (Ryan & Deci, 2000a), which provides several examples of how *Curiosity* manifests itself through actions of an individual. *Curiosity* is closely related to the motivator of *Learning & Access to knowledge*, and it is likely that the former is an underlying driving force of the latter. The authors argue that *Curiosity* is more related to the aspect of exploring and seeking out novelty, rather than the motivation associated with *Learning & Access to knowledge*, which often translates to acquiring new skills and knowledge that can aid in addressing certain situations or challenges that might arise. *Curiosity* as a motivator to participation should not

be underestimated, Liu et al. (2012) found that "...in many cases (i.e., approximately 47%) requests [to their cultural assistance service platform] were actually driven from curiosity rather than real problems or troubles the visitors were facing...".

Direct compensation & Economic incentives

This motivator is inherently very extrinsic in nature, as the definition of an extrinsic motivation is: "...the performance of an activity in order to attain some separable outcome...." (Ryan & Deci, 2000a); there are no intrinsic aspects of compensation in monetary or other forms. It is to some extent related to the motivator of *Career options/advancement* as preferential treatment or a job offer can be considered a form of direct compensation, but is considered a separate motivator due to its general nature, as well as the inclusion of monetary rewards as an incentive to perform a task or partake in an activity. It has been found in existing literature that direct compensation - especially in the possibility of winning a cash prize (Leimeister et al., 2009) or in the form of commission on sales where the user have provided the intellectual property (Brabham, 2010) - has a strong effect on a user's willingness to participate and contribute. In fact, in one study "...the opportunity to earn money and the opportunity to develop one's creative skills trumped the desire to network with friends and other creative people, and it outranked other altruistic motivations." (Brabham, 2012).

Entertaining & Fun

This motivator, much like that of *Curiosity*, has a direct relation to what is defined as intrinsic motivation; performing a task or taking part in an activity because of the self-enjoyment that this brings the individual. For the same reason, it is possible to identify the aspects of *Entertaining & Fun* in many, if not all, of the intrinsically aligned motivators. It is identified in multiple studies as a valid substitute for other kinds of rewards; "People don't always have to be rewarded in physical things. Fun can also be a good 'return'." (Board of Innovation, 2011), something that ties into the motivational aspects presents in the Open source software community, as pointed out by Linus Torvalds "...most of the good programmers do programming not because they expect to get paid or get adulation by the public, but because it is fun to program." (Brabham, 2012).

Learning & Access to knowledge

Learning & Access to knowledge, as previously mentioned, is closely related to that of *Curiosity*; tying into the definition of intrinsic motivation. However, emphasis lies on the fulfillment of acquiring new knowledge, incorporating that into one's thought processes, and being able to solve new problems. Rather than simply being interested in any novelty or unknown, this motivator is related to the collection and compilation of knowledge, and learning new skills. For this same reason, the authors argue that it can not be classified as a definitive intrinsically or extrinsically aligned motivator, but rather a mix of the two; Leimeister

et al. (2009) found clear results that "...the respondents' extrinsic motivation was driven by learning..."; having a high willingness to learn due to the possibility of being offered a job opportunity, while it is also clear that in many other cases the joy and fulfillment of learning is motivation enough: "For many members at Threadless, creating and submitting designs is a hobby, and improving one's skills within a supportive, creative community is an end in itself." (Brabham, 2012).

Low barriers to entry

Due to its somewhat reverse relationship with user participation, this motivator can be considered to not be a motivator in itself, as *Low barriers to entry* refers to the lowering of resistance to participation, i.e. increasing the ease of use and removing annoyances. Existing literature shows that "...perceived low barriers to entry and appealing Website design [are] reasons [for users to be] motivated to visit and participate..." (Brabham, 2012), but also that lowering the barriers to entry also decreases the deterring effect on users; "As long as users don't have to pay for contributing… people will contribute if they find the way to your platform." (Board of Innovation, 2011). This motivator is found to be strongly intrinsic, as the user only seeks to reduce the negative feelings associated with using the platform, there is no external reward available, only the satisfaction of participating and using something that works well.

Self-expression

The motivator of *Self-expression* is related to that of *Self-marketing & Appreciation/recognition*, but as the latter focuses on the resulting input and feedback from the individual's contribution with a stronger emphasis on the aspects of gaining respect and expressed appreciation. The former is more intrinsic in nature; having a focus that is tuned to actions that aim to satisfy the desire for expressing oneself, through the giving of input and feedback, as well as any substantiation of a creation stemming from one's skills and intellect. This has been identified as a contributing motivator by Brabham (2012), common in many cases.

Self-marketing & Appreciation/recognition

Self-marketing & Appreciation/recognition is closely related to *Career options/advancement* and *Self-expression*, as covered previously, the authors argue for the former being a separate motivator on the basis of focus, as well as intended outcome. This motivator emphasizes the acquisition of prestige and respect, as well as expressed appreciation and recognition from peers and/or any assignment provider; focus lies on the received reaction, input, and feedback from other people; i.e. an external, separate reward, making it extrinsically aligned. Albeit there are intrinsic traits, the main motivation lies in the expected result, the reaction and following communication, disregarding from the joy or fulfillment in

expressing oneself in itself - making it by definition extrinsically motivated. This motivator and its constituents are identified in existing literature, for multiple aspects in multiple scenarios; "...peer recognition serves as a powerful motivator." (Frankrone, 2013). Leimeister et al. (2009) builds upon this "The results clearly show that the respondents' extrinsic motivation was driven by... self-marketing motives." and Zichermann & Linder (2010) further points out that "Your ability to gain some recognition from the community in which you are emotionally invested is the greatest motivator for people at all ages.".

3.3.1 User motivations listing

Incentive / Motivator	Intrinsic / Extrinsic
Addiction Contribution to a collaborative effort	Intrinsic
Altruism	Intrinsic
Career options/advancement	Extrinsic
Curiosity	Intrinsic
Direct compensation Economic incentives	Extrinsic
Entertaining Fun	Intrinsic
Learning Access to knowledge	Extrinsic and Intrinsic
Low barriers to entry	Intrinsic
Self-expression	Intrinsic
Self-marketing Appreciation Recognition	Extrinsic

Table 3.1 Compilation of user motivations existing on crowdsourcing platforms. Compiled by the authors.

3.4 Genex framework

This section will cover the Genex framework; presenting the original Genex framework created by Shneiderman (1998; 2000) as a point of origin, followed by the reinterpretation and elaboration developed by Kipp et al. (2013). The latter serving as an integral part of the theoretical framework; providing structure, and a strong emphasis on the application in WBIP use-cases.

Several other frameworks regarding the topic of creativity were considered for this study (Lee, Thong & Goh, 2007a; 2007b; Csikzentmihalyi, 2006; Lubart, 2005; Schön, 1992) but were found to be less applicable in the studied context. The reasoning and motivation of the authors for this choice is presented in the end of this section, in *3.4.3 Frameworks considered*.

3.4.1 The original Genex framework

The Genex framework is based on an understanding of creative processes, and is aimed at aiding developers to design effective tools that support creativity, especially in terms of web-based solutions and computer tools. It identifies four main phases of the creative process; ‘Collect’, ‘Relate’, ‘Create’, and ‘Donate’ - each with a fundamental belief supporting its role in the creative process. Associated to these phases are eight activities, each supporting their respective phases. (Shneiderman, 1998; Shneiderman, 2000)

Notably, neither the phases or their activities necessarily need to occur in the specified order, nor do the activities necessarily belong to their listed phase; this is due to the fact that during the creative process there might be times when previous phases need to be revisited, as well as the cyclicality in creative processes - with the output of one process through dissemination might feed into the collect phase of another project. (Shneiderman, 2000)

Collect

Individuals build new knowledge on existing, previous knowledge of specific domains, e.g. knowledge of certain technologies, industries, processes, etc. This knowledge can then be combined with the knowledge of another domain, which can be facilitated through the use of tools for finding the relevant knowledge that is needed.

Relate

Any new ideas conceived by individuals are refined through the exposure to mentors and peers, with the associated critique and suggestions that improves the output through a hardening process combined with the insight of people holding other perspectives. Adding to this, is the social aspect of interacting, increasing the thrill of innovation.

Create

Effective tools aiding in exploratory processes - such as iterative design and brainstorming, in combining ideas, or helping to remove repetitive tasks, e.g. through the use of templates - all have a facilitating effect on innovation.

Donate

For creative work to be complete, it needs to be disseminated; i.e. the identified knowledge needs to be presented to practitioners, scholars, and students - allowing for the material to be discussed.

Phases	Activities	Genex tools
Collect New knowledge is built on previous knowledge	**Searching** and browsing digital libraries **Visualizing** data and processes	Digital libraries, search services, dynamic queries, information visualisation, multimedia search
Relate Refinement is a social process	**Consulting** with peers and mentors	Listservs, newsgroups, conferencing, groupware, presentation, annotation, tele-democracy
Create Powerful tools can support creativity	**Thinking** by free associations **Exploring** solutions—what-if tools **Composing** artifacts and performances **Reviewing** and replaying session histories	Document assemblers; art, design, and architecture tools; user interface builders; simulations; models; templates; history; macros
Donate Creative work is not complete until it is disseminated	**Disseminating** results	E-mail, electronic publications, narrowcasting, affiliation networks, niche lists, E-communities

Table 3.2 Compilation of the Genex framework constituents.
Adapted and compiled by the authors. (Shneiderman, 1998; Shneiderman, 2000)

While Shneiderman (1998; 2000) provides examples of tools that can be used in supporting the activities carried out in these phases (see *Table 3.2* for further details), the Genex framework is intended to provide support and guidance for developers to develop “integrated families of tools that support creative problem solving” (Shneiderman, 1998) rather than providing a final solution. The focus of the framework is clearly aimed at web-based solutions, computer tools, and any other tool that utilize the opportunities offered by the existence of the Internet, as pointed out by Shneiderman (2000): “The goal of genex

framework [*sic*] is to suggest improvements for Web-based services and personal computer software tools. By reducing the distraction caused by poorly designed user interfaces, inconsistencies across applications, and unpredictable behavior, users' attention can be devoted to the task.", "...making creativity more open and social through participatory processes will increase positive outcomes while reducing negative and unanticipated side effects.".

