



Motivating and discouraging factors for Wikipedians: the case study of Persian Wikipedia

Motivating factors for Wikipedians

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Abstract

Purpose – The purpose of this paper is to investigate how Wikipedians are motivated, or discouraged, to contribute to Farsi (Persian) Wikipedia.

Design/methodology/approach – In this grounded theory study, face-to-face semi-structured interviews were conducted with a sample of 15 active users of Persian Wikipedia. The interviews then were transcribed and coded using Strauss and Corbin's method which included constant comparison of data.

Findings – Editing and writing incentives, as well as deterrents, were extracted from the data. Findings indicated that motivating factors can be classified into two categories of internal and external. Internal motivations could be individual or cognitive motivations or be related to Wikipedia structure. Also, some factors such as permanent access to the internet can be considered as external motivations for contribution to Wikipedia. On the other hand, content production and improvement of Wikipedia in local language was the strongest reason for contribution; entertainment was the weakest motivation. Positive feedback from other users can be the strongest factor that encourages users to stay in Wikipedia and continue their contribution.

Originality/value – This is the first study on Persian Wikipedia and one of the few qualitative studies on Wikipedia. It proposes a new categorization of encouraging and discouraging factors for Wikipedians.

Keywords Iran, Social networks, Internet, Web sites, Farsi, Wikipedians, Social collaboration, Motivation (psychology), Persian Wikipedia

Paper type Research paper

1. Introduction

Interactive Web 2.0 technologies have considerably helped people to communicate and have social interactions (Almeida *et al.*, 2007). Wikipedia has played a very important role in enriching web content in many languages, as it is not only a popular tool for knowledge sharing but also a point to start tracking information on a less known topic or even sometimes a reliable resource for citation. Wikipedia has a large and varied audience and for many researchers it is a useful and unique source of information (Medelyan *et al.*, 2009). Although the accuracy and reliability of Wikipedia has been doubted by many librarians and scientists (Kittur *et al.*, 2007; Cohen, 2007), the rich content and other features have brought it in the short list of useful reference resources in libraries (Schachaf, 2009).



Studying Wikipedia can be helpful for librarians for a few reasons. It is a widely used reference source. It is among Web 2.0 technologies that are supposed to be implemented in Library 2.0. Wikipedia also uses a form of crowd sourcing. These features make studying Wikipedia relevant and useful because it helps librarians understand the involvement of users in content generation. Librarians increasingly try to involve users in their activities and take advantage of their energy for different purposes such as knowledge organization using folksonomies. Therefore, Wikipedia is potentially a research topic for library and information professionals.

While Persian Wikipedia achieves a considerable rank amongst more than 280 other language Wikipedias, little is known on how this online source is developed and reviewed. No comprehensive research has been done to reveal the behaviour of its Wikipedians. The focus of this research is to explore and identify the motivations and discouraging factors of Persian Wikipedians for contributing in Persian Wikipedia (Fa.Wikipedia). More precisely, this research aims to find out about motivations for writing and editing in Persian Wikipedia, discouraging factors towards contribution, reasons for continuing or giving up contributing in Wikipedia. This paper seeks answers for these questions:

- What are the motivating factors for joining and starting to contribute in Fa.Wikipedia?
- What are the encouraging and discouraging factors for continuing contribution on Fa.Wikipedia?

2. Background

One of the main characteristics of Wikipedia is how its content is produced and peer reviewed. Regular encyclopaedias and other reference resources are often considered to be the contribution of experts in a particular field, produced to be used by other experts or average users. Such traditional definitions and contribution methods are inadequate for describing Web 2.0 phenomena such as Wikis, in which the content is produced and modified by average users. A survey of Wikipedia readers and contributors has shown that up to 70 per cent of Wikipedia participants have a primary, secondary or tertiary (undergraduate) educational level (Glott *et al.*, 2010).

