



# What user-innovators do that others don't: A study of daily practices



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## ABSTRACT

This paper argues that innovation behavior roots in specific socio-psychological set-ups that crystallize in daily practices and routines. The latter are easy to observe and have great potential for the identification of user-innovation behavior. We study the practices and routines of Russian user-innovators around media consumption, internet and technology-usage, consumer preferences and civic engagement in comparison with a sample of mere users. The derived model correctly classified 73% of the original grouped cases of user-innovators. We conclude that a set of practices relative to the certain economic, social and cultural background explains user-innovation engagement and how support could be provided. Although some of our findings are probably specific to Russia, the results are encouraging for further research into the importance of practices and routines in identifying user-innovators in various environments.

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## 1. Introduction

Early works on user-innovation asked how industrial products could emerge out of customer ideas (von Hippel, 1978). Ever since, industry-specific studies showed that without user-innovation, eighteenth-century iron smelting (Allen, 1983), modern day mining (Nuvolari, 2004), advanced medical equipment (von Hippel and Finkelstein, 1979), semiconductor process equipment (Lim, 2000), library information systems (Morrison et al., 2000), embedded Linux software (Henkel, 2003), etc. would not have been possible. The importance of user-innovation has largely been argued through efficiency of product development (Hiernerth et al., 2014) and benefits for national economies. Studies estimated the aggregate spending of user-innovators to be in the tens of billions of dollars annually (e.g., de Jong et al., 2015; Gambardella et al., 2015). Especially sports enthusiasts showed a very high willingness for spending time and money in their most favorite pass of time (Hiernerth et al., 2011; Raasch et al., 2008).

To date, there is a number of studies focused largely on the demographics of user-innovators (e.g., Ogawa and Pongtanalert, 2011; von Hippel et al., 2012, 2011). Consequently, the list of countries in which studies on user-innovators have been conducted is increasing. Von Hippel et al. (2012) suggests a share of 6.1% of user-innovators among the UK's consumer population, making eight innovations (creations

and/or modifications) in three years' time. NESTA identified that 8% of UK consumers create or modify one or more products.<sup>1</sup> User-innovators in the US are estimated at 5.2% (Ogawa and Pongtanalert, 2011) and 5.4% in Finland (de Jong et al., 2015). Findings from Asia estimate the share of innovators lower, at 3.7% among users in Japan, or 1.5% in South Korea (Kim, 2015; Pongtanalert and Ogawa, 2015). The sample size of user innovators increases in special dedicated communities. Every fourth sport enthusiast was found to improve his or her equipment (see, for example, Franke and Shah, 2003 in four extreme sports; Lüthje et al., 2005 in mountain biking; Tietz et al., 2005 in kitesurfing, Raasch et al., 2008 on moth class sailing). The same enthusiasm was seen in other hobbyist communities, such as the Lego model building community (Antorini et al., 2012).

Another stream of research on user-innovators studied their motives (e.g. Stock, 2015). Especially for volunteer users, there is a drive to develop and improve their own skills (Hertel et al., 2003; Lakhani and Wolf, 2003; Lerner and Tirole, 2002; von Hippel and von Krogh, 2003). A new and emerging stream of literature now studied the personality traits of user-innovators (e.g. Stock et al., 2016). Although the findings are still rather rudimentary, this field holds exciting opportunities for future research. A specific aspect of user-innovation studies paid great attention to the diffusion channels that user innovators choose to share with peers or to commercialize their findings (de Jong

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<sup>1</sup> The UK surveys, though, covered user innovation at both individual and firm level, while the others focus only on individual's user-innovations.

et al., 2015; Ogawa and Piller, 2006; von Hippel et al., 2012). The share of user-innovators that diffuse their innovation has been estimated to be low, at around 12% (de Jong et al., 2015; von Hippel et al., 2011, 2012). This has been related to possible entrepreneurial opportunities the innovators intended to pursue. Others suggested that personality characteristics also have an influence on knowledge sharing (Matzler et al., 2008).

Contrary to these findings, data out of Russia revealed a much higher rate of sharing (Fursov and Thurner, 2017). These findings were argued to root in long-established practices in the day-to-day lives during the late Soviet Union, when goods supply in large parts of the country was at a sub-optimal level and user-innovation activities could play a role of a compensatory mechanism for non-market economic relations. This observed variation in sharing practices raises the question to which degree innovation-related actions are rooted in learned behavior more than in the psychological set-up of a person. Practices and routines form part of the life-world (Habermas, 1987), which defines the social and material “background” for action and represents the part of the public space a person can structure and influence. The concept of practice allows studying experiences of meaningfulness; as daily practice and routines are the processes through which humans interact with the world around them. Hence, sociological theories have paid great attention to such practices. For example, Bourdieu (1977, 1990) identified daily routines in the domestic space as socialization mechanisms into particular rules and orientations. Foucault (1980, 1982, 1984) looked at practices through a lens of a structural theory and considered ordering daily routines as an instrument to form permanent dispositions of human bodies and allow permanent social control. Garfinkel (1967) studied shared meanings that allowed smooth performances of everyday life, while Giddens (1984) studied the production and reproduction of social order through everyday routines. Practices can be considered as attributes to a certain social layer or community. Shove (2003) for example demonstrated that the practice of bathing turned into an elite marker and signalized membership of “ordinary society”. In relation to science and technology, daily practices have been conceptualized in terms of agency and actor-networks (e.g. Latour, 2005) and has been studied as particular characteristics of innovative behavior (Chernovich et al., 2015). Still, studying practices and routines as a phenomenon in its own right is relatively new (Highmore, 2002). If the topic of practices and routines is in the focus of academic research, the question is mostly about how such practices can be alternated in order to be more environmentally sustainable or socially acceptable.

