
Rewarding in open innovation communities – How to motivate members?

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Abstract:

To attract and to commit users to participate in online open innovation communities it is important to know the motivations of the members and ways to enhance commitment. One way to motivate members to participate is to reward them by monetary or non-monetary rewards. In this study we focus on studying the role of rewarding in online open innovation intermediaries. The data was collected by interviews of maintainers and a web survey in three intermediaries as well as by reviewing rewarding mechanisms in twelve open innovation intermediaries. In the studied communities respondents found monetary rewarding important. Also non-monetary rewarding based on quality of ideas in form of ranking lists on the website was found important as well as acknowledging the highest quality answers. According to the maintainers' interviews combinations of monetary and non-monetary rewarding was important. The review of existing communities rewarding mechanisms indicated that both rewarding methods are currently used in many open innovation intermediaries.

Keywords: online communities, open innovation, intermediaries, rewarding, monetary, non-monetary, tangible, intangible, recognition, motivation, case study

1 Background of the study

The Web 2.0 phenomenon has changed customers' roles from passive objects into active participants in companies' processes [1]. In aim to integrate customers into the processes, especially innovation and development processes, companies need tools, platforms and methods as well as different types of services provided by external companies.

Open innovation communities can act as a source for learning and producing external ideas or even solutions to companies [2], [3]. Utilising customers' creativity and innovation capability has potential in new product development, as shown in many recent

studies [4], [5]. In order to do this companies can either build their own open innovation communities, look for online communities related to their products or services or they can utilise existing communities on web that act as intermediaries in this field [6], [3]

Lately the amount of innovation market places or innovation intermediaries acting between innovators and companies (or 'solvers' and 'seekers') has increased rapidly. The basic idea in intermediaries is that members of the community are ideating online together or individually and their ideas are further utilised in creating new solutions for companies.

Since the competition on customers on web is extremely tight, attracting members to online communities is challenging, and therefore, an online community has to attract members by offering them value in their every visit [7]. In order to do this, knowing members' motivations to visit [8], [9] as well as to participate and to contribute in online communities [2], [10] is important.

In building the community it is important to build a trusting relationship with members and increase their commitment. One possibility to strengthen the commitment of the members with the online open innovation community as well as to increase customers' motivations to participate and contribute in an innovation process is to reward them. A reward can be given directly to an individual or a group and it can be either monetary or non-monetary, such as recognition. One common way to use non-monetary rewarding is to have a list of top innovators on the web site. Some online open innovation communities, especially innovation intermediaries like CrowdSpirit and FellowForce or companies behind innovation challenges are also giving monetary rewards to developers of the best ideas or innovations.

However, there are some conflicting results concerning motivation and monetary rewards. In fact, classic research in social psychology suggests that incentives might actually have a negative effect on ideation [11]. Amabile, Hennessey & Grossman [12] concluded that explicitly contracting to do an activity in order to receive a reward will have negative effects on creativity, but receiving no reward or only a noncontracted-for reward will have no such negative effects. Therefore, we were interested in finding out what is the role of monetary and non-monetary rewarding in motivating members in open innovation communities and what type of rewarding is appreciated by the members.

2 Purpose of the study and methodology

This case study aims to find out *what is the role of rewarding in open innovation communities for members and what type of rewarding can be used to motivate members to contribute to ideation in online open innovation communities.*

We first review related work and then we discuss briefly rewarding and motivation. We also summarise the rewarding mechanisms of selected existing online open innovation communities. After that, we present the results from a case study of three online open innovation communities including the results from a questionnaire conducted with the community members. Finally, we present our conclusions.

The cases of this study are FellowForce, CrowdSpirit and Owela, which are open innovation communities and which act as innovation intermediaries. We have gathered data from the maintainers by semi-structured interviews and from members of the communities by a survey. This multidisciplinary study is a path opening in studies considering rewarding in online open innovation communities. In addition to serving

academia, the study gives practical implications on the type of rewarding mechanisms which are relevant to the users. Implications are useful to the increasing amount of open innovation intermediaries in the Internet as well as for companies who are building or planning to build their own innovation communities.

3 Related work

First step in understanding rewarding in open innovation communities is to consider the reasons why customers participate and contribute in online communities. Studies on why people visit, join, participate and contribute in different kind of online communities have been made from different perspectives. We focus our review to studies related to open source software communities, peer-to-peer problem solving communities and volunteer work in Wikipedia.