With 23 million articles as at June 2012 and more than 15.2 million users in more than 280 languages, Wikipedia claims to be the largest world-wide encyclopaedia ever built (Wikipedia Statistics All Languages, 2012). Millions of entries are now available in different languages all selected, written and edited by volunteers, known as Wikipedians. The life of a Wikipedian often starts with a desire to contribute after noticing links to Wikipedia on general search engines' top results. While any user can edit Wikipedia, more people prefer to make an account and start editing as a registered user. Besides checking watch lists and tracking changes made on favourite pages, Wikipedians communicate in different ways including on user or article talk pages. Some users have authority to moderate other Wikipedians and their edits. New entries are easily built; however, the main contribution of Wikipedians appears in editing and improving the content of existing articles. In this way, Wikipedia content grows gradually, and the quality of Wikipedia articles improves. In contrast, conflict of concerns may lead to "edit wars" in which two or more Wikipedians try to remove the opposite opinions through reversing undesirable edits. Another example of misconduct is copying and pasting content from web resources. This problem sometimes is

resolved by receiving feedback from other Wikipedians especially more senior members who warn about wrong edits.

Started in December 2003, Persian Wikipedia[1] was ranked 23rd among more than 280 Wikipedias developed in different languages in terms of the number of articles in 2011. In August 2012, Persian Wikipedia became the 20th largest Wikipedia and ranked ahead of neighbouring languages (Arabic and Turkish). Its depth index ($Edits/Articles \times Non-Articles/Articles \times Stub-ratio$) is 148 which makes it the seventh highest ranked among top-100 languages of Wikipedia[2]. Depth is a rough measure of quality and shows how frequently the articles are updated.

Persian or Farsi is an official language of Iran, Afghanistan and Tajikistan; however, it is spoken and understood in several other countries in the Middle East and central Asia. So far, the main contribution to the Persian Wikipedia has been made by Iranians, and while there are several languages such as Kurdish, Turkish and Arabic used more and less in Iran, Persian Wikipedia is commonly used by all Iranian natives. The small contribution of Tajik people in Persian Wikipedia might be because the Cyrillic alphabet was officially used in former USSR and it is still widely in use for formal writing in Tajikistan. Afghanistan has been involved in war for long years: few cultural activities have been taken place during the last few decades of war and regime change.

3. Literature review

As one of the popular collaborative projects on the web, Wikipedia has attracted much discussion and debate, and several aspects of it have been investigated by researchers. A few studies also investigated the nature and functioning mechanism of Wikipedia (Lange, 2008; Schaffert *et al.*, 2005; Völkel and Oren, 2005). Some studies have paid attention to the issue of collaboration in Wikipedia (McGuinness *et al.*, 2006; Forte and Bruckman, 2008; Wagner and Prasarnphanich, 2007). Several studies investigated its quality and credibility as an information resource (Chesney, 2006; Lih, 2004; Emigh and Herring, 2005; Rosenzweig, 2006; Stvilia *et al.*, 2008, 2009; Viegas *et al.*, 2004; Wilkinson and Huberman, 2007), some have questioned its credibility (Cohen, 2007; Kittur *et al.*, 2007) and some others supported it (Giles, 2006; Murley, 2008; Spoorri, 2007). A few studies (Schweitzer, 2008; Trotman and Alexander, 2009) have shown that it is used by students as a rich and easily available reference work. Its trustworthiness has been compared with famous encyclopaedias such as Britannica (Giles, 2006) and Encarta (Rector, 2008) and because of its particular characteristics some (Schachaf, 2009) have considered it as a valuable reference work.

A few studies also investigated authorship culture and issues in Wikipedia. Ciffolilli (2003) found that personal motivations such as self-satisfaction, self-efficacy, intrinsic drive to acquire knowledge and social motivations like a need for belonging, and a need to support a specific community, are the factors which encourage users to work with Wikipedia. Rafaeli *et al.* (2005) found that several cognitive (e.g. learning new things and intellectual challenge) and affective (e.g. pleasure) motivations are positively related to Wikipedia contribution.

Gender is an important factor for contribution on Wikipedia. Whether as readers or contributors, men are the dominant gender. A survey by Glott *et al.* (2010) revealed that 69 per cent of the readers are male; this rate rises to 86.7 per cent for the contributors. The study also showed that half of the contributors are 22 years old or younger. Cohen (2011) explains the gender gap in Wikipedia where female-oriented topics are fewer

than male-oriented ones not only in case of the number of articles but also in the number and length of paragraphs.

Kuznetsov (2006) considered Wikipedia as a large-scale project of online collaboration, and identified five factors—altruism, reciprocity, community interest, reputation, and autonomy—that motivate Wikipedians.

Nov (2007) studied Wikipedians' motivations for contributing to Wikipedia according to Clary *et al.*'s (1998) framework. He extracted six motivations and called them protective, values, career, social engagement, understanding, and enhancement motivations. He suggested two more categories addressing Wikipedians' motivations: fun and ideology. His study results indicated that fun and ideology were the top two factors, and that social engagement, career and protecting were not strong motivations.

