The effect of government regulation in reducing Online Privacy Concern

REDETE2018 Banja Luka

B. Škrinjarić, J. Budak, E. Rajh[1]

[1]The Institute of Economics, Zagreb

13th April 2018

Motif for this paper?

- To explore behaviour of Internet users related to the level of privacy concern when online and what government regulations could do about it?

- Internet users often have limited knowledge and resources to protect their data so they might rely on institutional laws and regulations

- Perceived effectiveness of regulatory policies and their enforcement reduces consumer online privacy concern (Lwin, Wirtz & Williams, 2007)

General Data Protection Regulation (GDPR)

- The issue of personal information protection is additionally raised in the EU by introducing GDPR from May 2018 for EU member states and non-EU based companies operating within the EU

- Businesses and organizations will have to comply to e.g. the right to be forgotten; clear and affirmative consent to private data processing; privacy by design, data minimisation

- Internet users should give clear consent to collect, process, and use their data, and might withdraw the consent, require erasing personal data, cease further dissemination
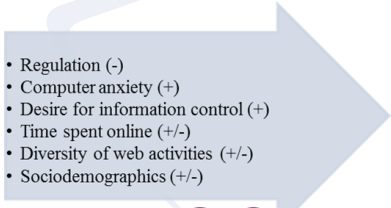
- What factors lay behind the perceived effectiveness of government regulations in protecting privacy online:
    1. Type and diversity of online activities
    2. Computer anxiety
    3. Individual desire to take the control over personal data usage when online
    4. Socio-economic characteristics of Internet users

- This research fills the gap and provides insight at the large sample of Internet users in the post-transition country, Croatia.

Data and model

- Data collected by a telephone survey in Croatia in 2016, at representative net sample of 2060 adult Internet users
- The following model is used

$$OPC_i = \alpha + \beta_1 REG_i + \beta_2 CA_i + \beta_3 CTRL_i + \gamma' X_i + \epsilon_i$$

- All of the latent variables used in the model above (OPC, REG, CA and CTRL) enter the equation in their standardized form, i.e., with a mean of 0 and standard deviation of 1

- Regulation (-)
- Computer anxiety (+)
- Desire for information control (+)
- Time spent online (+/-)
- Diversity of web activities (+/-)
- Sociodemographics (+/-)

Online privacy concern

Descriptive statistics

Variable	N	Mean	St. Dev.	Min	Max
Gender					
Male	1024	0.5	0.5	0	1
Female	1024	0.5	0.5	0	1
Age	2060	39.83	12.91	18	84
Number of people in household	2060	3.52	1.26	1	12
Education					
Primary or less	17	0.01	0.09	0	1
Secondary	1035	0.5	0.5	0	1
Tertiary	945	0.46	0.5	0	1
PhD or post-grad	63	0.03	0.17	0	1
Occupation					
Self-employed	42	0.02	0.14	0	1
Manager	44	0.02	0.14	0	1
Professional	616	0.3	0.46	0	1
Technician/clerk	373	0.18	0.39	0	1
Worker	508	0.25	0.43	0	1
Retired	180	0.09	0.28	0	1
Student	180	0.09	0.28	0	1
Unemployed	103	0.05	0.22	0	1
Other	14	0.01	0.08	0	1
Income of respondents' household					
2,500 or less	51	0.02	0.16	0	1
2,501-5,000	305	0.15	0.36	0	1
5,001-7,500	451	0.22	0.41	0	1
7,501-10,000	601	0.29	0.45	0	1
10,001-12,500	274	0.13	0.34	0	1
12,501-15,000	197	0.1	0.29	0	1
more than 7,500	181	0.09	0.28	0	1

Variable	N	Mean	St. Dev.	Min	Max
Region of the respondent					
Zagreb	544	0.26	0.44	0	1
West Croatia	262	0.13	0.33	0	1
East Croatia	387	0.19	0.39	0	1
Central Croatia	461	0.22	0.42	0	1
South Croatia	406	0.2	0.4	0	1
Place or residence size					
10,000 or less	279	0.14	0.34	0	1
10,001-50,000	731	0.35	0.48	0	1
50,001-100,000	311	0.15	0.36	0	1
More than 100,000	739	0.36	0.48	0	1
Time spent actively online	2060	3.22	2.87	0.5	24
Diversity of online activities	2060	9.05	2.68	1	15
Online privacy concern	2060	3.56	0.96	1	5
Degree of regulatory control	2060	3.06	0.6	1	5
Computer anxiety	2060	2.94	1.06	1	5
Control of personal information online	2060	4.56	0.57	1	5