3.1 OSS communities

One of the interesting perspectives is provided from the viewpoint of OSS (open source software) communities where people are working in a voluntary basis without receiving direct compensation. Although some of the participants are getting their salaries from the companies, the basic idea of OSS has been traditionally based on free work and still often is. Hars and Ou [13] divided OSS members' motivations into two broad categories: internal factors (e.g., intrinsic motivation, altruism) and external rewards (e.g., expected future returns, personal needs).

Lakhani and Wolf [14] studied participants in F/OSS communities and their study indicated that paid contributors dedicated significantly more time (51%) to projects than volunteers. Furthermore, contrary to experimental findings on the negative impact of extrinsic rewards on intrinsic motivations [15], Lakhani and Wolf found that being paid and feeling creative on F/OSS projects does not have a significant negative impact on project effort.

3.2 Problem solving communities

Wiertz and Ruyter [16] studied motivations of collective action in firm-hosted commercial online communities. In these communities customers interact to solve each other's service problems. They extend the model of social capital by Wasko and Faraj [9] to include the impact of commitment to both the online community and the host firm and reciprocity on quality and quantity of knowledge contribution. They studied moderating influence of three individual attributes on contributions: perceived informational value, sportsmanship and online interaction propensity. They find that customer's online interaction propensity, commitment to the community and the informational value perceived by customer in the community are the strongest drivers of knowledge contribution.

Recently Harper et al. [17] studied the predictors of answer quality on Question and Answer (Q&A) sites, such as Yahoo! Answers, on the Internet. Q&A sites are places, where users ask questions and other users answer them. Some of the sites are free and some are based on requiring a payment and paying a fee to the answerers. In their study they found that the answer quality was typically higher in fee-based sites than in free sites

and paying more money led to better outcomes. They also found that site's community of users contribute to its success. In their study sites where anybody can contribute to answering outperformed sites with specific individuals answering the questions.

Furthermore, Kittur et al. [18] studied Amazon's community for micro-task markets called Mechanical Turk where small tasks can be assigned to the large community of users. The community offers a potential paradigm for engaging a large number of users for low time and small monetary costs. Since the tasks in Mechanical Turk are often very simple and do not demand creativity, it can be assumed that one of the main motivators to contribute is money. They concluded that in aim to gain quality answers it is important to formulate tasks carefully.

3.3 Volunteer work in Wikipedia

Nov [10] has studied content contributors of Wikipedia to find out what motivates them to offer their time and talent in return for no monetary reward. Motivations associated with high or low levels of contribution were also studied. Clary et al. [19] identified six motivational categories of volunteering behaviour: values, social, understanding through learning experience, career, protective and enhancement. Nov's study included these and also two categories from open source software development, namely fun and ideology. Social, career and enhancement were not found to be strong motivations for contribution in Nov's study. Surprisingly, contribution level was not significantly correlated with ideology and social motivations, which indicates the conflict with people's statements and actual actions. In Table 1 we summarise the studied motivations to participate in online communities.

Table 1. Summary of the studied on motivations to participate in online communities [20]

Motivations to participate in online communities	Authors
Altruism	Aalbers (2004)
Care for community, attachment to the group	Aalbers (2004); Kollock (1999)
Enjoyment, fun	Aalbers (2004); von Hippel and von Krogh (2003)
Firm recognition	Jeppesen and Frederiksen (2006)
Friendships, relationships, social support	Hagel and Armstrong (1997); Ridings and Gefen (2004)
Ideology	Nov (2007)
Interesting objectives	Amabile 1983; Hagel and Armstrong (1997); Ridings and Gefen (2004); Wasko and Faraj (2000)
Knowledge exchange, personal learning, social capital	Antikainen (2007); von Hippel and von Krogh (2003); Wasko and Faraj (2000); Ridings and Gefen (2004); Gruen, Osmonbekov and Czaplowski (2005)
Monetary rewards	Aalbers (2004); Wasko and Faraj (2000)
Need, software improvements, technical reasons	Aalbers (2004); Ridings and Gefen (2004); Jeppesen and Frederiksen 2006; Kollock (1999)
Peer recognition	Lerner and Tirole (2002), Hargadon & Bechky (2006)
Reciprocity	Aalbers 2004, Kollock (1999)
Recreation	Ridings and Gefen (2004)
Reputation	Aalbers 2004; Bagozzi and Dholakia (2002); Dholakia, Bagozzi & Pearo (2004); Kollock (1999), Hargadon & Bechky (2006), Rheingold (1993)
Sense of efficacy, influencing	Bandura (1995); Constant, Kiesler & Sproul (1994); Kollock (1999)