Another study conducted by Auray *et al.* (2007) on French Wikipedia compared registered users and passer by contributors' motivations for cooperating. The results showed that average contribution of passers is twice that by registered users. However, registered users are more willing to undertake structural reforms than to produce and create contents.

Forte and Bruckman (2008) offer an explanation of the motivations behind editors' participation in the community. They interviewed 22 Wikipedians and results showed very similar reasons for contributing to those of the scientific community. They also found out that the attribution of authorship in Wikipedia is indirect, while it is direct in the scientific community. Based on Klanderman's (1997) model, Schroer and Hertel (2009) assessed the motivation for contribution to German Wikipedia. They identified getting satisfaction and sense of usefulness, and finding identity in Wikipedia community and also getting feedback of other Wikipedians as the motivational factors that led to continue corporation.

Hoisl *et al.* (2007) examined a social rewarding technique, focusing on the most active members in the Wiki community, and found that social rewarding technique motivates users to participate actively in knowledge sharing and money cannot be used as a motivating factor. Similarly Antikainen *et al.* (2010) found that monetary rewards are not always the best way to motivate contributing users. Instead, contributors appreciate many intangible factors, such as mass collaboration and learning new ideas.

In contrast to the studies that have assessed the motivation for contribution, Jian and MacKie-Mason (2008) studied the reasons why people leave Wikipedia. They found that earlier adopters tend to stay for longer and that higher edit frequency leads to higher likelihood of quitting. A survey by Glott *et al.* (2010) also revealed that people avoid contributing on Wikipedia primarily because they feel uncertain about the information then can contribute or simply because they do not feel it is necessary to make a contribution.

Most of the studies reviewed focused on English Wikipedia for its world wide use and popularity. No study has been done on smaller Wikipedias such as Persian, in which a lot of other elements, e.g. those related to nationality and ethno-cultural factors, may play a role. This study is the first to explore Persian Wikipedia and is one of the few qualitative studies on the subject.

4. Methodology

This research follows a qualitative approach in which grounded theory (Corbin, 1986) has been used for an in-depth analysis of the views. Grounded theory was used because the research has an exploratory nature and its questions can best be answered using qualitative methods.

4.1 Sampling

The research sample was composed of 100 active Persian Wikipedians chosen through a non-probability purposive sampling regardless of their demographic characteristics such as gender and age. The choice of this sampling method was due to methodological considerations as well as research limitations. It is difficult to obtain a list of all Persian Wikipedians and therefore there is no defined sampling framework. Without a clear sampling framework, calculation of sample size and probability sampling is not possible. Not all the contact details of all Wikipedians are available on the Wikipedia. We needed to contact people for the interview and we wanted to focus on active Wikipedians in order to obtain more data on the interactions and activities. Therefore, we chose purposive sampling. The list of active Wikipedians based on the number of downloads was used to obtain the list of a hundred active Persian Wikipedians. Then using Tool Server[3], which shows the last changes in the number of active Wikipedians and the most edited articles, 35 Wikipedians who were inactive during July 2011 (the data collection period) were removed and e-mails were sent to the remaining 65 active Wikipedians asking for their permission for interviews.

4.2 Conducting interviews

Out of 65, 33 Wikipedians agreed to cooperate initially, and one withdrew later. Six participants agreed to be interviewed face-to-face and 26 agreed to be interviewed by e-mail. Interview by e-mail is also a relatively new and accepted data collection method (Meho, 2006). E-mail interviews were conducted in two rounds, but only 12 were completed after two rounds of reminders. Apparently, some of the Wikipedians were less familiar or interested in responding non-multiple choice questions which required writing in-depth answers and they gave up completing and returning the interview questions. In total, 18 interviews were conducted and data saturation was reached after the 15th interview; however, three more interviews were conducted in order to make sure about the saturation of the data.

Interviews were semi-structured. Face-to-face interviews were recorded using a digital recorder and fully transcribed after the interview and coded and initially analysed. Notes were written during the analysis. Face-to-face interviews lasted about one hour in average. The interviews consisted of several questions through which the research objectives were answered. The main questions asked during the interviews were as follows:

- How did you learn about and become familiar with Wikipedia?
- How often do you visit and how much do you edit in Fa.Wikipedia?
- Do you consider yourself as an active, average or less active Wikipedian?
- Have you stopped and restarted your participation on Fa.Wikipedia?
- What are the motivating factors encouraging you to keep editing on Fa.Wikipedia?
- Have you faced conflict with other Wikipedians? What are the causes for edit warring?