### 1.1. Motivation of research and research question

In this paper we study a group of variables derived from daily practices of media consumption, social networking, internet usage, civic engagement and some others to test their discriminatory power between Russian user-innovators and a group of non-innovating consumers. This comes from previous findings showing that information and skills for user-innovation are task-dependent (De Jong et al., 2015; Lüthje et al., 2005; von Hippel et al., 2011) and user-innovators are to be close followers of important market trends (Von Hippel, 2005a, b). Also they are sophisticated users of technologies and related products (Lüthje et al., 2005; Morrison et al., 2000; Tietz et al., 2005). A specific interest rests on the use of Web 2.0 technologies through social networking sites, bulletin boards and online communities (Franke and Shah, 2003; Kietzmann et al., 2011; Ritzer and Jurgenson, 2010).

This paper follows the increasing interest in learning more about user-innovators in Russia and asks if practices of user-innovators considered as daily routines not directly related to innovation activities separate them from their non-innovating peers. As this study is based on a large data-set, our results also feed back into the ongoing debate about the characteristics of user-innovators. Previous studies on the demographics of user-innovators have already revealed striking differences between user-innovators in western countries vs Russia. For example,

data out of a Russian context suggest the presence of 9.6% of user-innovators, which far exceeds findings from other countries (Fursov and Thurner, 2017). This has been argued to be a consequence of the country's recent history and its geographic conditions. Life in Russia is greatly influenced by the country's harsh climate conditions and geographic distance between settlements. Providing supply to all Russians has been difficult and often Russians had to make ends meet. Furthermore, Russian user-innovators are actively sharing their ideas. Almost 50% of the user innovators engage in such sharing activities. If the older cohort is taken out, the number would be even higher (Fursov and Thurner, 2017).

Russia is also an interesting case as its user-innovators act largely outside classical commercialization channels. Despite 20 years of reforms and attempts of modernization, Russia's economy suffers from poor framework conditions such as low regulatory quality, questionable quality of institutions (Polischuk, 2013) or wrong incentives and stimuli resulting from flaws in Russia's corporate governance models (Enikolopov and Stepanov, 2013). This puts the experience of Russia in stark contrast to other developed economies, where the focus rests greatly on entrepreneurship (e.g. Franke and von Hippel, 2003; Shah and Tripsas, 2007). This absence of easily accessible entrepreneurial routes makes the Russian experience even more interesting as they serve as a guideline for the many other countries in the world that find themselves in a similar situation.

This paper studies people in urban and rural community environments that modify or develop goods or services for their own benefit. Thereby, the study follows ideas developed by von Hippel (2005a) and goes beyond conventional statistical frameworks which require a connection to market-based activities. As the debate on whether the current definition is suitable to accommodate users that share knowledge with a peer group or community of practice is ongoing, we believe that further insights also support including user-innovators (not only individuals) to the measurement framework (Gault, 2012).

### 1.2. Methodology

The data for this paper was derived from a large-scale survey in November 2014 within the framework of the HSE Monitoring Survey of Innovative Behavior of the Population (<http://www.hse.ru/en/monitoring/innpeople/>). The overall stratified sample consists of 1670 participants of 16 years and older, representative for Russia's population by age, sex, education level, region (at federal district level), and city size (Table 1). The sample excludes the Chechen and Ingush republics, five sparsely populated and hard-to reach regions (mostly Far North), very small settlements (<50 inhabitants), military, imprisoned and homeless people (around 4% of the total adult population). Data was gathered through face-to-face interviews with all of the 1670 participants. Selection bias for controlled social groups is not exceeding 0.03%. (Range of weight coefficients: from 0.295 to 2.224, total sum of weight coefficients 1670 on the overall sample size).

The interviews were followed-up by phone calls and logical controls of the final dataset to ensure consistent high quality. We targeted user-innovation on an individual level but not for ‘household sector innovators’ or unincorporated businesses (as suggested by Ferran, 2000).

The questionnaire covered the respondents' experience in user innovation. Following Von Hippel et al. (2011, 2012), Von Hippel (2017) we

**Table 1**  
Survey summary.

Total number of contacts	5528
Did not agree	1670
Did not fit	1650
Did not speak Russian	35
Could not respond	38
Ceased interviews	519
Successful interviews included to the initial dataset	1670

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