The colloquial abbreviation 'Genex' is constructed from the expression 'generating excellence' (later 'generators of excellence') and refers to the tools for doing so. The name of the framework was inspired by similarly purposed frameworks and solutions, such as 'memex' or 'memory extender' - an early idea of a desktop environment allowing for easy access to data, and 'codex' - a reference to different kinds of information storage.

3.4.2 Genex elaboration and reinterpretation

Kipp et al. (2013) elaborates on, and to some extent restructures the original Genex framework presented by Shneiderman (1998; 2000) in a reinterpretation that is aimed to be more appropriate for WBIPs, "...identify[ing] the state-of-the-art in practice..." (Kipp et al., 2013). Making it more applicable in the setting for this study.

The purpose of the reinterpretation is to aid the "...identification of features and design artifacts on the platforms, which support the individual tasks and activities described in the Genex framework." (Kipp et al., 2013) by providing a better fit with identified functionalities and tools of WBIPs. The changes made to the original framework is mainly in terms of consolidating tasks under collective names, as well as the removal of one of the initially eight tasks;

- **'Searching', 'Browsing', and 'Visualizing' → 'Searching and visualizing'**
    - This consolidation is due to the overlapping of the original activities, as functionalities and tools are likely to involve all three. (Kipp et al., 2013)
- **The exclusion of the activity of 'Exploring'**
    - This was done as "...ideas can be very abstract and high level without much detail [and thus] hardly adaptable to our context...". (Kipp et al., 2013)

Phase	Activities	Tools / Functionalities
Collect	Searching and visualizing	digital libraries of ideas, search functionality, tag cloud, table filters
Relate	Consulting	chats, message boards, messaging systems, communicating with employees
Create	Thinking	background information, examples, articles, pictures, videos, user stories
	Composing	title, text, categorization, pictures, videos, tags, files
	Reviewing	record, review, and save activities
Donate	Disseminating	social network sharing (e.g. Facebook, Google+)

Table 3.3 Reinterpreted Genex framework, with suggested tools and functionalities. Compiled by the authors. (Kipp et al., 2013)

Further, additional tools and functionalities have been identified by Huber et al. (2009), these stem from a focus on "communities for innovations for software companies". Therefore are likely to some extent, valid as a representation of tools and functionalities that are represented in most WBIPs. (Huber et al., 2009)

Activity	Task	Tools / Functionalities
Collect	Searching and visualizing	Filter (e.g. Table Filter), Keyword Search, Logical and Context Operators, Regular Expressions, Continuous Scrolling, Pagination, Tag Cloud, Hyperbolic Browsing, Thumbnails, Carousel View, Sorted Views, Tag Cloud, Hyperbolic Browsing
Relate	Consulting	Email, Instant Messaging, Voice over IP, Chat, Forum, Conference Call, Blog, Wiki, Newsgroups, Comments, Address Directory, "Find an Expert" functionality, "Tell a friend" functionality
Create	Thinking	Mind maps, Copy & Paste, Live Preview, Drag & Drop, Modelling Languages / UML, Interface Mock-up Tools, Collaborative Text Editing, Collaborative Drawing
	Composing	Wiki, Live Preview, WYSIWYG Editor, Copy & Paste, Interface Mock-up Tools
	Reviewing	Versioning, Session History, Wiki
Donate	Disseminating	Idea Description, Attachments, SVN, Hosting, File Sharing

Table 3.4 presenting further platform functionality organized using the GENEX framework. Adapted by the authors. (Huber et al., 2009)

3.4.3 Frameworks considered

As mentioned in the beginning of this section, several frameworks regarding the topic of creativity were considered before deciding on the Genex framework by Shneiderman (1998; 2000) and its elaboration and reinterpretation by Kipp et al. (2013). Among the identified available frameworks is that of Lee et al. (2007a; 2007b), which mainly focuses on the information seeking stages of the creative process. While information seeking is an important part of the creative process, the narrow focus of the framework and its lack in connection to a computer-aided or web-based environment severely limits the applicability, which resulted in a decision against its utilization. Csikzentmihalyi (1996) has a focus that lies mainly on the definition of creativity, rather than the processes and activities that support it. This is useful for determining whether a specific task is part of the creative process or not, but lacks in suggestions regarding how to improve creativity. For this reason, it is considered

to be less applicable for this study. Lubart (2005) in turn, puts an emphasis on the role of computers in the creative context. Four potential roles are identified, and specific tools and functionalities supporting the user in each context are defined. This framework holds a valid point in the reasonableness of providing the user with different toolsets to facilitate creativity, depending on the given situation - however, the specification of roles for a computer in specific contexts is argued by the authors to be limiting when designing a platform with a purpose where the optimal roles for specific situations are unclear. Finally, Schön (1992) suggests a number of requirements and functionalities for computer-based design. While the study does focus on the steps taken by the designer, it also holds a strong emphasis on the soft values connected to the design process, with little connection to other aspects of the creative process. While there are valid arguments regarding the reflective process of a designer, and the interaction between designers, the authors argue that the connection to the setting of a WBIP use-case is too weak.

The reasoning behind selecting the Genex framework is supported by its comprehensive coverage of the different phases of the creative process, as well as the associated activities of these phases, along with suggested tools and functionalities to support the users. Adding to the arguments for its utilization is the strong focus on computer tools, and through the version provided by Kipp et al. (2013), an even stronger emphasis on the applicability in the case of WBIPs. As the platform intended to be created and launched by Realize would at this stage best be described as a WBIP, the authors argue that the utilization of the Genex framework is deemed highly appropriate.

3.5 Summary

Intrinsic motivation is "...the doing of an activity for its inherent satisfactions rather than for some separable consequence." (Ryan & Deci, 2000b) while extrinsic motivation is defined as "...the performance of an activity in order to attain some separable outcome...." (Ryan & Deci, 2000a).

Several different motivational dimensions have been identified from the studied literature. Among these, multiple overlapping or identical dimensions have been found - and grouped under commonly descriptive labels to improve readability. The motivators' inclinations towards intrinsic or extrinsic values are also mapped. These motivators are considered to be a key factor in understanding what motivates participation among users of a WBIP.

Incentive / Motivator	**Intrinsic / Extrinsic**
Addiction Contribution to a collaborative effort	Intrinsic
Altruism	Intrinsic
Career options/advancement	Extrinsic
Curiosity	Intrinsic
Direct compensation Economic incentives	Extrinsic
Entertaining Fun	Intrinsic
Learning Access to knowledge	Extrinsic and Intrinsic
Low barriers to entry	Intrinsic
Self-expression	Intrinsic
Self-marketing Appreciation Recognition	Extrinsic

Table 3.5 Compilation of user motivations existing on crowdsourcing platforms. Originally presented in 3.1. Compiled by the authors.

The Genex framework identifies four main phases of the creative process; ‘Collect’, ‘Relate’, ‘Create’, and ‘Donate’ - each with a fundamental belief supporting its role in the creative process. Associated to these phases are eight activities, each supporting their respective phases. (Shneiderman, 1998; Shneiderman, 2000)

This framework was reinterpreted and consolidated by Kipp et al. (2013), tuning it to be more applicable in the setting of WBIPs, “...identify[ing] the state-of-the-art in practice...” (Kipp et al., 2013). As this thesis aims to study the user motivations of WBIPs, this updated version is deemed to be the most appropriate version to utilize.

Phases	**Activities**
Collect New knowledge is built on previous knowledge	**Searching** digital libraries **and visualizing** data and processes
Relate Refinement is a social process	**Consulting** with peers and mentors
Create Powerful tools can support creativity	**Thinking** by free associations **Composing** artifacts and performances **Reviewing** and replaying session histories
Donate Creative work is not complete until it is disseminated	**Disseminating** results

Table 3.6 Key constituents and beliefs of the Genex framework.
Adapted and compiled from 3.2 and 3.3 by the authors.

4. Empirical study

In this section the collected data from the empirical study is presented. This data consists of primary empirical data collected through semi-structured interviews performed via email with a selection of WBIPs - active in areas ranging from idea competitions to peer-to-peer lending. The collected data is structured using the Genex framework for readability, presented in flow text followed by a selection of representative quotes. The aim is to provide an ample dataset to which the theoretical framework can be applied in section *5. Analysis*.

4.1 Primary empirical data

4.1.1 Interview input

ArtistShare

The firm points out that the key factor in creating its user base was the sharing of the creative process by the artists. It motivates its users to participate by providing offers [e.g. VIP access to shows, credit listings on the final product] associated with supporting an artist, as well as through the possibility to communicate directly with the artists. The firm does not offer monetary rewards to the users, as the goal is to facilitate investments in the artists. The firm chose not to disclose information regarding the implemented features of the platform, or the user feedback received.

Atizo

Extrinsic motivation is attributed as the key factor in creating the platform's user base. It motivates its users to participate by offering monetary rewards and with other types of material incentives [e.g. merchandise]. The firm claims that both theory and its experience show that monetary incentives work effectively even if the main motivation to participate is intrinsic in nature (e.g. personal fame). The firm has received positive feedback from users regarding the platform's ease of use, while receiving negative feedback regarding the fact that there are no clusters of users [i.e. user formations that share similar interests/areas of expertise] available.

Create My Tattoo

The key factor to creating its user base and motivating the users to participate on the platform is pointed out to be the fact that the artists are provided with fair monetary compensation, as well as giving them the opportunity to promote their work. The firm believes that the artists themselves feel fairly compensated based on the fact that they continue to participate and contribute to the platform. The firm has received positive feedback regarding its online marketplace, where artists can sell their design unlimited times [i.e. separately from the competitions]. The marketplace enables artists of non-winning designs to sell their work to other customers.