4.3 Trustworthiness of research

Trustworthiness in qualitative research implies that the research should be credible, transferable, dependable and conformable. We took measures proposed by Lincoln and Guba (1985) to ensure that our research was trustworthy. These measures are similar to

the ones suggested in other sources such as Hoepfl (1997) and Golafshani (2003). The measures included: adhering closely to all procedures and rules of grounded theory; spending enough time for research; validating interview data by interviewees after transcribing; having the research process approved by experts; obtaining inter-coder reliability by using a second coder for a few interviews (double-coding); writing memos and notes during the research process; showing the findings of the research to a few Wikipedians (who did not take part in this study) and asking for their opinion; recording the research process in detail and writing memos.

4.4 Data analysis

Data analysis was done along with data collection. Each interview was initially analysed before conducting the next interview. Based on the standard process of grounded theory, interviews were coded in three stages: free, axial and selective coding. During free coding, interviews were carefully read and themes were extracted and coded freely using either the interviewees’ terminology or concepts chosen by the researchers from the interviews (Eaves, 2001). In axial coding, codes were categorized and links were established between them. Categories were also compared to make sure they were not identical (Corbin, 1986, p. 105). For example, all codes relating to motivating factors were organized under a single section. In selective coding, all themes and concepts were integrated and final codes were selected.

5. Findings

As mentioned in Methodology, the final number of interviewees who agreed to participate in the research was 18. The research reached saturation after the interviews from 15 Wikipedians were coded and analysed. As a result, the remaining three interviews were ignored. Table I summarizes the demographic features of the 15 respondents whose interviews led to the research output and model. Two (13.3 per cent) interviewees were female and the other 13 respondents (86.6 per cent) were male. The average age of interviewees was 29 years and the length of their contribution in Wikipedia ranged between nine and 76 months.

Interviewee code	Age	Gender	Education	Occupation	Length of activity (month)
W1	26	M	BSc	Computer engineer	76
W2	29	M	–	–	24
W3	23	M	BSc	Postgraduate student	41
W4	–	M	MSc	Librarian	75
W5	34	F	BSc	Engineer	52
W6	39	M	AA	Librarian	40
W7	32	F	–	–	23
W8	45	M	BSc	Engineer	31
W9	27	M	–	Business sector	32
W10	52	M	PhD	Faculty member	65
W11	32	M	BSc	Computer programmer	9
W12	–	M	PhD	Research assistant	67
W13	36	M	PhD	Faculty member	43
W14	37	M	PhD	Faculty member	42
W15	22	M	BSc	Postgraduate Student	12

Table I. Demographic features of the interviewee Wikipedians

5.1 *Categorisation of Wikipedians*

An in-depth analysis of the semi-structured interviews showed that Persian Wikipedians have different reasons for their contributions. To have a better understanding of the motivations, it is important to categorize the Wikipedians. Based on the characteristics of interviewees as well as the descriptions extracted from the content of the interviews, a few types of Wikipedians could be identified as follows:

- (1) those who accidentally start contributing in Wikipedia and leave it after a few edits;
- (2) those who contribute in Wikipedia for at least a few months; and
- (3) those who become addicted to Wikipedia and do not leave it.

This may not be a precise description of all the different types of Wikipedians but it complies perfectly with the characteristics of the studied Wikipedians. Their contributions were either continuous or interrupted. Usually, the interruption or continuation of contribution to Wikipedia was due to different motivations. Another classification divides the Wikipedians into two categories: active and inactive.

As mentioned in the Methodology section, a quantitative description of active users on Wikipedia involves tracking their edits. In the other words, to understand whether a Wikipedian is active or not, it is necessary to know how often s/he edits and how many edits s/he makes as well as how recent his or her last contribution is. In contrast, as discussed in the interviews, a more qualitative definition of active Wikipedians requires measuring not only the number of their edits but also the quality of their edits. Persian Wikipedians consider both quantity and quality of participation when judging about active and inactive participants.