4 Rewarding as a way to motivate online community members

4.1 Defining rewarding

In this paper we follow the dictionary definition for the term “rewarding” using it to depict the occasion when “1) something is given in return for good or evil done or received or that is offered or given for some service or attainment, 2) a stimulus administered to an organism following a correct or desired response that increases the probability of occurrence of the response” (Merriam-Webster's online dictionary, retrieved 3.2.2008).

When speaking about rewarding members some authors as well as practitioners prefer using the term “incentives” [21]. Examples of different rewards are approval, paychecks, trophies, money, praise, attention, grades, scholarships, prizes, food, awards, honor-roll lists, public recognition and privileges. These are also examples of extrinsic motivators.

4.2 Motivation and its relation to rewarding

Rewarding can be divided into monetary (tangible) rewarding and non-monetary (intangible) rewarding (also called as recognition). Monetary rewards can for example be money, paychecks, fees, trophies and awards. Non-monetary rewarding may be the member's name in honor-roll lists or top ten lists, giving privileges and public recognition. Within psychology, the research by Deci [22] and Lepper et al. [23] have presented results where expected monetary rewards tend to reduce intrinsic motivation whereas praise and other positive verbal feedback tend to increase it. Studies regarding rewarding and its relation to intrinsic motivation have suggested that extrinsic reward for intrinsically interesting activity has a negative effect on future intrinsic motivation [21]. Several studies have found that expectancy and tangibility of reward are the types of rewards that decrease intrinsic motivation when person expects a reward for a completed task. However, widely accepted theories on the relationship between motivations and rewarding do not exist currently [24].

Regarding online open innovation communities the idealised picture seems to be that members' contribution is related primarily to intrinsic motivation, like fun, ideology and challenges. This would suggest that no monetary rewards would be needed and only non-monetary rewarding or unexpected rewards would be satisfactory for the members. However, it can be questioned to what extent this is true and how much is it about actually a combination of both intrinsic and extrinsic motivation and expectancy to be rewarded for work well-done for agreed set of rules. In the light of the rewarding models used in successful open innovation intermediaries, like InnoCentive, it seems reasonable to assume that multiple and varying types of motivations are present and members may also have multiple simultaneous goals behind their participation. If this is true, a combination of both monetary and non-monetary rewards would be optimal for members.

Comparisons on different rewarding mechanisms

We studied the current ways of rewarding in twelve open innovation intermediaries by visiting their web sites. Our results are summarised in Table 2. The used non-monetary rewards consist of the different kind of ranking lists and announcement of the competition winners. Monetary rewards include money and products. In part of the communities money is given for the challenge winners, and in some of them money and products were given for achieving certain level of points or even by raffling. Some intermediaries have their own currency, which can be changed to the real world's currency.

Table 2. Rewarding mechanism in reviewed innovation intermediaries

Community	Non-monetary rewards	Monetary rewards
FellowForce – www.FellowForce.com	Fellow of the month, Fellow Ranking	Money
CrowdSpirit – www.CrowdSpirit.com	Top Five List	Money
Owela – owela.vtt.fi		Products
NineSigma – www.ninesigma.com		Money
InnoCentive – www.InnoCentive.com		Money
IdeaWicket – www.ideawicket.com	Top rating list for ideas	Money, products
Kluster – http://kluster.com		Watts (own currency)
Ideacrossing – www.ideacrossing.com	Last year's winners, Ranking of competitors. Judges get their profiles published, access to network of judges	Money, products
Yet to come – www.yet2.com		Money
Cambrian House - www.cambrianhouse.com	Weekly winners, champions	Money
Vator Tv - www.vator.tv	Last competitions winners, Recent winners	Money
Tynax – www.tynax.com		Money

We can see that all studied open innovation communities used monetary rewarding and most of them also non-monetary rewarding. Kluster has also been recently launched which may explain the lack of non-monetary rewards. In the case of other communities lacking non-monetary rewards (InnoCentive, NineSigma, Yet to come and Tynax) some explanation may be the nature of the community. In other words, if the community is for top experts and includes a high confidentiality level, it might be a reason why non-monetary rewards are not publically used.