DataStation

The firm points out the existing customer need of client organizations to unlock the full potential available in employees, partners, and academia, being the key factor of creating its user base. The main motivators of user participation are transparent workflow and clearly showing the outcome of the submitted ideas. Other motivations include; I) tracking users that have provided key contributions to an idea, II) monetary and non-monetary (i.e. becoming the “Innovation champion of the month”, increased user ranking) rewards, III) collaborative challenges, and IV) self-expression. The platform offers monetary rewards for users, the reason behind this is the belief in monetary rewards as a short-term motivator; motivating sharing, commenting, voting, and creation of new ideas. The implemented features that received the most positive feedback from users relate to functionality that serves to increase team collaboration and the sharing of ideas.

eYeka

At an initial stage, users were recruited individually through interaction with design and film schools - at this point user base growth was facilitated by firm awareness. Later on in the firm’s history the two main factors in attracting users are pointed out to being online advertising and and word-of-mouth, representing a 50/50 factor of growing the user base. In order to motivate user participation the platform offers monetary and non-monetary (e.g. gifts, vouchers, and being mentioned in promotional contexts) rewards. Other motivational factors by the firm include fun, fulfillment, fame, fortune, brand recognition, feedback, and recognition. In order to cater to these additional motivational factors the firm aims to give the users more visibility through accessible profile pages and recognition in contest related PR announcements. The implemented feature that has garnered the most positive feedback from users is the updated profile page functionality, the firm holds the belief that this is due to the importance of self-promotion. The firm has received negative feedback on the long time span between end of a challenge and the results being announced, as the users wanted feedback and validation on their participation.

IdeaConnection

The firm points out diversity as the key factor involved in creating its user base for the platform; performing two main activities, I) offering users to join a virtual team to solve a theoretical problem, or II) asking the users to scout their network for sources of a specified technology. Among the elements used to motivate users to participate on the platform, monetary rewards, friendship [among users], and providing an intellectual challenge, are identified. As mentioned previously, monetary rewards for users are used, the reason for this is said to be IP-transfer [i.e. the users are receiving financial compensation for divesting their

generated intellectual property]. No information regarding the implemented features or feedback from users was disclosed by the firm.

Kiva

Word-of-mouth and news media coverage are the key factors involved in creating the platform's user base, pointed out by the organization. The factor pointed out as motivating users to participate on the platform is the possibility to gain information regarding the state of repayment of any given loans. The platform does not offer any monetary rewards, the reason for this was not disclosed by the organization, this is also true regarding any implemented features or feedback from users.

Local Motors

The key factors for the firm in creating a user base are awareness; brand awareness, platform awareness, and awareness of the user base (i.e. personal networking performed by users). The platform tries to address different users' incentives using a number of elements, ranging from cash or prizes to social interaction and networking, as well as general accessibility of the site. The platform offers monetary rewards for users for certain challenges, while other can provide physical rewards, such as merchandise. The intention of the firm is to implement support for rewards given for participation. The reason for offering monetary rewards include providing the users with recognition and compensation. The firm chose not to disclose any relevant information regarding the implemented features of the platform, or the user feedback received.

Spigit

The firm has identified several key factors involved in creating the user base; I) for companies the factors include the professional service expertise, financial performance, and marketing awareness of the firm and offering, as well as having a leading platform design. II) for individuals the key factors include an engagement strategy, communications incentives, sponsorship, as well as an engaging platform site design and gamified process designs. In order to motivate the users to participate on the platform a number of elements are identified; heavy social elements, including mentions [i.e. one user can call out for another user to participate in a conversation], the following of users [i.e. receiving updates on any activity by a certain user], and sharing ideas. Other elements include graduation metrics to encourage collaboration and entrepreneurship, in order to progress ideas. Additional social elements include an ecosystem where the users can track their ideas and other ideas that they are interested in, as well as automated suggestions and trending top lists [i.e. what is gaining in popularity/is popular right now]. Further, game mechanics, including trading markets and pairwise voting [i.e. two ideas are pitted against each other when being voted on], also driving user engagement. The platform does not offer monetary rewards in its pure

form, but offers a digital currency that is used within the platform and can be used to buy non-monetary rewards in a shop, alternatively use to participate in auctions. This rewards system helps incentivize people to participate and engage in challenges. The implemented features that receive the most feedback from users are the pairwise voting, automated graduation stages [i.e. automatically progressing an idea to the next stage of evaluation based on different kinds of user interaction metrics, e.g. votes, views, number of posts, etc.], visual idea funnel [i.e. showing the idea's progress towards realization], language customization, trading markets [i.e. allowing users to vote for ideas using a functionality similar to investing in shares of the ideas], and social collaboration.

Mob4Hire

The firm identifies advertising as a key factor in creating its user base for the platform. In order to motivate user participation, the platform provides money for performed services. The reason for providing monetary rewards to users is because "it is universal". The firm chose not to disclose information regarding the implemented features of the platform, or the user feedback received.

MyFootballClub

The key factor in creating the user base was providing the users with access to the same information as the Society Board, including confidential financial data. To motivate its users to participate, the platform allows for forum activity, with voting systems that can initiate member votes. The forum also provides information regarding upcoming games and availability of commentary. The firm does not offer monetary rewards to its users; all users instead hold a non-transferable share in the platform, exploitation of rewards/compensation system led to a removal of the system. Live commentary of games and a chat room are appreciated implemented features among the users.

Quirky

Marketing efforts are pointed out as the biggest contributor to the platform's expanding user base. Factors motivating the users to participate are pointed out as being the prospect of having their inventions created, or financial compensation for participating in the development or naming of other products in development. Among the activities, the firm notes that influence- and incentive-related activities (e.g. submitting ideas, or designing/naming products) are more motivating than collaboration. The recognition as an inventor or public praise of naming a product are significant motivations aside from economic incentives. The firm utilizes monetary rewards to users in the form of royalty based on the gross revenues from sales of developed products, this is done in order to encourage creativity. Among implemented features, the voting process for ideas and feedback on ideas are those that concern the users the most. Voting and participating on ideas is appreciated

among users, with self-expression and personal acclaim being the biggest motivational factors. The platform does not provide incentives for collaboration.

*(*See *4.2 Interviewed platforms* for more information about the interviewees/platforms*)*

4.1.2 Interview quotes

To structure the quotes collected through interviews, the authors have chosen to utilize the Genex framework's phases and activities related to the creative process. This is purely from a structural standpoint, providing a way to structure the data that increases readability while allowing for a clearer connection to the steps taken in the section *5. Analysis*. No claims as to whether the specific quotes are directly related to the phases or activities are made at this point.

Phase	Activities	Interview quotes
Collect	Searching and visualizing	"The sharing of the creative process by the artist was the key factor in building the user base for ArtistShare." Does this connect to curiosity, access to knowledge/Learning among the fans? - "Most definitely." "...direct online access to the artist." Including possibility of communicating directly with the artist? - "Yes." **ArtistShare** "The system also shows out [*sic*] ideas you might like that are similar to your or others you are reading." **Spigit**
Relate	Consulting	"Other motivators are… Chance for all to be heard, including company underdogs..." "Monetary rewards are motivators for… Commenting, Voting..." "Sharing of ideas, Teams, Collaboration.", "These features are empowering users to collaborate more closely and to improve the value of their work through the wisdom of the crowd. Those features are indeed a good motivator for users to take their place in the innovation program. " **Datastation** "...we see and hear from repeat users that the friendship and the intellectual challenge mean a lot..." **IdeaConnection** "...awareness of our user base (so they can personally network)." "...motivation could range from... social interaction and networking."

		Local Motors “Users are motivated to participate… by helping develop/name products currently in development.” “Users are most concerned with the voting process for ideas, as well as feedback on the ideas.” “Users like that they can participate and vote on ideas they’d like to see as products.” **Quirky** “There is also a heavy social element that allows users to follow each other, ideas share them with each other. Features such as @mentions help call out and connect people to ideas.” “We also have game mechanics like trading markets and pairwise [voting] which are key features in our platform around engagement.” **Spigit**
Create	Thinking	“People have fun creating - either alone of [*sic*] with friends - and that does help them to participate. Participation makes it fun intrinsically, and people are not only thinking about the potential reward.” **eYeka** “Users are motivated to participate with the prospect of having their invention created...” **Quirky**
	Composing	What implemented features of the platform have received the most [positive] feedback from users? “Easy handling.” **Atizo** “Influence-related and incentive related activities such as submitting ideas and designing/naming products motivate users moreso [*sic*] than collaboration”. “Aside from economic incentives, the incentive to be recognized as an inventor or to hold the acclaim of naming a product/giving it a tagline is significant as well.” **Quirky**
	Reviewing	“Other motivators are… Report showing the contribution of the individual users to locate the key contributors…” **Datastation** “Leadership boards to show a variety of metrics how you perform.” “We also have a social view of the ecosystem where you can track your ideas, those you are interested in and everything in [sic] system plus what is trending to help you discover new

		things.” **Spigit**
Donate	Disseminating	“Most of the time they are motivated over a monetary premium… split under the best few ideas.“ **Atizo** “Providing the artist with fair compensation for their work and the opportunity to promote their work.” “We allow our artists to promote their work. The monetary reward is the biggest motivator for most our artists”. **Create My Tattoo** “Other motivators are... rewards (monetary and non-monetary) tied to the winning solution...” “Monetary rewards are motivators for both sharing and other activities. ...Creating new ideas either in general or for topic specific purposes.” **Datastation** “Influence-related and incentive related activities such as submitting ideas... motivate users moreso [*sic*] than collaboration”. “Aside from economic incentives, the incentive to be recognized as an inventor... is significant as well.” **Quirky** How does the platform motivate users to participate? - “In a variety of ways including:... Reputation ranking based on how the crowd think your contributions are rated.” Why do you offer monetary rewards to users? - “...to help incentivise people to engage with and participate in the challenges being run and get as many ideas... as possible.” **Spigit**

Table 4.1 Interviewee answers, structured in the Genex framework activity framework. Compiled by the authors.