5.2 *Joining Wikipedia*

The interviewees were first asked how they became familiar with Persian Wikipedia. The majority of them mentioned searching on major search engines, especially Google, and finding Wikipedia articles among the top results as the origin of their curiosity for learning about Wikipedia. For example, Interviewee No. 14 mentioned:

I learned about Wikipedia by chance. I was a PhD student and used to spend long time in the Web searching Google for my studies. Normally, the top search results included snippets from Wikipedia. English Wikipedia gained more attention because little results were available in Persian. Altogether, I became a Wikipedian after following accidental search results. It looked a weird environment first; but gradually I found useful articles there which encouraged me to contribute.

It can be said that including Wikipedia in top search engine results, especially in Google, is an important way Wikipedians start to know and participate in Wikipedia.

The structure of Wikipedia can be a stimulating factor towards editing. Interviewee No. 6 notes:

I think the existence of “edit” button on Wikipedia pages is basically an encouraging factor to start editing, as you might think many other people want to edit this page at the same time. This stimulates one’s temptation for editing.

5.3 Motivations for contribution

Many reasons might be mentioned as the motivations for contribution in Wikipedia. To understand what motivations encourage or discourage contributing in Persian Wikipedia, the interviewees were asked about their very first edits and the feelings or feedback they had after that. This question was used in order to find out the core motivations for becoming interested in this project. Four groups of motivations were distinguished as follows:

- (1) motivations for editing the existing contents;
- (2) motivations for starting new topics and articles;
- (3) accelerating motivations; and
- (4) decelerating motivations.

Interviewee 14 explained the motivations in more detail according to the types of Wikipedians:

The first groups are those whose intention is purely writing scientific articles. The next group use Wikipedia as a media to publish their views, and a smaller group participate to help the Persian Wikipedia keep continuing. The first group usually do not fall in edit warring and usually they turn to less active users after a shorter or longer period as they have no more scientific content to add to Wikipedia. The second group always face with banned access but they fight more. And the third – small – group are those who try their best to make a good environment for the first group by controlling and even fighting the second group.

5.4 Summary of motivations and affecting factors

An in-depth analysis and coding of the comments from the interviewees led to a large set of phrases and factors. To make a better sense from them, the main ideas were extracted, ranked and combined wherever it was necessary. Finally, the common notes with higher frequencies were selected as the top motivations and affecting factors. Table II shows top motivations and affecting factors for taking part and editing Fa.Wikipedia.

6. Proposed model of factors affecting Wikipedians' contribution

While analysing interviews and listing all motivating and discouraging factors mentioned by interviewees, it gradually became clear to us that the factors can be divided into a few categories, besides abovementioned categories. To make it easy to understand this categorisation of the factors, we drew Figure 1 that shows the factors affecting Persian Wikipedians' contributions.

Two main categories of factors, internal and external, affect the contribution of the Persian Wikipedians. Accordingly, the proposed model also consists of two parts. The inner layer shows the internal environment of Wikipedia and the outer layer shows the environment outside of Wikipedia.

The top semicircle includes encouraging factors, i.e. those internal and external factors that encourage a user to keep contributing in Wikipedia. A user might start editing in Wikipedia for several reasons. At first and when he or she is not familiar with Wikipedia yet and has no idea about it, personal motivations such as curiosity, advertisement in the media and in the school, and recommendations from friends can stimulate a person to become more interested in Wikipedia. Furthermore, ranking

<i>Motivations for joining</i>	<i>Motivations for editing</i>
Simple structure of Wikipedia	Stimulating nature of Wikipedia
Lack of Persian contents on the web	Temptation for publishing own thoughts
Welcoming behavior of Wikipedians	Patriotism and competition
Finding Wikipedia in top search engine results	Starting topics that do not exist
Citing Wikipedia in scholar articles	Improving existing articles
Mentioning Wikipedia on different web sites	Knowledge and idea sharing
Reading articles from Wikipedia	Removing incorrect contents
Curiosity	Promoting Persian language
	"Edit this page" easy to use button
<i>Encouraging factors for continuing</i>	<i>Discouraging and aborting factors</i>
Competition with other language Wikipedias	Edit warring
Promotion of Persian language	Internet low speed in filters
Felling to be useful and creative	Unfriendly behavior of (senior) users
Gaining identity and reputation	Complex and difficult architecture of Wikipedia
Being paid attention to by senior Wikipedians	Sociocultural issues
Group work and collaboration	Lack of research attitudes in schools and academia
Assisting new members and experience sharing	

Table II.
Motivations and affecting
factors for taking part and
editing in Fa.Wikipedia

Wikipedia articles in top search engine results, offering Persian content, and allowing writing and editing in local language as well as personal feelings such as patriotism and ethno-linguistic exaggerated patriotism can provide strong motivations for starting to learn more about Wikipedia and making a contribution in it.