5 Case study design

5.1 Methodology, participants and settings

This study is an empirical case study of three online open innovation communities, namely CrowdSpirit, FellowForce and Owela. We gathered the data by interviewing maintainers of the communities and by a questionnaire of the community members. Semi-structured interviews of the maintainers were done by phone and they were recorded. Recordings were transcribed afterwards as notes.

Interviews lasted approximately one hour covering questions related to the current rewarding mechanisms and future plans for rewarding and motivating members. In addition we asked about their view on relationship between rewards and motivation to participate. Secondly, we conducted a web survey based on our acquired knowledge based on the interviews as well as the literature study. Thirty FellowForce members and fifty CrowdSpirit members were contacted by email and asked to participate in the survey. In addition, the questionnaire was linked to the online open innovation community Owela and marketed in Owela's newsletter which was sent to its members.

To study what kind of recognition and rewarding is important to the members of the communities we based our questionnaire on the findings of the earlier studies, on the analysis of the rewarding mechanisms currently used and ideated also some new ways of rewarding.

5.2 Brief descriptions of the case communities

5.2.1 CrowdSpirit

CrowdSpirit (www.CrowdSpirit.com) is focused on electronics design. Many users would like to design and to innovate tailor-made gadgets and get them manufactured for themselves. The founders and maintainers of CrowdSpirit have built toolkits for users to submit their designs and ideas. Similarly, CrowdSpirit includes tools to comment and vote different designs. For visualisation, CrowdSpirit provides mindmaps which illustrate product ideas with proposed features.

Winning designs are funded by the members of the community - and after prototyping and beta testing; the project group will continue working with the product idea. In a sense, Crowdsourcing acts a mediator between enthusiastic users and manufacturing companies. Lately, CrowdSpirit changed its business model so that instead of also participating in the development and industrialisation process of the products, now CrowdSpirit is involved only in the design process.

5.2.2 FellowForce

FellowForce (<http://www.FellowForce.com>) is an innovation marketplace and an intermediary that enables companies to submit innovation challenges to solvers. Solvers provide suggestions (pitches) to a challenge and best solvers are rewarded. Unlike other services, like InnoCentive (<http://www.InnoCentive.com>) and NineSigma (<http://www.ninesigma.net>) FellowForce allows solvers to submit their own pitches to companies. Normally, the best pitches that match those challenges are rewarded with money.

The collective creativity is realised in the Innovate Us –functionality of FellowForce. This functionality allows any company or organisation to use FellowForce as an open suggestion management system. Any registered participant may submit an idea or innovation but also view the responses of other users, if this feature is turned on. In addition, FellowForce also offers products to companies to launch their own co-creation platforms on their web sites.

5.2.3 Owela

Owela (<http://owela.vtt.fi>) is a participatory web laboratory for designing digital media products and services. It aims to be a conversational web community that connects users with developers and researchers and promotes open innovation. Owela offers social media tools for gathering user needs and development ideas as well as collecting feedback for scenarios and prototypes.

At the moment Owela consists of so called IdeaTube and TestLab, as well as a blog, chat and recommended bookmarks. In IdeaTube users may participate by commenting the descriptions and visualisations of different situations, needs, ideas, scenarios and prototypes. In TestLab the prototypes of future products and services can be tested in beta phase, and the users are expected to give feedback and development ideas. Owela has been used in research projects as an innovation platform as well as studies conducted for companies, for example in a usability testing of web sites.

5.3 Results from the maintainers' interviews

About the motivations to participate, FellowForce maintainer stated that professionals and experts do not want to compete; they only participate when it is fun to participate or when they want to show how good they are. He stated that

“Experts only participate in such contests where the contest itself is the driver...”

Therefore, in niche areas, where the amount of experts is really limited, it is remarkably easier to attract professionals than in broader areas where competition is extremely tight. The evidence of this is seen in such open innovation communities as InnoCentive and NineSigma, which both have been successful in forming a committed user community.