4.2 Secondary empirical data

4.2.1 Interviewed platforms

Platform	Users*	Description
ArtistShare artistshare.com	-	ArtistShare is a platform that connects artists with fans in order to share the creative process and fund new artistic work. ArtistShare allows fans to show appreciation for their favorite artists in exchange for access to the creative process, VIP access to recordings/events, and in some cases being credited in the final product. It was the first fan-funding platform on the internet, and during its existence, platform-funded projects have won nine grammy awards. (ArtistShare, 2012)
Atizo atizo.com	20,800	Atizo is a virtual brainstorming platform where companies can get input on their challenges from a crowd of thousands of creative thinkers. Companies can submit questions that the crowd is allowed to brainstorm about, providing solutions. The submissions are commented and rated by the crowd, and the best ideas are awarded prizes. Used by some of the biggest brands in the world, with clients showcased including P&G, Unilever, Google, and BMW. (Atizo, 2014)
Create My Tattoo createmytattoo.com	18,400	Create My Tattoo is a design marketplace that bring users' custom tattoo ideas into reality through its community of over 15,000 tattoo designers. Users submit design requests, to which the artists submit design proposals. The submitted designs are rated and commented on, and at the end of the contest the user decides on a winning design. The designs that are not chosen can be bought by other users through an online marketplace, and there are leaderboards that track the top designers, ranked by number of wins, entries, and number of designs available on the marketplace. (Create My Tattoo, 2014)
DataStation datastation.com	10,000	DataStation offers suites of innovation management-, new product development-, and market planning software, along with consulting services regarding the implementation and best practices for such systems. The Idea Station software allows for the collection of ideas, as well as collaborative tools, reviewing and rating options, and other features that aim to output identified concepts and opportunities. Launch Station offers tools for cross-team collaboration, decision support, project documentation, in order to launch better products, faster and cheaper. (Datastation, 2014a; Datastation, 2014b; Datastation, 2014c)
Eyeka	280,000	Eyeka provides an online platform on which corporations are able to create

en.eyeka.com		assignments/challenges to be solved by registered users in exchange for monetary rewards. The assignment provider posts guidelines, as well as any rules and restrictions associated. Any users interested in the assignment have to accept the rules/restrictions that apply, and can then participate by uploading their contribution. When the assignment deadline is reached, a jury decides a winner and possible runner-ups, and the prizes are handed out. (Eyeka, 2014a; Eyeka, 2014b; Eyeka, 2014c)
IdeaConnection ideaconnection.com	41,000	IdeaConnection manages a curated global network of experts in a large number (100+) of specific disciplines. Experts are put together in multidisciplinary teams that compete against each other in solving problems provided by client companies. In addition to finding solutions to specific problems, the global network can be used to find suitable technologies, sourcing suppliers, people with specific capabilities, or collaborators. The client company only pays if a solution that meets the needs is found, enabling IdeaConnection to be used as a form of external R&D staff that only receives payment when delivering results. This allows for a more efficient R&D investment, allowing the client company to undertake more research paths, while reducing risk and speeding up the product-to-market time. When a solution is found, the winning team exchanges the intellectual property for a one-time cash prize. (IdeaConnection, 2013)
Kiva kiva.org	1,720,226	Kiva is an altruistic non-profit organization providing a platform where users can provide microfinance loans for people in need, allowing them to improve the life situation for their families and themselves. Kiva has a network of connections to field partners; organizations such as non-profit organizations, schools, microfinance organizations, and social businesses. These field partners provide the borrowers with microfinance loans, and upload pictures and stories to Kiva. Users of the Kiva platform can then browse borrowers and decide to lend money to whomever they might find suitable. The lent funds are transferred to the field partner to cover for the loan already made. As the borrower repays its loans, money travels up the chain, back to the lending user - who is provided with the choice of reinvestment, withdrawal, or donation. (Kiva, 2014; Hartley, 2010)
Local Motors localmotors.com	38,000	Local motors is an organization that promotes co-creation and micro-manufacturing in order to get hardware innovations to market. The community consists of enthusiasts, hobbyists innovators and professionals. Members of the community post ideas

		of new products and get input and feedback from other members. In order to facilitate innovation, the inventors gain support from the organization from the idea-stage to the production stage, where the inventors can utilize Local Motor's micro-factories as production facilities for their inventions. (Local Motors, 2014a; Local Motors, 2014b)
Spigit spigit.com	4,000,000	Spigit helps organizations to tap into the creativity of their employees, customers, and partners in order to find ideas that can drive growth. Spigit's platform uses crowdsourcing, gamification (e.g. points and ranking systems), analytics, and reputation rankings in order to get employee and customer engagement. In the system users can upload ideas and the crowd will provide feedback, rank the idea, and provide input upon as to how it could be improved. The platform drives cooperation between different departments in order to find new solutions. By giving an organization access to a platform that can integrate emergent social collaboration with traditional workflow and analytics, social innovation can be achieved and managed. (Spigit, 2014a; Spigit; 2014b)
Mob4Hire mob4hire.com	70,000	Mob4Hire offers mobile quality assurance through a worldwide network of mobile enthusiasts. Mobile performance testing can be both expensive and complicated, with its services Mob4Hire aims to reduce cost of testing. Mob4Hire offers organizations *Testing as a Service* by utilizing their user base for testing mobile applications related to sensor handling, user interface, networks, and power consumption. Mob4Hire also offers services around mobile app marketing using its in-house competencies. (Mob4Hire, 2012a; Mob4Hire, 2012b)
MyFootballClub myfootballclub.co.uk	1,000	MyFootballClub is the world's first football club that is both managed by crowdsourcing and financed by crowdfunding. Members pay a fee of £25 annually in order to become a part of a global community that contributes with their expertise and skills. Members bring ideas for the club, which are discussed and voted on in an online community setting, which leads to actions by the club. Decisions have real implications that affect the players, staff, and the club itself. (MyFootballClub, 2014a; MyFootballClub, 2014b)
Quirky quirky.com	818,000	Quirky is an idea-realization community that covers the whole process; from the submission of ideas, to the creation and commercialization of popular product ideas. Members submit ideas that are evaluated by other users of the platform. Every week, Quirky holds a meeting with industry experts, friends, and community members (at Quirky's headquarters) where it is

		decided on the next products that will be realized. As the chosen products move closer to production, members can still influence its design, or help out with engineering issues. In the end of the process, Quirky produces the product and makes it publicly available. (Quirky, 2014)

Table 4.2 Interviewee information. Compiled by the authors.

** user statistics acquired through interviews with respective platform.*

5. Analysis

In this section the theoretical framework is applied to the collected data from the empirical study. The first section presents an attempt to relate the identified motivators with the activities present in the Genex framework through the statements provided by the interviewed platforms. The second section provides an overview of findings organized in tabular form, along with a visualization of the occurrences of relations between motivators and activities.

5.1 Connecting motivators to the Genex framework activities

Quotes used in argumentation are indicated using numbers in superscript, please refer to Table 5.2 for detailed representations of utilized quotes from interviews.

Addiction & Contribution to a collaborative effort

Being involved in the *Consulting* activity, the user is not only undertaking discussions with other users to improve on its own idea/project, but is likely also taking part in the *Consulting* activity for another user's project, which helps stimulate the motivation related to the enjoyment of *Contribution to a collaborative effort*. While *Addiction* might seem malplaced in this context, examples of *Addiction* include situations where the user wants to participate and contribute for a 'love of community' (Brabham, 2010), which is essentially an enhanced variant of the willingness of *Contribution to a collaborative effort*. The aforementioned discussions occur mainly in the *Consulting* activity, which is considered to be the primary associated activity for this motivator.

Example: Aspects related to *Addiction & Contribution to a collaborative effort* was only mentioned by Quirky[1]; emphasizing how user participation is motivated through the desire to take part in the development and naming of products currently in development. Based on the tasks involved, a connection to the *Consulting* activity can be found, as the users in collaborative development and naming undertake a "[c]ommunication and knowledge exchange with both experts and peers facing similar or same tasks..." (Kipp et al., 2013).

Altruism

Altruism as a motivator is considered to be found mainly in the *Disseminating* activity, given the inherent purpose and intention of the activity; sharing the output of your processes in the form of information that can be utilized by others to build their ideas or projects upon, and thereby helping them. By feeding the information back into the *Searching and visualizing*, a new idea/project can be considerably helped by a previous idea/project. This is closely related to the culture and mindset usually found in the open source software community, "The open character of [open source] projects is key for collaboration and bringing new creative input into the design process." (Brabham, 2008).

Example: Among the interviewed platforms, none have referred to any tasks, functionalities, tools, or actions that connect to the motivator of *Altruism.* However, Kiva - while not specifically stating it during the performed interview - has a non-profit business model with a strong focus on *Altruism* as a motivator (Hartley, 2010).

Career options/advancement

Through the communication with other members regarding ideas/projects and possible solutions, a user is highly likely to promote itself in a way that could open up for *Career options/advancement*; e.g. through the demonstration of thinking patterns, knowledge, skills, professional approach, etc. This is closely related to the motivation of *Self-marketing*, as the two share multiple touchpoints and purposes. These motivations go past the *Relate* phase and *Consulting* activity, and extend into the *Donate* phase and *Disseminating* activity; "Bringing refined knowledge to scholars, practitioners, and students..." (Shneiderman, 1998) allowing for it to be questioned and validated - in the end granting legitimacy to one's knowledge.

Example: Among the interviewed platforms, two have identified key factors to building a user base and motivating users to participate related to the *Career options/advancement* motivator. Local Motors[2] [3] pointing to the ability of users to network with other users, which strongly connects to the *Consulting* activity, as the purpose of networking in general corresponds to the "[c]ommunication and knowledge exchange with both experts and peers facing similar or same tasks..." (Kipp et al., 2013). Create My Tattoo[4] [5] emphasizes the fact that participating on the platform can serve as a promotional tool for the work of an artist. In the case of this platform, participation involves the *Disseminating* of an artist's output as a contribution to an assignment is entered. This not only allows for other artists to build upon the disseminated material in order to provide a final output that better corresponds with the result requested in the assignment description, but also builds the reputation of the contributing artist. Finally, Spigit[6] [7] highlights a 'reputation ranking' based system implemented in its platform, a functionality that based on what the crowd thinks of a user's contribution, assigns a reputation ranking to the user. As the platform is mainly utilized within closed organizations, it is likely that achieving a high rank in this system can facilitate *Career advancement*. The contributions referred to include interactions between users that falls under the *Consulting* activity, but also through the *Disseminating* activity as ideas are shared.