After starting to contribute, the primary external motivations get replaced with new ones: the inner Wikipedia motivations. The former motivations mostly reflected the external intents and situations such as peer recommendation, search engine results and ethno-linguistic concerns. The latter motivations however are emerged from the culture and situations inside the Persian Wikipedia environment. As shown in Figure 1, personal motivations such as knowledge and experience sharing, receiving help from other users and becoming more familiar with the structure of Wikipedia are important motivations for continuing to contribute in this project. In addition, cognitive motivations such as identity – or reputation-seeking in Wikipedia and personal satisfaction are also important to keep continuing participation in Persian Wikipedia. Other encouraging factors include enriching Persian web content, starting new topics and content production, as well as competition with Wikipedia in other languages.

After starting to edit Wikipedia, there are lots of reasons and factors for reducing or discontinuing contribution. In fact, the results of the research revealed that some of these internal and external factors will strongly affect the contribution of people in Persian Wikipedia. Figure 1 summarizes these items in the lower semicircle. The dynamic structure of Wikipedia in which everyone is allowed to write, edit and delete the topics is a controversial model of content development. Many rules and guidelines are provided in Wikipedia which frustrate the attempts of new inexperienced Wikipedians. Although personal beliefs and concerns (such as socio-political views, religion, language, ethnic and national exaggerated patriotism) may be a motivation to start writing and editing, they are also more likely to lead to editing wars and, as a result, frustration and discontinuation (which is why exaggerated patriotism is on the border line). Other reasons for not continuing in Wikipedia can be summarized as follows:

