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Early adopters of new transportation technologies in Russia

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Actuality of the research



The number of registrations in car-sharing services in Moscow by the end of 2017 exceeded **1 million**, and the number of trips for the year reached 5.4 million



There are about **2000 electrocars** in Moscow at the moment



KamAZ will begin **serial production of an unmanned electric bus in 2022.**

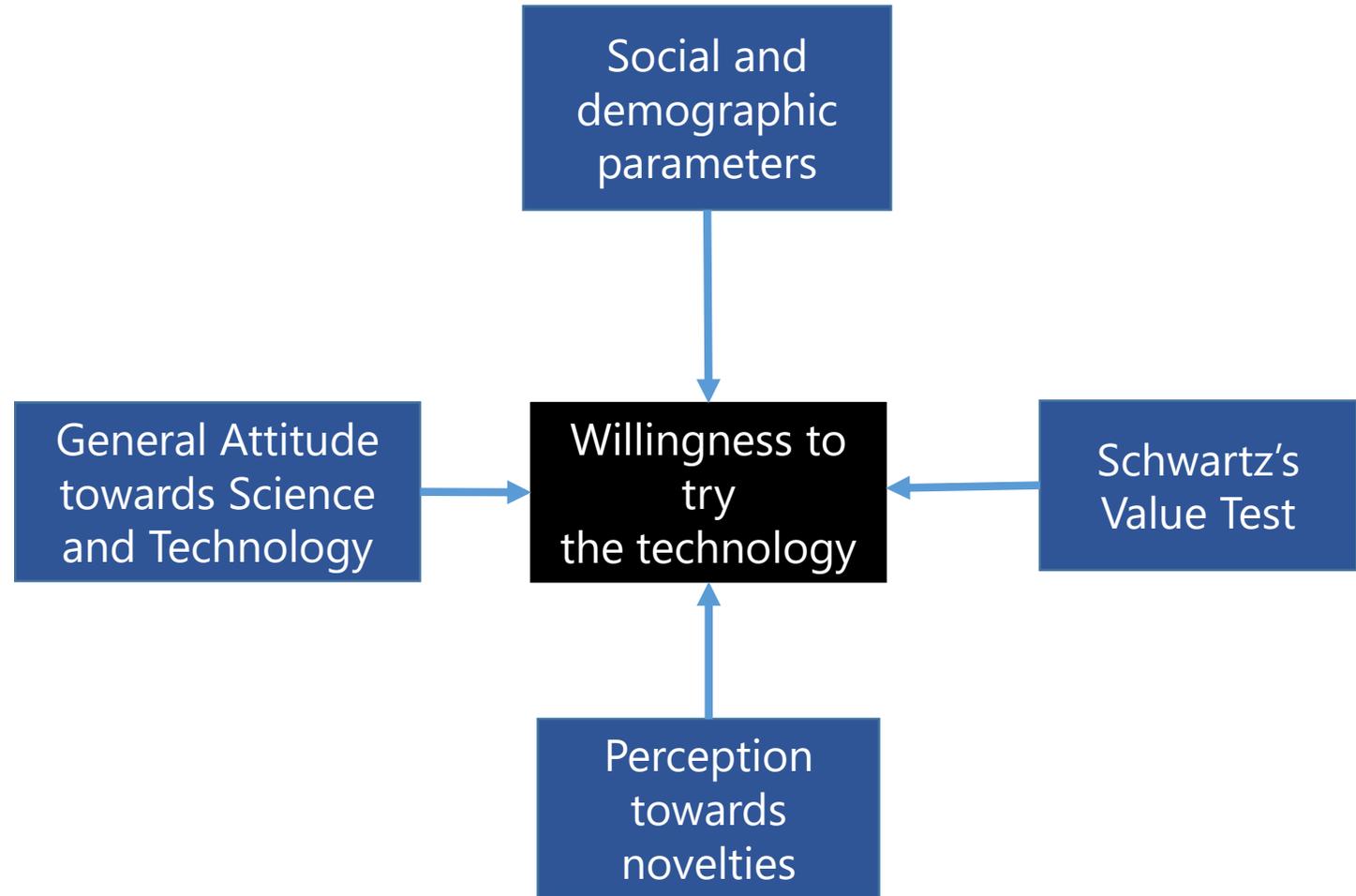
Theoretical approach

The willingness to try out technological innovations has been described as a **function of the perceived usability of technology**, its expected utility and other external factors (Davis, 1989), attitudes towards technology and experience of its actual use (Venkatesh, Davis 1996)

Siegrist's analysis (1999) suggests that the decision on the use of technology depends on the consumer's perception of the potential associated risks as well as on **the level of generalized trust in science**.