Curiosity

Searching and visualizing is considered to be the activity that is most inherently stimulating to the motivation of *Curiosity*, as the activity involves seeking possible combinations of

knowledge from distinctive fields of knowledge and identifying the possible value and applicability of such combinations. Further, *Curiosity* is also considered to be a contributing factor to the undertaking tasks adhering to the *Consulting* activity; e.g. if one decides to discuss an idea/project with other users - not only in terms of its feasibility, but also to acquire input provided by other users.

Example: Factors involving *Curiosity* was pointed out by Spigit[6 8 9] and ArtistShare[10] as drivers of user participation and the creation of a user base, respectively. The former highlighting functionality present on the platform involved in idea discovery; functionality that suggests ideas posted by other users based on one's preferences and similarity to other ideas that one have shown interest in. This functionality is strongly related to the *Searching and visualizing* activity, and drives user participation through the stimulation of the user's *Curiosity* regarding new ideas. Further, *Curiosity* is also stimulated by the *Consulting*-related functionality of a reputation ranking system in place on the platform, offering indirect feedback on the contributions of the user. ArtistShare emphasizes the possibility for users to access an artist's creative process as one one the key factors involved in creating the firm's user base, and stated that this was "most definitely" connected to the users' *Curiosity*. Similar to the case of Spigit, this is considered to be connected to the *Searching and visualizing* activity, as the users seek to be "...learning from previous work on the field of the task they are supposed to perform." (Kipp et al., 2013) by studying the creative processes of their favorite artists.

Direct compensation & Economic incentives

While the motivational factors associated with *Direct compensation & Economic incentives* are deemed unclassifiable in the Genex framework due to not being a 'creativity-supporting implementation', the authors - along with Leimeister et al. (2009) - argue that *Direct compensation & Economic incentives* can serve as a motivational factor for user participation. As can be seen in *Table 5.2*, there are many examples of organizations that use economic compensation as a motivational factor for users to share their ideas and contributions with other users of their respective platforms. For example, a user might be motivated by intrinsic motivators up until the point of completion of a project, but taking the decision to share one's work is often motivated by the financial gains that could come of it, especially in the case where the intellectual property is transferred to a company seeking financial gain from the intellectual property. As the utilization of the Genex framework in the *FEMM framework* mainly is of structural character, allowing for the connection of activities and motivators, with the focus of the study being on participation-inducing motivational factors, the authors have found it appropriate to associate *Direct compensation & Economic incentives* with the *Disseminating* activity.

Example: Monetary rewards was found to be an integral part in many of the interviewed platforms, including Create My Tattoo[4] [5], Atizo[11], Datastation[12] [13], Quirky[14], and Spigit[15]. The implementation is highly similar between the platforms, with the monetary reward being utilized in order to motivate users *Disseminating* their generated output. Generally this translates to the publishing of an idea or created work, e.g. an idea, design, research report, market study, etc., where the monetary reward is awarded to the 'winning' idea/contribution/solution. While there are other motivators that relate to the *Disseminating* activity, monetary rewards is a strong motivator, as pointed out by Create My Tattoo: "The monetary reward is the biggest motivator for most our artists.", and Atizo: "Most of the time they are motivated over a monetary premium… split under the best few ideas.".

Entertaining & Fun

Entertaining & Fun is a motivator that cannot necessarily be associated with any specific activity. Rather, it is associated with any activity that is driven by, or stimulates, any intrinsically aligned motivator. The definition of an intrinsic motivation is "...the doing of an activity for its inherent satisfactions rather than for some separable consequence." (Ryan & Deci, 2000b), these 'satisfactions' are what one normally associates with the motivator *Entertaining & Fun*.

Example: Eyeka[16] and IdeaConnection[17] highlight the importance of aspects related to *Entertaining & Fun* in driving user participation. Eyeka points out that users of its platform are intrinsically motivated through the creation process, and that this to some extent replaces the need for any potential reward. This strongly relates to the *Thinking* activity, as the described activities consist of "...tasks that directly support the developing [*sic*] ideas..." and "...free association that helps to break free from their current mind set…" (Kipp et al., 2013). IdeaConnection emphasizes the friendships created through the platform is significant driver of user participation, building friendships is inherently related to *Entertaining & Fun*, and the activities in which the friendships are built are strongly related to the *Consulting* activity, undertaking "[c]ommunication and knowledge exchange with both experts and peers facing similar or same tasks..." (Kipp et al., 2013).

Self-expression

This motivator refers both to the *Self-expression* that can be achieved through the embodiment of your creation, to share a creation based on your skills and insight - but also refers to the possibility to voice your opinion, e.g. through providing input and feedback to ideas/projects created by other members. Thus, it is considered to be appropriately positioned as an affecting motivator for *Composing*, *Consulting*, and *Disseminating* activities;

communicating one's idea is a way of expressing how one is the originator of something unique, this also applies to the spreading of the final output of such an idea.

Example: Several of the interviewed platforms touch upon aspects that are related to *Self-expression* as being drivers of user base growth and user participation; Local Motors[2] [3] attributes this to the networking aspects of its platform, while Quirky[18] [19] [20] and Datastation[21] both point to the functionalities provided in terms of allowing commenting and voting as being important, with Datastation emphasizing on the possibility for 'all to be heard' as an important aspect. What all of these platforms have in common is a strong focus on *Self-expression* of the users, which is also strongly related with the characteristics of the *Consulting* activity as the functionality supporting the *Self-expression* mainly is built around the connecting and communicating with other users in a similar situation - this ties in with the description of the *Consulting* activity by Kipp et al. (2013): "Communication and knowledge exchange with both experts and peers facing similar or same tasks...". Further, in the case of Quirky[22], it can be argued that *Self-expression* also drives the user to undertake the *Composing* activity, pointing to the incentives related to holding the acclaim of naming a product, or giving it a tagline. This is also true for the *Disseminating* activity, as the tasks involved are performed in order to realize an idea, and satisfy the user's desire of *Self-expression*.

Learning & Access to knowledge

The *Learning & Access to knowledge* motivator is, not unlike that of *Entertaining & Fun*, rather ubiquitous and therefore present in many of the activities presented in the *FEMM framework*; it has been found most appropriate for motivating *Searching and visualizing*, and *Consulting* activities. The reasoning for the *Searching and visualizing* activity is the idea of combining knowledge of one domain with that of another domain - of which one learns and gains knowledge through research, motivated by the search of knowledge. As for the *Consulting* activity, one is driven to discuss one's idea/project with other users of a platform to draw upon the knowledge of these users, allowing one to learn - also tightly connected to the *Curiosity* motivation.

Example: Spigit[8] and ArtistShare[10] states that key factors related to the motivator *Learning & Access to knowledge* have aided in motivating user participation and building a user base, respectively. The former through providing users with suggestions of posted ideas that are similar to other ideas that the user has previously expressed an interest in, and the latter by allowing users to take part of the information on the creative process provided by partnering artists. Both cases relate to the *Learning & Access to knowledge* motivator, while allowing the users to undertake tasks that are part of the *Searching and visualizing* activity. Further, a

connection between the *Learning & Access to knowledge* motivator and the *Consulting* activity can also be found, supported by the case of Local Motors[2 3], allowing the users of its platform to network with other users enables an ample opportunity to achieve *Learning & Access to knowledge* with other users as tutors and sources of knowledge. This is also true in the case of ArtistShare[23], as it can be argued that there is a relation to the *Consulting* given the nature and setting of the provided information regarding the creative process of artists.

Low barriers to entry

This motivator is likely applicable to most activities and phases, due to the fact that a more easy-to-use interface along with the resources to support different activities will have an effect on the user participation - no matter the orientation or purpose of the activity. Further, if this motivator is targeted correctly, through the tools and functionalities suggested, the effect on user participation will not necessarily have a significant positive impact - however, if a platform lacks in tools and functionalities to stimulate this motivator, it can have severe negative complications on users' willingness to participate and utilize the platform. *Composing* is an activity where *Low barriers to entry* can have a strong impact, given that it is normally the starting point for further development through interaction and collaboration.

Example: Among the interviewed platforms, ease-of-use was only mentioned by Atizo, having received positive feedback from users in regards to the platform's usability. No connections to related activities can be made based on the statements provided, thus lacking in the ability to contribute to the outcome of this study.

Self-marketing & Appreciation/recognition

The *Self-marketing & Appreciation/recognition* motivator relates mainly to the activities of *Consulting* and *Disseminating*. By communicating with other users regarding solutions, one is likely to attract some level of *Appreciation/recognition* - or offer another user that same satisfaction. *Disseminating* can be considered an extension of the experience of the *Consulting* activity; Shneiderman (1998) refers to the *Disseminating* activity as the presenting of one's results or output to practitioners, scholars, and students - allowing for the material to be discussed. This in turn allows for the possibility of receiving *Appreciation/recognition* from mentors and peers. As for the *Self-marketing*, it is strongly associated with the aspects of *Career options/advancement*, as these have very similar touchpoints in the *Consulting* activity - something that is also true for the *Disseminating* activity.

Example: Among the interviewed platforms there were a number of interviewees that pointed out aspects related to the *Self-marketing & Appreciation/recognition* motivator as

drivers to user participation; Create My Tattoo[4 5] emphasizing the ability of artists to promote their work to a wider audience, Quirky[14] highlighting the ability to gain recognition as an inventor, as well as receiving the public praise for providing a product with a name or tagline, and Spigit[7] pointing to its reputation ranking system utilized on the platform, allowing users to gain a reputation ranking shown publicly associated with their profiles. A common trait for the mentioned examples is that they relate to the *Disseminating* activity, being able to share the results and outcome of an idea, referred to by Kipp et al. (2013): "...spreading ideas to others, e.g., peers and mentors. Thus, ideas can serve as artifact for other customers as basis for their creative work." - in order to promote oneself and to receive recognition and praise. In the case of Quirky[22], the tasks involved also strongly relate to the *Composing* activity, given that the user must be able to fully express and communicate an idea or work to others - as defined by Kipp et al. (2013): "[communicating an idea] ...using a title, text, categorization, pictures, videos, tags, files and/or other means.". Further, in the case of Spigit[6], gaining in reputation rank relates to the *Consulting* activity as it offers indirect feedback on the contributions of the user.

