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THE HIGH-TECH ELITE? ASSESSING VALUE PRIORITIES OF TECH WORKERS USING THE EUROPEAN SOCIAL SURVEY 2012-2020

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Introduction

Tech workers creating and maintaining the internet and its applications – are increasingly viewed as an influential force affecting the social, political, and economic aspects of both, the communities they live in and the society at large. Their influence stems from the technologies they create as well as through their growing financial and cultural capital (e.g. Morozov, 2014; Thompson, 2019). Our reading of the literature examining tech workers as an influential force suggests that it rests on two main propositions. First, that this group is indeed distinct, and, second, that it has an impact, being it in the realms of technology, economics, politics or culture. In this paper, we want to tackle the assumption of tech workers' uniqueness by examining what, if anything, makes them distinct. We do this deductively, through the lens of the theory of individual basic values (Schwartz, 2012), utilizing the European Social Survey (ESS) data for the years 2012-2020.

Combining conceptual and methodological approaches from psychology of values, science and technology studies, as well as labor and innovation economics, our goals in this project are threefold. First, we want to map the values of the tech workers compared to the general population. Then, we want to understand to what extent the values of the tech workers differ from values of other occupational elites. Finally, we want to examine how those values vary among people working in ICT, focusing particularly on developers as a sub-group.

Relevant literature

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The growing interest in the tech workers as a “class for itself” (Brockmann et al., 2021, p. 1) is driven primarily by observations about the political (Broockman et al., 2019), economic (Wolf & Terrell, 2016), and technological (Thompson, 2019) impact of people working in the tech industries. Against this background there are strong calls for a closer look at the production side of the technological world (Torpey, 2020).

A number of studies suggest that tech workers are unique in their value priorities. Studies making such claims tend to be qualitative (e.g Neff, 2012), focus on attitudes (as opposed to the underlying values; e.g. Broockman et al., 2019) or on hand-picked sets of values without a comprehensive theoretical framework (e.g Brockmann et al., 2021); they also mostly focus geographically on the US. If we are to decipher the impact of the tech workers on the world, we need a clearer and more comprehensive mapping of the value systems held by members of this occupation across geographic contexts.

The link between values and occupations isn’t new. Prior research suggests, for example, that preference for stability is more important to routine workers such as bookkeepers and secretaries, while values related to autonomy are more central to occupations that demand more creativity such as artists and engineers (Knafo & Sagiv, 2004). Different occupations were also found to be related to political preferences (Kitschelt & Rehm, 2014).

Inspired by those findings, we build on Schwartz’s taxonomy of basic values as a validated approach to assess value orientations at an individual level, to ask how the values of tech workers differ from those of the general public as well as among people working in tech. The taxonomy, which can be used at a number of levels of aggregation, organizes value orientations along two orthogonal axes of Openness to Change vs. Conservation and Self-Transcendence vs. Self-Enhancement (Schwartz, 2012).

Methods

We use data from the ESS - an established, representative, longitudinal, and geographically diverse dataset about the European citizens (ESS, 2022). Specifically, we use the ESS data for the years 2012-2020.

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Since its inception the ESS has consistently captured Schwartz's basic values and allows for both a nuanced and an aggregated analysis of value tensions. Further, the ESS captures respondents' occupation in a standardized, high-resolution manner. This allows us to identify people working in tech as "ICT specialists" using established statistical definitions, and consequently identify a sub-group of "Developers". We view the latter as distinct from other ICT specialists whose task is to maintain technological systems as opposed to designing and building them out. Finally, the ESS contains questions that capture the sociosemographics background of the respondents, including age, gender, education and income.

Utilizing a set of OLS regressions, we estimate value preferences of ICT Specialists and Developers relative to the average population and relative to other occupational elites. All of these analyses are utilizing country and ESS-round fixed effects, to isolate the effect of occupation from geography and time. Further, each analysis is repeated with the socio-demographic control, in order to account for the composition of occupations.

Early findings

Some of our early findings (Table 1) reify existing research depicting tech workers as having a distinct set of values (Brockmann et al., 2021). Compared to the general population, irrespective of time and location, tech workers tend to prioritize openness to change compared to conservation, and to value self-enhancement.

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Table 1: ICT specialists as predictor of values relative to the rest of the population - controlled model

VARIABLES	(1) Openness-to-change	(2) Conservation	(3) Self-enhancement	(4) Self-transcendence
ICT Specialist	0.04**	-0.10***	0.08***	-0.00
	(0.02)	(0.02)	(0.02)	(0.01)
Age	-0.02***	0.02***	-0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
Education (years)	0.01***	-0.02***	0.00***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
Gender (female=1)	-0.09***	0.10***	-0.16***	0.12***
	(0.01)	(0.01)	(0.01)	(0.01)
Income decile	-0.00	-0.01***	0.02***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.24**	-0.19**	-0.25**	0.04
	(0.11)	(0.09)	(0.11)	(0.08)
Observations	34,308	34,307	34,307	34,310
R-squared	0.05	0.10	0.20	0.18