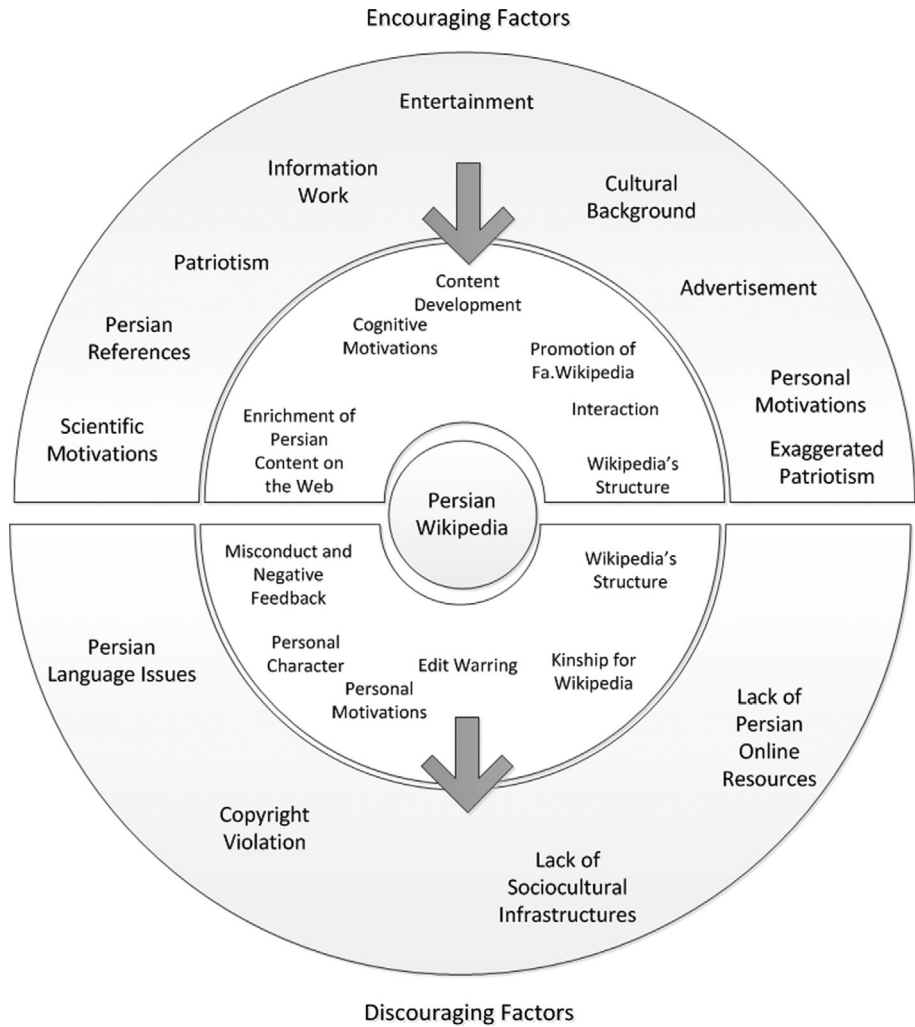


Figure 1.
Model of factors affecting
Wikipedians' contribution

- lack of time to contribute to Wikipedia;
- finding other web-based entertainments; and
- being impatient and lacking tolerance for criticism.

While the welcoming behaviour of older users can encourage new participants in continuing their cooperation with Wikipedia, their strict and demanding behaviour leads to the point where many users will want to stop or reduce their presence in Persian Wikipedia.

External discouraging factors which often lead to reduction or termination of contribution in Wikipedia includes:

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- issues with Persian script;
 - sociocultural characteristics, e.g. lack of research-based teaching instruction and preference for ready-to-use information;
 - strict rules against mass copying and copyright violation; and
 - small size of Persian web content and a shortage of online Persian references.

In general, contribution to Wikipedia follows a sine curve and faces fluctuations. For Iranian users, an important issue is having access to a stable high-speed internet connection. Slow or unstable access to the internet can discourage users from accessing Wikipedia. Another observation for Persian Wikipedia is the small portion of active Wikipedians compared to the total number of registered users. Although the total number of registered users on Fa.Wikipedia is reached 300,000 in August 2012 (Wikipedia, 2012), only 2,411 were active during the that month (0.08 per cent).

7. Discussion

In this research, the main encouraging and discouraging factors of contribution in Persian Wikipedia were addressed. Using a qualitative approach, in-depth interviews with some active Wikipedians showed that internal and external factors can draw people to Persian Wikipedia or force them to leave. Similar to the findings of Hoisl *et al.* (2007), this research showed that financial motivation has no impact in contribution in Wikipedia as it is basically a non-profit project.

7.1 Motivation for contribution in Fa.Wikipedia

Extraction and categorisation of the motivations for volunteer contribution in Persian Wikipedia (Fa.Wikipedia) was the goal of this research, and both encouraging and discouraging factors for continuing participation were studied. Analysis of the factors can help find problems and suggest solutions.

For a new user, curiosity and personal information needs can be the stimulant for starting contribution. Normally, the objectives such as enrichment of Persian content on the web arise later as the user continues to participate in Wikipedia. After becoming a senior Wikipedian, objectives and preferences might change. Unlike Auray *et al.* (2007), our research showed that when users become more familiar with the structure, goal and culture of Wikipedia, they tend to participate more in Wikipedia. Again unlike Antikainen *et al.* (2010) and Nov (2007), entertainment and disruptive editing are the weakest motivations for active Wikipedians. In contrast, article writing and development of Wikipedia are the strongest motivation for experienced users.

While the motivation for contribution is different for junior and senior Wikipedians, both groups are concerned with the way other users treat their activities in Wikipedia. Wikipedians welcome new members with friendly behaviour. Respectful behaviour of other members encourages Wikipedians to continue their work and to share their experience with less experienced members.

Personal intentions are the weakest motivation for new people to join Wikipedia. They are mostly stimulated with external factors such as recommendations and so on.

Beside the encouraging factors, the Wikipedia users are faced with discouraging signals such as lack of tolerance and negative feedback from other users. The longer users make contributions to Wikipedia, the more experience they gain, and the more

likely they are to continue contributing. New members do not have this experience; therefore, they might leave Wikipedia after a few attempts.

Compared to Rafaei *et al.* (2005), who mentioned emotional, cognitive and hybrid motivations as the most encouraging factors for contribution in online environments, our study also emphasised personal feelings such as pride of nation and language, as well as cognitive factors, i.e. knowledge and information production. Similarly, Ciffolilli (2003) also distinguished difference between personal and social motivations of the Wikipedians in their contributions. Our study also shows that ethno-linguistic, national and scientific concerns are strong motivations for editing Persian Wikipedia.