5.2 'FEMM' framework

Below follows a tabular representation of the identified motivators organized using the Genex framework, supported with quotes taken from the statements provided during platform interviews.

Phase	Activities	Motivators	Tools / Functionalities	Interview quotes
Collect	**Searching and visualizing** "...learning from previous work on the field of the task they are supposed to perform." **Kipp et al., 2013.**	Curiosity Learning Access to knowledge	Digital libraries of ideas, search functionality, tag cloud, table filters **Kipp et al., 2013.** Digital libraries, search services, dynamic queries, information visualisation, multimedia search *(re: 'Collect' phase)* **Shneiderman, 1998.** Filter (e.g. Table Filter), Keyword Search, Logical and Context Operators, Regular Expressions *(re: 'Searching' activity)* Continuous Scrolling, Pagination, Tag Cloud, Hyperbolic Browsing, Thumbnails, Carousel View, Sorted Views *(re: 'Browsing' activity)* Tag Cloud, Hyperbolic Browsing *(re: 'Visualizing' activity)* **Huber et al., 2009.**	[8] "The system also shows out [*sic*] ideas you might like that are similar to your or others you are reading." **Spigit** [9] "We also have a social view of the ecosystem where you can track your ideas, those you are interested in and everything in [sic] system plus what is trending to help you discover new things." **Spigit** [10] "The sharing of the creative process by the artist was the key factor in building the user base for ArtistShare." Does this connect to curiosity, access to knowledge/Learning among the fans? - "Most definitely." **ArtistShare**

Relate	**Consulting** "Communication and knowledge exchange with both experts and peers facing similar or same tasks..." **Kipp et al., 2013.**	Addiction Contribution to a collaborative effort Career options/advancement Curiosity Entertaining & Fun Learning Access to knowledge Self-expression	chats, message boards, messaging systems, communicating with employees **Kipp et al., 2013** Listservs, newsgroups, conferencing, groupware, presentation, annotation, tele-democracy *(re: 'Relate' phase, or 'Consult' phase old def.)* **Shneiderman, 1998.** Email, Instant Messaging, Voice over IP, Chat, Forum, Conference Call, Blog, Wiki, Newsgroups, Comments, Address Directory, "Find an Expert" functionality, "Tell a friend" functionality **Huber et al., 2009.**	[1] "Users are motivated to participate… by helping develop/name products currently in development." **Quirky** [2] "...awareness of our user base (so they can personally network)." **Local Motors** [3] "...motivation could range from... social interaction and networking." **Local Motors** [6] How does the platform motivate users to participate? - "In a variety of ways including:... Reputation ranking based on how the crowd think your contributions are rated." **Spigit** [17] "...we see and hear from repeat users that the friendship and the intellectual challenge mean a lot..." **IdeaConnection** [18] "Users are most concerned with the voting process for ideas, as well as feedback on the ideas." **Quirky** [19] "Users like that they can participate and vote on ideas they'd like to see as products." **Quirky**

				[20] "Users are motivated to participate with the prospect of having their invention created..." **Quirky** [21] "Other motivators are… Chance for all to be heard, including company underdogs..." **Datastation** [23] "...direct online access to the artist." Including possibility of communicating directly with the artist? - "Yes." **ArtistShare**
Create	**Thinking** "...tasks that directly support the developing [*sic*] ideas..." "...free association that helps to break free from their current mind set..." **Kipp et al., 2013.**	Entertaining Fun	background information, examples, articles, pictures, videos, user stories **Kipp et al., 2013** Document assemblers; art, design, and architecture tools; user interface builders; simulations; models; templates; history; macros *(re: 'Create' phase)* **Shneiderman, 1998.** Mind maps, Copy & Paste, Live Preview, Drag & Drop, Modelling Languages / UML, Interface Mock-up Tools, Collaborative Text Editing,	[16] "People have fun creating - either alone of [*sic*] with friends - and that does help them to participate. Participation makes it fun intrinsically, and people are not only thinking about the potential reward." **Eyeka**

			Collaborative Drawing *(re: 'Thinking' activity)* Device Simulator, Modelling Languages / UML, Interface Mock-up Tools, Integrated Development Environments *(re: 'Exploring' activity)* **Huber et al., 2009.**	
	Composing "[Communicating an idea] ...using a title, text, categorization, pictures, videos, tags, files and/or other means." **Kipp et al., 2013.**	Self-expression Self-marketing Appreciation Recognition	title, text, categorization, pictures, videos, tags, files **Kipp et al., 2013** Wiki, Live Preview, WYSIWYG Editor, Copy & Paste, Interface Mock-up Tools **Huber et al., 2009.**	[22] "Aside from economic incentives, the incentive to be recognized as an inventor or to hold the acclaim of naming a product/giving it a tagline is significant as well." **Quirky**
	Reviewing "...record activities, review them, and save them for future use. This list lets users return to previous steps and so supports the creativity process." **Kipp et al., 2013.**		record, review, and save activities **Kipp et al., 2013** Versioning, Session History, Wiki **Huber et al., 2009.**	
Donate	**Disseminating** "...spreading ideas to others, e.g., peers and mentors. Thus, ideas can serve as	Career options/advancement Direct compensation Economic incentives	social network sharing (e.g. Facebook, Google+) **Kipp et al., 2013** E-mail, electronic publications,	[4] "Providing the artist with fair compensation for their work and the opportunity to promote their work." **Create My Tattoo**

	artifact for other customers as basis for their creative work." **Kipp et al., 2013.**	Self-expression Self-marketing Appreciation Recognition	narrowcasting, affiliation networks, niche lists, E-communities *(re: 'Donate' phase, or 'Disseminate' phase old def.)* **Shneiderman, 1998.** Idea Description, Attachments, SVN, Hosting, File Sharing **Huber et al., 2009.**	[5] "We allow our artists to promote their work. The monetary reward is the biggest motivator for most our artists". **Create My Tattoo** [7] How does the platform motivate users to participate? - "In a variety of ways including:... Reputation ranking based on how the crowd think your contributions are rated." **Spigit** [11] "Most of the time they are motivated over a monetary premium… split under the best few ideas. " **Atizo** [12] "Other motivators are... rewards (monetary and non-monetary) tied to the winning solution..." **Datastation** [13] "Monetary rewards are motivators for both sharing and other activities. ...Creating new ideas either in general or for topic specific purposes." **Datastation** [14] "Aside from economic incentives, the incentive to be recognized as an inventor or to hold the acclaim of naming a product/giving it a tagline is significant as well." **Quirky**

				[15] Why do you offer monetary rewards to users? - "...to help incentivise people to engage with and participate in the challenges being run and get as many ideas... as possible." **Spigit**

Table 5.1 FEMM framework. Compiled by the authors.

5.2.1 'FEMM' framework motivator-activity heat map

Below follows a representation of the occurrences of specific motivators relating to specific activities as part of the Genex framework. The purpose of this visualization is to highlight the focus on specific motivators and activities among the interviewed platforms.

	Searching and visualizing	Consulting	Thinking	Composing	Reviewing	Disseminating	∑
Addiction Contribution to a collaborative effort		1					1
Altruism							0
Career options/advancement		3				3	6
Curiosity	3	1					4
Direct compensation Economic incentives						7	7
Entertaining Fun		1	1				2
Learning Access to knowledge	2	3					5
Low barriers to entry							0
Self-expression		6		1		1	8
Self-marketing Appreciation Recognition				1		4	5
∑	5	15	1	2	0	15	38

Table 5.2 Heat map analysis of motivator utilization and activity focus among interviewed platforms. Compiled by the authors.

Heat map legend

Color indication of areas are based on the following thresholds with even intervals, with ranges adjusted for readability;

Main table

Grey: $x < 1$
Orange: $1 <= x <= 2$
Yellow: $3 <= x <= 4$
Green: $x > 4$

Motivator sums

Grey: $x < 1$
Orange: $1 <= x <= 3$
Yellow: $4 <= x <= 6$
Green: $x > 6$

Activity sums

Grey: $x < 1$
Orange: $1 <= x <= 5$
Yellow: $6 <= x <= 10$
Green: $x > 10$

Heat map patterns

The heat map presented above allows for an easier identification of areas where focus lies in terms of driving user participation among the interviewed platforms, as well as the relationship between specific user motivators in certain activities. In order to increase readability, a color scheme has been implemented, the details for which are presented above.

In terms of activities it is clear that the *Consulting* and *Disseminating* activities are heavily represented among the interviewed platforms, with some focus being attributed to the *Searching and visualizing* activity as well. In the *Disseminating* activity a very explicit connection to the motivator *Direct compensation & Economic incentives* can be seen; pointing to the fact that many of the platforms utilize rewards, e.g. monetary or other kinds of prizes, in order to motivate users to add content and share their work on the platform - in a way ‘compensating’ the users for the dissemination of intellectual property. This motivator is identified as an integral part in several of the interviewed platforms. Other notable motivators connected to the *Dissemination* activity include *Self-marketing & Appreciation/recognition* and *Career options/advancement*, two motivators that are highly similar; both focusing on the promotion of oneself - one for the intent purpose of advancing one’s career, one in order to gain the appreciation and recognition of a community of users. These are together as widely used as the *Direct compensation & Economic incentives* motivator. In the *Consulting* activity, the motivators involved are more varied across the spectrum of identified motivators.

However, *Self-expression* stands out as a motivator being utilized more frequently - commonly manifested through offered functionality to facilitate connecting with other users, including commenting, voting, etc., providing users with the opportunity to be heard, while exchanging knowledge. Lastly, it was found that none of the interviewed platforms involved the *Reviewing* activity as a part of their offering.

Among the motivators, *Self-expression* and *Direct compensation & Economic incentives* stand out, being utilized by a majority of the interviewed platforms - while *Altruism* and *Low barriers to entry* receives no expressed attention. The former motivators are likely highly represented in total due to their strong connection to the activities *Consulting* and *Disseminating* respectively, as mentioned in the previous paragraph. Other notable motivators include *Career options/advancement*, *Self-marketing & Appreciation/recognition*, and *Learning & Access to knowledge* - the two former being highly similar, but with different purposes.