Methodology

Our paper studies the willingness to try out and use new transportation offerings. rather than e.g. willingness to pay. In doing so, we follow a long tradition of socio-psychological approaches to new technologies (e.g. Ben-Akiva et al., 2002; Kamargianni and Polydoropoulou, 2013; Bhat and Dubey, 2014).



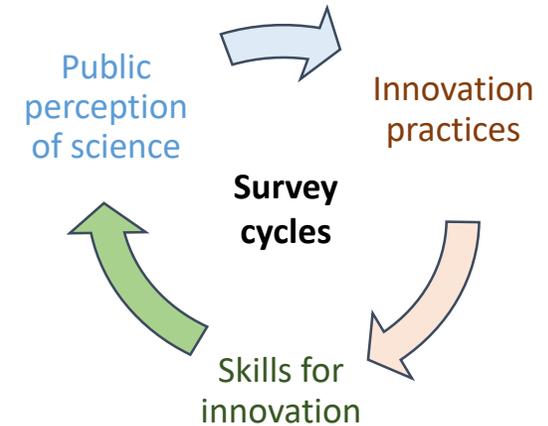
Monitoring survey of innovative behavior of population

Mission:

study on public perception of science & technology and engagement in innovation

International compatibility:

- Eurobarometer 335; 340; 401
- NSF 2012. 2014
- OECD 2013. 2015
- WVS 6



Surveys on public attitudes to S&T: 1996 – 2008



Average sample size: 1670 (in case with RLMS – 10000)
Survey type: home interview
Age: 16+
Representation: age, sex, education, region, city size

Data source



Large-scale population survey done in November 2015 (n=1671 of 16 years or older), representative of Russia's population with regard to age, sex, education level, region (at federal district level), and city size



The questionnaire included questions about the willingness to try out new transport technology. Each of the innovations was described and explained to the participants in greater detail.

Data analysis

- Method: binary logistic regression.
- Dependent variable – willingness to try new technology.
- Among independent variables– social-demographic characteristics; Schwartz's Value test; Attitudes towards S&T; Attitude towards novelties

Results

«Would you like to try the technology....?»



Electric cars 49 %



Car-sharing 29 %



Autonomous Driving 22 %

Findings

Parameter	Autonomous driving		Carsharing		Electric car	
	B	SE (B)	B	SE (B)	B	SE (B)
Age	-0,02***	0,98	-0,026***	0,974	-0,035***	0,966
Driver's license	0,22	1,246	0,245**	1,277	0,817***	2,264
Male	0,245**	1,278	0,005	1,005	0,304**	1,355
Higher education	-0,01	0,99	0,16	1,173	0,14	1,151
City	0,595***	1,813	0,429***	1,536	0,3**	1,35
Income	0,192**	1,212	0,076	1,079	0,259***	1,295
Swartz test: Self-Expression Values	0,262***	1,3	0,159**	1,172	0,221***	1,247
Swartz test: Conservative Values	-0,13**	0,878	-0,083	0,92	0,027	1,027
Attitude to S&T: believers	0,163**	1,177	0,161**	1,175	0,101**	1,106
Attitude to S&T: concerned about risks	-0,028	0,972	-0,002	0,998	-0,018	0,982
Attitude to S&T: alarmists	-0,03	0,97	-0,04	0,961	-0,122**	0,885
Attitude to novelties: early adopters	0,723***	2,061	0,821***	2,272	0,302**	1,352
Attitude to novelties: majority	0,002	1,002	0,123	1,131	0,201**	1,223
Attitude to novelties: laggards	-0,295	0,745	0,207	1,23	0,322**	1,38
Constant	-1,716***	0,18	-0,669**	0,512	-0,025	0,976
Pseudo R2	0,155		0,157		0,266	
N	1613		1613		1613	

*p < 0.05, ** p < 0.01, *** p < 0.001

Who are more open to new technologies?



Young people from 16 to 34 in general are more open to new technologies than older age groups



Men show greater interest in technological innovations than women



Residents living in large cities (the population of more than 500,000 people).



Those who have positive attitude to science show more interest in various new technologies.

Conclusion

- ❑ The presence **of self-expression values, a generally positive attitude to science and technology, as well as positive attitudes towards novelties**, have a strong correlation with the willingness to try out any of the transportation technologies
- ❑ We studied the willingness to try the transportation offerings in isolation from each other. Previous studies have shown, though, that users would switch their transportation choices only if two or more backup plans were in place (e.g. Firnkorn 2012).

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