All models include country and ESS-round fixed effects.
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Another set of early findings further complicates empirical understanding of the values of the tech workers, thus advancing extant research. On the one hand, we demonstrate that the overall makeup of values of the tech workers is similar to that of other occupational elites. On the other hand, a number of nuances preclude us from making a blanket statement. First, if we unpack the self-transcendence composite measure, we see that ICT specialists tend to value outgroup-oriented self-transcendence (universalism) more than the general population; the opposite dynamic holds true for in-group-oriented self-transcendence (benevolence). This is a unique tension as in other occupational elites those two values change in the same direction. This dynamic hints at

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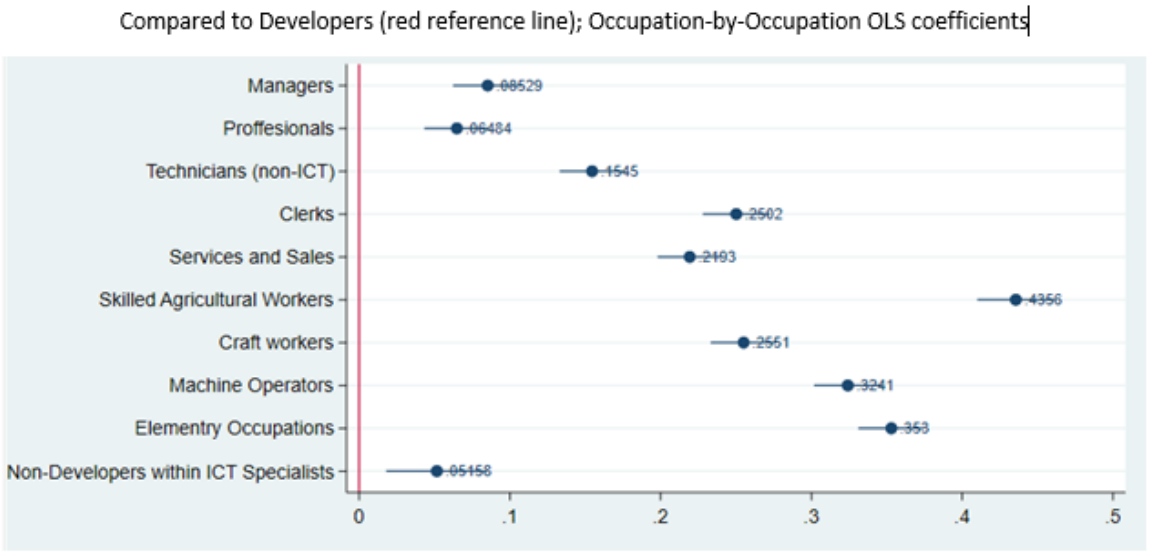
a more cosmopolitan orientation of "making the (broader) world a better place," rather than focusing on the immediate community. Second, we uncovered heterogeneity within ICT specialists where Developers appear more extreme in their tendency to negatively value conservation and positively value self-enhancement. Such heterogeneity paints Developers as substantively different from other occupational elites and other ICT specialists (e.g. Figure 1).

Figure 1: Conservation, by occupational group (major ISCO groups)



Model includes country and ESS-round fixed effects; 95% Confidence Intervals

Finally, including socio-demographic controls in the model weakens the correlation, suggesting that the human makeup of the tech workers (predominantly educated young males) is an important factor shaping this occupation's values.

Preliminary conclusions

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Despite the preliminary nature of the findings and the inherent limitations of a deductive approach to the study of values, as well as working with self-reported data, our project already points at potential takeaways for research, policy, and education. For researchers, it offers an empirical basis and a conceptual framework for further examination of the basic values of the tech workers, especially as they attempt to understand the role of those values in the normative impact of the tech industry (Torpey, 2020). For policymakers, this work offers systematic, quantitative evidence for the need to diversify the tech industry, both as a way to acknowledge its role in alleviating socio-demographic disparities and to strengthen and broaden ethical considerations in technology design (e.g. Jean-Baptiste, 2020). For educators, it highlights the importance of engaging with ethics during the training of future generations of technology developers or in the workplace (Friedman & Hendry, 2019). We plan on further developing those thoughts in the full paper.

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SHORT ABSTRACT

Using data from the European Value Survey 2012-2020 and Schwartz's theory of basic values, this paper aims to map the value priorities of people working in tech compared to the general population, understand to what extent those value priorities differ from value priorities of other occupational elites, and how they vary among tech workers, focusing particularly on developers as a sub-group. Our preliminary findings suggest that compared to the general population, tech workers tend to prioritize openness to change and to value self enhancement. We also demonstrate that when viewed as a single group, the overall makeup of values of the tech workers is similar to that of other occupational elites. Yet, the dynamics between individual values among the tech workers differ from those of other occupational elites and when we separate Developers from other ICT specialists, the Developers appear more extreme in their tendency to negatively value conservation and positively value self-enhancement. Our preliminary results offer potential takeaways for research, policy, and education.

KEYWORDS
tech employees, developers, diversity, ESS, values

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