The generated heat map, and associated framework, can be utilized by Realize in order to gain an improved starting position in the construction and launch of its WBIP; providing a foundation of knowledge as to what current crowdsourcing platforms focus on in terms of user motivators, and how this relates to certain activities that are part of the creative process. It can be used in order to identify the underexploited motivators available for driving user participation, as well as identifying motivators that could prove essential in the launch of a WBIP.

6. Conclusion

6.1 Addressing the research question

The research question, as stated in the beginning of this study, is as follows:

> *"What are the key drivers and factors of existing crowdsourcing solutions applicable for motivating the users of a web-based innovation platform?"*

In order to address this question, a sample of online platforms utilizing crowdsourcing as an integral part of their business model has been interviewed with the aim to find connections between the activities that make up the creative process, and identified universal human motivational factors.

From the analysis of the collected data, the following findings have been made; there is a very strong focus on *Self-expression*, tightly followed by *Direct compensation & Economic incentives*, with *Career options/advancement*, *Learning & Access to knowledge*, *Self-marketing & Appreciation/recognition*, and also *Curiosity* receiving significant attention among the identified motivators. The relationship between these motivators and previously mentioned activities have been charted (see *Table 6.1* for a visualization), from this visualization it has been found that there is a strong relation between certain motivators and activities, some activities acquire a spectrum of motivator relations, while a few remain completely unrelated.

One of the most notable findings was that *Direct compensation & Economic incentives*, while according to Leimester et al. (2009) not possible to utilize in order to encourage creative activity, was in fact employed by a large number of the interviewed platforms in order to motivate user participation. Also noteworthy is the motivator's connection to the *Disseminating* activity; among all of the interviewed platforms using *Direct compensation & Economic incentives* to motivate its users, all were using it to drive user participation in that specific activity.

Another notable finding is the relation between the *Consulting* activity and the motivator of *Self-expression*. Much of the interviewed platforms' focus lies on providing functionalities supporting the activity; allowing users to engage with each other through voting, commenting, and other means of communication. A particularly strong connection exists to *Self-expression*, as the interaction with other users is the primary channel through which a user can express itself as an individual.

The motivators *Altruism* and *Low barriers to entry* have not found support for relations to any of the available activities through the statements provided in interviews. This is in part due to

their nature, where *Altruism* is hard to demonstrate and rather exists as an underlying motivator - as in the case of Kiva - and *Low barriers to entry* manifests itself insignificantly in terms of being a positive motivator, but in turn can cause significant negative effects, would it be ignored. These are believed to have significant potential, albeit not as commonly occurring as other motivators.

Lastly, it is clear that among the interviewed platforms, there is a distinct focus being put on the *Relate* and *Donate* phases of the creative process, through the associated activities *Consulting* and *Disseminating*. The authors argue that this is due to the nature of online platforms; they normally exist to facilitate interaction between individuals in a structured way, i.e. *Consulting*, and are commonly centered around the purpose of distribution of knowledge or created material, i.e. *Disseminating*.

6.1.1 'FEMM' framework motivator-activity heat map

Below follows a representation of the occurrences of specific motivators relating to specific activities as part of the Genex framework. The purpose of this visualization is to highlight the focus on specific motivators and activities among the interviewed platforms. Also found in 5.2.1.

	Searching and visualizing	Consulting	Thinking	Composing	Reviewing	Disseminating	∑
Addiction Contribution to a collaborative effort		1					1
Altruism							0
Career options/advancement		3				3	6
Curiosity	3	1					4
Direct compensation Economic incentives						7	7
Entertaining Fun		1	1				2
Learning Access to knowledge	2	3					5
Low barriers to entry							0
Self-expression		6		1		1	8
Self-marketing Appreciation Recognition				1		4	5
∑	5	15	1	2	0	15	38

Table 6.1 Heat map analysis of motivator utilization and activity focus among interviewed platforms. Table 5.2 copy. Compiled by the authors.

6.2 Contribution to academia

As previously covered in *3. Theoretical framework*, the authors have found that academia lacks specific contribution in terms of covering the topic of what motivates people in the different phases and activities of the creative process to engage in, and participate on WBIPs. With the findings of this study, the authors have shown that there are possible connections to be made between the activities involved in the creative process, as brought up in the Genex framework, and the intrinsic and extrinsic motivational factors that drive the involvement of individuals, as identified in *3.3 User motivations*. As such, this study provides a comprehensive framework of motivators driving user participation on crowdsourcing platforms, as well as identified connections between specific motivators and activities associated to certain phases of the creative process.

While the study is in need of more empirical data, elaborated on in *7.1 Validating the model*, it provides insight as to what areas to be focused on in order to drive user participation on a WBIP through the use of motivational factors in association with different activities.

6.3 Applicability for Realize

The outcome of this study provides Realize with a foundation as to where to focus its efforts to drive user participation on its future WBIP, based on findings regarding what motivational factors that drives user involvement in specific activities in the creative process.

While the study does not provide specific, hands-on examples proven to increase participation within a specific activity - outside of what has been identified as supportive tools for the respective activity through the Genex framework - examples of tools and functionalities associated to specific platforms, and how these relate to the engagement in specific activities and stimulate certain motivators, are provided.

Building upon the two most prominent motivators and their respective implementations among the studied platforms, the authors suggest that for a successful launch of a WBIP it is highly recommended for Realize to implement functionalities and tools supporting the *Consulting* activity, especially of the kind that encourage the *Self-expression* motivator; facilitating the connection with other users, e.g. through commenting, voting, and other means of interaction. As shared contents is an integral part to any collaborative platform, the second recommendation falls upon supporting the *Disseminating* activity. It is suggested that Realize explores the possibilities to offer any form of *Direct compensation & Economic incentives* as a motivator to drive user contribution. As this approach is highly utilized among the interviewed platforms, pointing to the possibility that this is the standard of the industry, it can be argued that there is a risk that users could become disgruntled over the lack of compensation should this be excluded.

Further, it is also worth noting that among the interviewed platforms, there is a clear lack in the emphasis put on the activities associated with the *Create* phase; *Thinking*, *Composing*, and *Reviewing*. This could indicate a situation where the implementation of tools and functionalities supporting these activities is complicated, or that these activities align poorly with the environment provided and tasks performed on a WBIP. However, it could also hint of an unexploited opportunity, one that could provide Realize with a competitive advantage - given that an appropriate approach to motivating users in partaking in these activities is identified.

The authors believe that the outcome of this study provides a valuable contribution in terms of supplying Realize with the insight to what could be considered a set of best-practices in driving user motivation and participation in a WBIP setting. Thus, aiding Realize in identifying possible approaches to find a viable niche in the existing market for WBIPs.

7. Suggestions for further research

7.1 Validating the framework

As previously mentioned in *1.5 Delimitations,* the limited timeframe allocated to this study, as well as the relatively small sample size of interviewed companies, means that any findings or conclusions made in the study is likely to not be considered as highly generalizable. In order to validate the *FEMM framework* further, the authors firmly suggest that further research is made on how WBIPs motivate user participation with a significantly larger sample size. Augmenting the results with the output of such a study, it would in all likelihood lead to a framework with higher external reliability and significantly higher generalizability.

7.2 Alternative areas of study

A number of alternative areas of study have been identified, these have not been studied closer during the course of this study, in part due to limited time and resources, in part due to being outside of the scope of the stated research question. These are all areas that, if studied, likely would provide highly applicable data for Realize.

7.2.1 Key platform attributes

During the process of conducting the SLR the authors found information on key platform functionalities that could be necessary for implementation in a WBIP. As this area holds information on the overarching attributes necessary for the basic operation of a WBIP, it can provide valuable insight useful for the construction of a WBIP. Key platform attributes, along with examples are provided in *9.2 Identified key platform attributes.*

7.2.2 Risks

Several risks associated with the use of crowdsourcing have been identified during the course of this study. These risks are likely of high interest to a firm aiming to launch or operate a WBIP, as they provide information on many of the potential pitfalls that need to be avoided - either through decisions or by service/platform design. Risks encountered during the study, along with definitions and references to occurrences are provided in *9.3 Identified risks*.

7.2.3 Firm incentives

While studying the area of user motivations, the area of incentives motivating firms to utilize crowdsourcing to fulfill internal needs was touched upon. This is a highly interesting area, as it connects to the potential of WBIPs to target firms as potential clients. Firm incentives identified by the authors are provided in *9.4 Firm incentives to utilize crowdsourcing*.

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9. Appendices

This section provides more in-depth information and additional matter on topics covered.

9.1 Systematic literature review

Search term	#	Article name	Authors	Inclusion / Exclusion criteria
crowdsourcing model	1789	Crowdsourcing.	Schweitzer, Buchinger, Gassman & Obrist, 2012	Exclusion: Focus on idea competitions and the authors are studying applications for senior citizens.
		The Apple business model: Crowdsourcing mobile applications	Bergvall-Kåreborna, Howcroft, 2013	Exclusion: Focus on Apple's whole business model.
		Rules of Crowdsourcing: Models, Issues, and Systems of Control	Saxton et al., 2013	Inclusion: Classification of crowdsourcing with an extensive amount of different services within the field of crowdsourcing
"crowdsourcing model"	86	Motivations for Participation in a Crowdsourcing Application to Improve Public Engagement in Transit Planning	Brabham, 2012	Inclusion: Looks into the motivation of participants in a design competition for bus stops.
		Drawing on mobile crowds via social media	Liu, Lehdonvirta, Alexandrova & Nakajima, 2012	Inclusion: Information about motivational factors for users and firms.
		MOVING THE CROWD AT THREADLESS	Brabham, 2010	Inclusion: A study on the motivations of the users of a WBIP.
crowdsourcing theory	886	Crowdsourcing privacy preferences in context-aware applications	Toch, 2014	Exclusion: Looks into the topic of privacy concerns. Trying to predict users privacy preferences.
"crowdsourcing theory"	5			

crowdsourcing template	211	Leveraging Crowdsourcing: Activation-Supporting Components for IT-Based Ideas Competition.	Leimeister, Huber, Bretschneider & Krcmar, 2009	Inclusion: Looks into a number of interesting motivational drivers for user participation, including classification.
		Implementing crowdsourcing-based relevance experimentation: an industrial perspective	Alonso, 2013	Exclusion: Looks into using the crowd to complete experiments - allowing for quick and cheap experimenting.
		Crowdsourcing as a Model for Problem Solving	Brabham, 2008	Inclusion: Provides a thorough introduction to crowdsourcing.
"crowdsourcing template"	0			
"crowdsourcing platform"	218	The Difficulties involved in Developing Business Models open to Innovation Communities: the Case of a Crowdsourcing Platform.	Chanal & Caron-Fasan, 2010	Inclusion: Includes information regarding the motivations of users as well information about the risks of crowdsourcing.
		Analyzing costs and accuracy of validation mechanisms for crowdsourcing platforms	Hirth, Hossfeld & Tran-Gia, 2013	Exclusion: Too much focus on mechanical turks, and the mechanics that go into cheat detection, etc.
		The Pros and Cons of Crowdsourcing.	Aquino, 2013	Exclusion: Newspaper article that does not have applicable information to warrant inclusion. Too basic.
"crowd-sourcing platform"	68			
"crowdsourcing framework"	5			