7.2 Continuing or discontinuing motivations

After becoming involved in Wikipedia, the users need strong motivations in order to keep contributing. Feeling useful, gaining experience, social acceptance and forming an identity are personal emotional factors that encourage the users to continue their contributions in Wikipedia. Schroer and Hertel (2009) also found out that feeling useful and having identity in Wikipedia community as well as the feedbacks from other Wikipedians are encouraging factors for continuing to participate in Wikipedia. Becoming a member in a larger like-minded group, finding new friends, enjoying Wikipedia's purpose and style, and receiving warm feedback from the other users especially the expert seniors are other encouraging factors for current Wikipedians to keep their connections with Persian Wikipedia.

Personal advantages, especially user promotion in Wikipedia and becoming an Administrator, Bureaucrat or Steward, can encourage more participation and editing by the user. This is coordinated with Ciffolilli's (2003) findings in which ethical motivations or personal promotion and popularity were among the encouraging factors for longer and more precise contributions in Wikipedia.

In contrast to the factors that encourage users to continue their cooperation, there are elements which discourage the users to continue their collaborations. Being afraid of making a change in Wikipedia content, impatience, annoying rules and regulations for editing and a difficult editing environment are the main decelerating factors. External factors such as internet access problems, sociocultural issues and lack of research attitude among Iranian students can be considered as the elements which stimulate current users to reduce their time and edits or to leave Wikipedia permanently.

8. Conclusion

The research revealed that a combination of different factors may affect the way Persian Wikipedians contribute in Fa.Wikipedia. In summary, it can be concluded that inner Wikipedia structure, personal issues and external factors can disturb the contribution of Persian Wikipedians. Jian and MacKie-Mason (2008) also emphasised hopelessness and disappointment as the feelings that discourage the users on Wikipedia. In addition to this, our interviews revealed that misbehaviour of the users, aggressive and unfriendly behaviour of senior Wikipedians and editing wars are impacting factors which lead some contributors to stop their work on Persian Wikipedia.

It has been reported that 80 per cent of the Wikipedia content has been produced by only 2.5 per cent of the users. More precisely, one per cent of Wikipedians have produced half of the Wikipedia content (Rafaei *et al.*, 2005). The size of active contributors on Persian Wikipedia is less than 1 per cent as was discussed above. These statistics point

to the fact that Wikipedia suffers from the lack of an effective mechanism to encourage its users to keep their connections with project. Average users will find themselves surrounded by many rules and guidelines immediately after they start to write in Wikipedia. On the other hand, many online users are not knowledgeable about encyclopaedias and how to write a neutral article with proper references. In fact, they might leave Wikipedia after having their edits rejected or manipulated immediately. We note that a research-based educational system can increase the number of people who know what to write and how to write. Only two female interviewees participated in our study and no specific difference was found in terms of motivations between males and females. However, as previous studies (Glott *et al.*, 2010; Wilson, 2011) suggest, there are generally fewer women contributing in Wikipedia compared to men. The reason for this trend merits more investigation.

Since Wikipedia is among widely-used reference sources of information (Schachaf, 2009) and it is extensively used by students, librarians need to get more involved both in the development of Wikipedia and in promoting it in academic environment, especially as there is a need for more contribution by academics (Corbyn, 2011) in order to improve the quality and credibility of Wikipedia. Wikipedia is one of the most successful Web 2.0 technologies and it uses the power of crowd, something that librarians can learn from to effectively engage their patrons in libraries' activities. There are still issues about Wikipedia and Wikipedians that need to be studied, for example, one can study to see if there is any significant interlingual or intercultural difference in terms of the nature and dynamic of contributing in Wikipedia.

There are limited sources similar to Wikipedia available for Persian speaking communities. Most of the Wikipedians on Fa.Wikipedia are Iranians whose first or second language is Persian. Only a few active users from other Persian speaking countries such as Afghanistan and Tajikistan are participating in this project. It seems that more sociocultural work is needed to attract non-Iranians to Persian Wikipedia.

The amount of the web content in Persian language is not comparable with that of languages such as English, Spanish or Chinese. However, open sources such as Persian Wikipedia can provide a basis for the rapid publication of Persian contents and consequently the growth of Persian web content.

Notes

1. Persian Wikipedia or Fa.Wikipedia are used for same meaning in this paper: <http://fa.wikipedia.org>
2. http://meta.wikimedia.org/wiki/List_of_Wikipedias
3. <http://toolserver.org/~gribeco/cgi-bin/toprecent.cgi>

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