For the same reasons FellowForce is now shifting its business model from a *community* perspective to a *portal* perspective, enabling connection with companies who are running challenges on their own web sites. Also CrowdSpirit has widened its business model by differentiating consumer and company business models. In the new model, businesses can also test their ideas and preliminary concepts in CrowdSpirit. In Owela, the maintainer expressed that learning and feel of influencing are important motivation factors to participate in the ideation process.

When asking how important monetary rewarding is, CrowdSpirit maintainer answered that

“First motivator is not money; it is mistake to participate if it is. The idea is that you will not become rich from your ideas, but you basically just get some reward in return.”

Yet, FellowForce maintainer said, that the bigger the sum of the money is, more there are participants, which is quite a natural reaction. In CrowdSpirit and FellowForce financial rewards are given to the best ideas. In Owela product prizes are raffled among for example people filling the questionnaire. All the interviewees agreed that currently rewarding mechanisms are not in a key role in their communities, but they are continuously working on them in aim to develop them further. It was also expressed by one of the maintainers that knowing different member groups' motivations to participate is needed in order to plan a rewarding strategy.

Furthermore, we asked which maintainers considered more important at this moment - monetary or non-monetary rewarding. They could not answer directly, but FellowForce maintainer stated as follows:

“I prefer to use words ‘satisfier and dissatisfier’, if the money is not enough, it is a dissatisfier, you will loose motivation - ranking is only a satisfier (it can only be positive).”

Yet, all agreed that combination of monetary and non-monetary rewarding seems to be the best way to reward and motivate members to contribute into ideation and innovation process. It was also said that the bigger and more demanding the task is, the bigger the reward should be.

6.3 Results from survey

6.3.1 Who responded to the survey?

There were 49 responses to our survey. 45 (91%) of the respondents were males. The average age of the respondents was 37 years (avg 36,76, std 11,57, min 19, max 64). Almost half of the respondents were members in CrowdSpirit (49%, 24 respondents), 16,3% (8 respondents) in FellowForce, 24,5% in Owela (12 respondents) and 10,2% (5 respondents) in other online open innovation communities.

6.3.2 Importance of recognition and rewarding

An overview of the respondents' opinions on maintainers' recognition and rewarding is shown in Table 3. Over half of the respondents state that some form of recognition, like top ten lists, encourages them to participate in the community. 62,6% state that monetary rewarding encourages them to contribute to the ideation. 24,5 % of the respondents agree with the statement that they are not interested in any kind of reward, whereas 63,3 % disagree with this statement, which is supporting the previous claim on importance of rewarding.

Table 3. Members' opinions on the importance of recognition and rewarding.

	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>
Maintainers' recognition (non-monetary rewarding) encourages to participate.	57,2 %	28,6 %	14,2%
Monetary rewarding encourages to contribute.	62,6 %	22,9 %	14,6 %
Not interested to get any kind of reward on contribution.	24,5 %	12,2 %	63,3 %

6.3.3 Ranking lists

Table 4 presents respondents opinions on ranking lists, one form of non-monetary rewarding. Ranking list by the quality of ideas is favoured by the respondents (31,3 % very important, 35,4 % important way of rewarding). Ranking lists by activity or by number of presented ideas are not seen as important ways of rewarding by the respondents.

Table 4. Members' opinions on importance of ranking lists

	<i>Not imp.</i>	<i>Of some imp.</i>	<i>Important</i>	<i>Very imp.</i>
Ranking list by activity.	24,5 %	44,9 %	24,5 %	6,1 %
Ranking list by the quality of ideas.	10,4 %	22,9 %	35,4 %	31,3 %
Ranking list by the number of presented ideas.	38,8 %	40,8 %	14,3 %	6,1 %

6.4 Public acknowledgement

Respondents were also asked to give their opinion on importance of various forms of public acknowledgement. Table 5 summarises respondents' opinions on importance of making active contributors visible to others. Announcing the awarded members on the website is seen as very important (28,6 %) or important (30,6 %) by respondents. Acknowledging the most active member of the month is not seen important (36,7 %) or to be of some importance (38,8 %). Introducing active community members on the website is seen mainly as not important (20,4 %) or of some importance (42,9 %).