"crowd-sourcing framework"	6			
crowdsourcing commercialization	120	Reconfiguring the sociology of the crowd: exploring crowdsourcing	Wexler, 1981	Exclusion: Sociological study with little application for the thesis.
		Crowdsourcing for Collaboration-Oriented Innovations	Weiwei, 2012	Inclusion: Provides information on intrinsic and extrinsic motivation.
		Managing Distributed Innovation: Strategic Utilization of Open and User Innovation	Bogers & West, 2012	Exclusion: Provides information on distributed innovation in general.
"collaborative innovation"	1509	Swarm Creativity: Competitive Advantage through Collaborative Innovation Networks	Gloor, 2006	Exclusion: Covering the history of COINs, a precursor to crowdsourcing, does not contain enough the details of motivations or functionality.
"collaborative innovation platform"	9			
"collaborative innovation networks"	77			
"crowdsourcing business model"	3	Free Agents: Should Crowdsourcing Lead to Agency Liability for Firms?	Frankrone, 2013	Inclusion: Great sections regarding incentives for both the crowd and firms to participate in crowdsourcing.
"crowd-sourcing business model"	3			
crowdsourcing "business model"	484			
"crowdsourcing mediation"	0			

"crowdsourcing mediating"	0			
"crowdsourcing mediator"	0			
"crowdsourcing business"	5			
"ideation network"	1	Knowledge domain spanners in ideation	Björk, 2012	Exclusion: Quantitative study regarding the effects of ideation networks.
crowdsourcing "business model"	396	Towards an integrated crowdsourcing definition	Estellés-Arolas & González-Ladrón-de-Guevara, 2012	Exclusion: Focusing very strongly on defining what crowdsourcing is.
		Crowdsourcing and open source software participation	Olson & Rosacker, 2013	Exclusion: Llimited in scope, focusing on crowdsourcing only for open source software.

Table 9.1 Systematic literature review search sheet. Compiled by the authors.

9.2 Identified key platform attributes

In the studied literature, several overarching attributes have been identified as necessary for a WBIP implementation. While closely related to user motivations (*3.3 User motivations*) and functionality (*3.4 Genex framework* and its reinterpretations and implementations), these attributes are on a more abstract level, rather than the in-depth clarifications of user motivations or direct implementation suggestions in terms of tools and functionalities covered in other sections.

Attributes	**SLR excerpts**
Incentive drivers	"Getting people involved requires understanding what motivates them to contribute in the first place." (p. 282) **Howe, 2008.** "By understanding how and why participants are motivated at a higher level, practitioners can better design crowdsourcing applications and better grow and sustain online communities going forward." **Brabham, 2012** *(*See *3.3 User motivations* for further details and examples*)*
Modularity ● dividing into smaller tasks ● actionability	"By bringing clarity and simplicity to your appeal... you greatly increase the odds that someone will want to contribute." (p. 286) "...any task worth doing is worth dividing up into its smallest possible components." (p. 285) **Howe, 2008.**
Rules and restrictions ● ground rules for interaction ● limiting communication ● encouraging independency	"...under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them." (p. XIII) "Groups generally need rules to maintain order and coherence, and when they're missing or malfunctioning, the result is trouble. Groups benefit from members talking to and learning from each other, but too much communication, paradoxically, can actually make the group as a whole less intelligent." (p. XIX) "Paradoxically, the best way for a group to be smart is for each person in it to think and act as independently as possible." (p. XIX) **Surowiecki, 2005.**
Self-governance ● administration ● moderators	"...if you find yourself inundated with submissions, don't bother sifting through them yourself. Take the expedient and democratic course of allowing the crowd to find the best and brightest diamonds in the rough." (p. 287)

	"Sturgeon's law... holds that 90 percent of everything is crap, and a number of the people I talked to for this book thought that was a lowball estimate." (p. 286) "If there's any real magic in crowdsourcing, it lies in the ability of the crowd to correct its tendency to flood the networks with a glut of low-quality fare." (p. 287) **Howe, 2008.**
'Social software' allowing: ● communication ● interaction ● collaboration ● user-generated content	"The essential technical prerequisite for these activities is "social software," or applications that enable communication, interaction, and collaboration through the internet. The distinctive features of these applications include the enabling of user-generated content, the creation of elaborate platforms for interaction and networking, and user-friendliness." **Kleeman, Voss & Rieder, 2008.**
User base ● size ● 'right' people	"With few exceptions, the most important component to a successful crowdsourcing effort is a vibrant, committed community." (p. 282) "...the bad news: it needs to be the right people. This principle is closely related to picking the right crowdsourcing model... Craft your message for your purposes and broadcast it through the right outlets." (p. 282) **Howe, 2008.**

Table 9.2 Identified key platform attributes. Compiled by the authors.

9.3 Identified risks

Risk identifier	SLR excerpts
'Crowdslapping' ● the crowd using the provided platform to 'hurt' the assignment provider	"Chevy put up a site providing users with the tools to make their own ads. The people responded by using those tools to skewer everything from SUVs to Bush's environmental policy to, natch, the American automotive industry." "You can tap the crowd, but that doesn't mean you can control it." **Howe, 2006b.**
Crowdworkers cheating ● abusing reward systems	"Although the quantity of work performed by participants can be increased, the quality cannot, crowdworkers may tend to cheat the system in order to increase their overall rate of pay. Another drawback with economic incentives is that they can destroy pre-existing intrinsic motivations..." **Liu et al., 2012.**
Intellectual property issues ● ownership ● right to gain financial benefit	"...tension can arise when some of the business actors involved take, or attempt to obtain, financial benefit from part of the value created by the online communities." **Chanal & Caron-Fasan, 2010.**
'Social loafing'	"...social loafing effect is the phenomenon of people making less effort to achieve a goal when they work in a group than when they work alone." **Liu et al., 2012.** "...members of brainstorming groups are tempted to free ride because they perceive their contributions as less identifiable and more dispensable than do subjects who work individually." "The feeling that their contributions are dispensable is likely to arise among group members because with several people contributing ideas, each particular idea adds very little to the group product. Thus, individuals who brainstorm in groups may feel that their contributions are less important to the outcome (i.e., more dispensable) than individuals who brainstorm individually. The more instructions emphasize originality and thus turn brainstorming into a disjunctive rather than an additive task, the more likely feelings of dispensability are to arise." **Diehl & Stroebe, 1991.**

Table 9.3 Identified risks. Compiled by the authors.

9.4 Firm incentives to utilize crowdsourcing

Incentive / Motivator	SLR excerpts
Cost reductions	"Crowdsourcing further reduces production and development costs because firms can enter and exit the crowdsourcing platforms at will, avoiding substantial transaction costs." **Frankrone, 2013.** "Costs are reduced when internal work processes can be transferred to the consumer ("outsourcing to the customer")." "Cost reduction through reducing complexity. For example, the introduction of standardized internet portals reduces the complexity of interaction with consumers..." **Kleeman, Voss & Rieder, 2008.** "A company successful in [mobilizing consumers in the value creation process] can reap a variety of benefits... cost reduction through reducing complexity..." **Weiwei et al., 2012.**
Fit-to-market	"...benefits for firms arising from the mobilization of consumers in the value creation process... increase of market acceptance of new products and consumers' willingness to buy them..." **Kleeman, Voss & Rieder, 2008.**
New-to-market	"...benefits for firms arising from the mobilization of consumers in the value creation process... increase of consumers' subjective perception of the actual newness of a new product..." **Kleeman, Voss & Rieder, 2008.**
Productivity gains	"Productivity gains through more efficient use of resources. For example, companies can expand geographically and increase daily service hours without increasing expenses by using automated, self-service solutions." **Kleeman, Voss & Rieder, 2008.** "A company successful in [mobilizing consumers in the value creation process] can reap a variety of benefits... productivity gains through more efficient use of resources..." **Weiwei et al., 2012.**
Replacing in-house functions	"Crowdsourcing makes it possible for firms to pay less for tasks traditionally completed by full-time employees or outsourced to other companies" "Crowdsourcing allows firms to lower personnel costs by not providing benefits, job security, or other forms of workforce support."

	Frankrone, 2013.
Quality improvements	"Quality improvement using consumer knowledge. In the context of integrating customers into productive processes, companies can make use of customers' expertise..." **Kleeman, Voss & Rieder, 2008.** "A company successful in [mobilizing consumers in the value creation process] can reap a variety of benefits... quality improvement using outside knowledge..." **Weiwei et al., 2012.**
Time-to-market	"...benefits for firms arising from the mobilization of consumers in the value creation process... reduction of the time it takes to develop new products..." **Kleeman, Voss & Rieder, 2008.**
Turnover increase	"Increase of turnover. Products can be offered at lower prices and more flexibly in terms of service hours and geographic distribution, resulting in an expansion of the customer base." **Kleeman, Voss & Rieder, 2008.** "A company successful in [mobilizing consumers in the value creation process] can reap a variety of benefits... increase of turnover..." **Weiwei et al., 2012.**

Table 9.4 Incentives of firms to utilize crowdsourcing. Compiled by the authors.