	Version 1		Version 2		Version 3	
Degree of regulatory control	-0.051***	-0.019	-0.051***	-0.019	-0.049***	-0.019
Computer anxiety	0.427***	-0.019	0.423***	-0.019	0.423***	-0.019
Control of personal information online	0.298***	-0.019	0.297***	-0.019	0.312***	-0.02
Time spent online			0.009	-0.007	0.007	-0.007
Diversity of online activities			-0.018**	-0.008	-0.022***	-0.008
Male					0.021	-0.038
Age					-0.005**	-0.002
Household					0.011	-0.016
Education level (primary benchmark)						
Secondary					-0.392*	-0.208
Tertiary					-0.379*	-0.212
Post-grad					-0.177	-0.239
Occupation (self-employed benchmark)						
Manager					-0.204	-0.182
Professional					-0.253*	-0.139
Technician/clerk					-0.126	-0.139
Worker					-0.109	-0.139
Retired					-0.083	-0.152
Student					-0.309**	-0.15
Unemployed					-0.264*	-0.158
Other					-0.153	-0.26
Settlement size (10,000 or less benchmark)					No effect	
Income (2,500 or less benchmark)					No effect	
Region (Zagreb region benchmark)					No effect	
cons	0	-0.018	0.130**	-0.066	0.837***	-0.307
N	2060		2060		2060	
adj. R^2	0.2988		0.3001		0.3023	

Ordered probit results

	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Degree of regulatory control	0.001**	0.011***	0.016***	-0.010***	-0.018***
Computer anxiety	-0.006***	-0.081***	-0.113***	0.071***	0.129***
Control of personal information online	-0.004***	-0.064***	-0.089***	0.056***	0.101***
Time spent online	0	-0.001	-0.002	0.001	0.002
Diversity of online activities	0.000**	0.005***	0.007***	-0.005***	-0.008***
Male	0	-0.004	-0.005	0.003	0.006
Age	0.000**	0.001***	0.002***	-0.001***	-0.002***
Household	0	0	0.001	0	-0.001
Education level (primary benchmark)					
Secondary	0.003***	0.068***	0.142**	-0.02	-0.193*
Tertiary	0.003***	0.062***	0.135**	-0.016	-0.185*
Post-grad	0.002	0.038	0.095	0.003	-0.137
Occupation (self-employed benchmark)					
Manager	0.002	0.033	0.058	-0.021	-0.071
Professional	0.003**	0.048**	0.078*	-0.035***	-0.093*
Technician/clerk	0.002*	0.034	0.06	-0.022**	-0.073
Worker	0.001	0.021	0.04	-0.012	-0.051
Retired	0.001	0.019	0.037	-0.011	-0.046
Student	0.005**	0.074***	0.106***	-0.060***	-0.125**
Unemployed	0.004*	0.056**	0.087*	-0.043**	-0.104*
Other	0	0.002	0.005	-0.001	-0.006
Settlement size (10,000 or less benchmark)			No effect		
Income (2,500 or less benchmark)			No effect		
Region (Zagreb region benchmark)			No effect		
N	2060	2060	2060	2060	2060

- The model was tested with OLS and Ordered Probit Estimation

- Results confirm that perceived effectiveness of government regulation reduces privacy concern online

- All three social-psychological factors (perceived degree of regulatory control, computer anxiety and control of personal information online) showed to be of statistical significance

- Computer anxiety has the strongest (positive) impact to online privacy concern

Conclusion

- The perceived quality and effectiveness of regulatory framework is one of the major determinants of online privacy concern of Internet users, so businesses should take this opportunity and turn it to their competitive advantage

- Companies and managers should clearly communicate their compliance to the privacy regulations to ensure customers that their personal data are well-protected and safeguarded

- Breaches in privacy protection of data which are collected and used by government agencies could permanently ruin the public trust in the national regulatory framework

Future research

- GDPR is expected to have strong impacts on business but it is too early to see if it would change as well the attitudes of citizens, consumers, Internet users

- The analysis could be expanded to other countries by applying the same survey methodology to provide comparable data in the cross-country study

- All these interesting questions remain to be further explored in an Extended Model of Online PRIvacy CONcern (PRICON)

Thank you for your attention!

We would appreciate any questions/comments!

For any further questions/comments, please contact us by e-mail:

bskrinjaric@eizg.hr
jbudak@eizg.hr
erajh@eizg.hr

This work has been fully supported by Croatian Science Foundation under the project 7913.