Table 5. Members' opinions on importance of public acknowledgment on the website

	<i>Not imp.</i>	<i>Of some imp.</i>	<i>Important</i>	<i>Very imp.</i>
Announcing awarded members on the website.	12,2 %	28,6 %	30,6 %	28,6 %
Acknowledging the most active member of the month.	36,7 %	38,8 %	12,2 %	12,2 %
Introducing active community members on the website.	20,4 %	42,9 %	24,5 %	12,2 %

6.3.4 Monetary reward

Table 6 presents respondents' opinions on importance of giving a monetary reward for best idea or innovation and on prizes raffled between participants. 44,9 % of the respondents see monetary reward for best idea or innovation as very important way of rewarding and 24,5 % of respondents see it as important. Prizes raffled are not seen as an important way of rewarding. 24,5 % of respondents see it as not important and according to 46,9 % of respondents it is only of some importance. Respondents favour monetary reward for the best idea or innovation over all other types of rewarding or recognition mechanisms.

Table 6. Members' opinions on importance on monetary rewarding.

	<i>Not imp.</i>	<i>Of some imp.</i>	<i>Important</i>	<i>Very imp.</i>
Monetary reward for best idea or innovation.	10,2 %	20,4 %	24,5 %	44,9 %
Prize raffled between participants.	24,5 %	46,9 %	16,3 %	12,2 %

7. Conclusions and discussion

First, we pursued to find out what is the role of rewarding in open innovation communities. Based on the data, it seems that rewarding definitely has an essential role for the respondents of our survey. The survey results indicate that monetary rewarding is important as well as recognition according to the quality of ideas. Members also appreciate that rewarded members are announced on the web site.

Activity in the community as a measure for rewarding or acknowledging can be seen as problematic by the survey respondents, since activity does not necessarily have a relation with contributing with ideas to the challenges or the quality of contributions. Respondents' opinion on relying on number of presented ideas may also be related to the fact that activity even in the form of number of ideas is not either a guarantee for the quality of contributions. These may be the reasons for not favouring rewarding or acknowledging members based on activity or number of presented ideas.

It seems natural that people want to get paid for their time and effort. A lot of research has been done on open innovation and user innovation [2], [4] (e.g. von Hippel, Jeppesen) on peer-to-peer communities and also to companies on firm-hosted communities. However, these communities are often based on certain type of enthusiasm, hobbyism or even are brand-related. It seems that users' behaviour is not similar in cases when an open innovation community is run by an intermediary, whose business model is based on the members of the community ideating or innovating and revealing their ideas to challenges given by external companies.

Secondly, we considered what type of rewarding can be used to motivate members to participate in open innovation communities. The interviewees pointed out the importance of comparing monetary and non-monetary rewards as well as stressed the need to understand the motivations of different groups of members. The web search indicated that both rewarding methods are currently used in many open innovation intermediaries. In fact, all of them are offering monetary rewards.

Non-monetary rewards are often a cheap and a fairly easy to be realised in open innovation communities. All what is needed is to include the top ten lists or corresponding systems on the web sites. Yet, careful planning is needed for building a rewarding system based on giving points and it needs understanding of what is experienced as a fair way to reward by the members of the community.

In the future answering to the challenges in open innovation communities may even be one way to work without any commitments to an employer but rather working as a free expert or "free-lancer". In such case, the importance of getting reasonable rewards naturally plays a major role.

The users do want something in return, when they participate and contribute into innovation processes. In online open innovation communities run by intermediaries this has been realised and many of them have taken various rewarding mechanisms into use. A special characteristic of intermediaries is that users often do not have an existing relationship with the company they are ideating for. More research on this area of open innovation should be done to understand the motivations of members for participating and rewarding them.

Our research represents a path opening in this field, yet in aim to understand rewarding in different types of open innovation communities also larger and longer established communities run by intermediaries with various types of business models should be studied. More research should be done to gain a deeper understanding of the factors affecting participation and on the types of recognition and rewarding mechanisms that the members appreciate. It also has to be taken into account that people's motivations and goals when participating and contributing are not straightforward. It would also be interesting to analyse the relationship between people's real action and what they say.

We aim to continue our analysis of the collected data, for example on motivations to participate in open innovation communities, and also on different factors affecting user experience in the open innovation communities.

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