efl quarterly

04 | 2019

An eft – the Data Science Institute Publication



the Data Science Institute

Digital Structural Change and the Welfare State in the 21st Century

Chatbots Become Human(like):
The Influence of Gender on Cooperative
Interactions with Chatbots

Regional Political Climate and Individual Investors' Portfolios

The Regulatory and Legal Challenges of Blockchain Technology







Impressum

Redaktion Prof. Dr. Peter Gomber Dr. Jascha-Alexander Koch

Herausgeber
Prof. Dr. Wolfgang König
Vorstandsvorsitzender des E-Finance Lab
Frankfurt am Main e. V.
Prof. Dr. Peter Gomber
Stellvertretender Vorstandsvorsitzender des E-Finance Lab
Frankfurt am Main e. V.

Kontakt info@eflab.de www.eflab.de

Gestaltung Novensis Communication GmbH Bad Homburg

4. Ausgabe, 2019

Auflage: 200 Stück (Print) / 2.000 Stück (E-Paper)

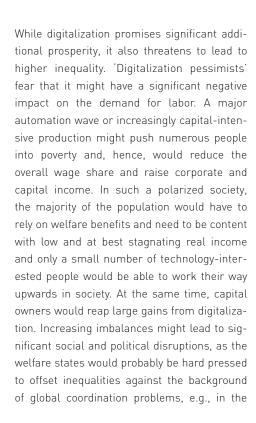
Copyright © by E-Finance Lab Frankfurt am Main e. V.

Printed in Germany ISSN 1866-1238

Editorial

Digital Structural Change and the Welfare State in the 21st Century

Sebastian Becker



area of corporate taxation ("profit shifting" and "tax avoidance").

However, digitalization does not only imply risks but also offers large opportunities for the society and the welfare state. 'Digitalization optimists' point out that technological progress has led to a significant increase in income and prosperity in the past. In a goldilocks scenario, a digitalization-related boost to sluggish productivity growth might create room for wage increases. Indeed, if policymakers remain in control and succeed in raising adequate taxes on digitalization profits as well as help mitigating any adverse effects on the labor market (e.g., through a high quality of education), the digital structural change might make government finances more sustainable. In particular, the additional revenues might help to fund the ageing-related fiscal burdens, which are already looming in many countries. If, however, labor is broadly replaced by capital and technological progress leads to structural mass



Sebastian Becker
Senior Economist and Vice President
Deutsche Bank Research

unemployment, the government will need to rethink the financial basis of the welfare state. This unfavorable scenario might result in great budget gaps, as – assuming that effective corporate tax rates stay low – additional corporate tax revenues will not be sufficient to offset the drop in revenues from wage taxes and social security contributions and to fund higher welfare spending at the same time. This is because corporate profits are today taxed at considerably lower rates than income from labor. Furthermore digitalization could make it more difficult to tax corporations, effectively resulting in an erosion of tax revenues.

According to our scenario analysis, the EU countries would – on average – have to deal with a huge annual fiscal deficit of circa 7% of GDP if automation reduced employment to half its current level. In Germany, the largest EU economy, the fiscal gap might even amount to almost 10% of GDP. And, even if employment declined less,

say by 25%, the average deficit in the EU countries would still come to a very high 3% of GDP. Even if the average wage level of the remaining employees rose on the grounds of increased productivity, the welfare states would nevertheless have major financing problems. Assuming that average wages rose by 30% and employment was halved, the deficit would still amount to a very high 6% of GDP.

At this junction, it is uncertain how digitalization will affect the demand for labor and the public finances. As long as there are no clear, definite signs that machines and robots are replacing human labor, it is probably better not to make dramatic changes to current tax and social security systems. Nevertheless, governments should try and prepare their countries for the future, for example, by paying more attention to education policy and adapting the international tax system to the realities of the 21st century, e.g., in the field of corporate taxation.

Research Report

Chatbots Become Human(like): The Influence of Gender on Cooperative Interactions with Chatbots

CURRENT TECHNOLOGICAL ADVANCEMENTS OF CONVERSATIONAL AGENTS (CAs) PROMISE NEW POTENTIALS FOR HUMAN-COMPUTER COLLABORATIONS. YET, BOTH PRACTITIONERS AND RESEARCHERS FACE CHALLENGES IN DESIGNING THESE INFORMATION SYSTEMS, SUCH THAT CAS NOT ONLY INCREASE IN INTELLIGENCE BUT ALSO IN EFFECTIVENESS. THROUGH OUR RESEARCH ENDEAVOUR, WE PROVIDE NEW AND COUNTERINTUITIVE INSIGHTS THAT ARE CRUCIAL FOR THE EFFECTIVE DESIGN OF COOPERATIVE CAS.

Nicolas Pfeuffer

Martin Adam

Oliver Hinz

dam Janas Tau

Introduction

CAs, such as chatbots, have only recently experienced a renewed interest, although the idea of communicating with information systems (IS) via natural language already emerged in the 1960s. Thanks to technological advancements in artificial intelligence (AI), not only the interaction capabilities but also the analytical abilities of CAs have improved, such that these systems are now tremendously permeating and shaping private and work lives. Gartner (2019) predicts that while only 2% of all current digital workers (i.e., people

Jonas Toutaoui

Alexander Benlian

who use IT to increase workplace efficiency) use a virtual workplace assistant, this percentage will rise to 25% by 2021, exceeding USD 3.5 billion in customer and business spending. Similarly, a survey of CIOs and CTOs revealed that 56% of the surveyed executives claimed that CAs are driving factors of the disruption in their industry (Accenture, 2018).

Regarding the growth in importance and permeation of CAs, it is critical for businesses and IS designers alike to understand how to engineer such cooperative CA assistants. Previous research on CAs has mostly focused on rather competitive contexts, e.g., sales agents in e-commerce (e.g., Beldad et al. 2016), in which users may not fully trust CAs' advice as users naturally assume that the CAs also act in their employer's interest. We extend research by investigating CAs in the until now neglected cooperative contexts, in which human users make the decisions, while the cooperative CAs advise the users in the sole interest of the users. We incorporate two distinct, important, but neglected perspectives in our investigation: (1) a CA's gender and (2) a user's knowledge.

Regarding a CA's gender (for example, on gendered CA see: noora.ch. talmundo.com. askformoon.io, boibot.com, eviebot.com), humans socially respond to human-like IS in the same fashion as they would respond to humans (Nass et al., 1997). Consequently, by increasing human-likeness of CAs, designers may not only elicit favorable social responses but also unfavorable ones (e.g., Beldad et al., 2016; Koch et al., 2015): While, for example, the employment of female gender cues causes gender stereotyping in a user and, thus, leads to an increased perception of warmth, it typically also leads to a decrease in the perception of competence, especially for stereotypical male topics (Nass et al., 1997). This may have profound implications on the perception of competence (Koch et al., 2015), as well as on trust and advice-taking (Sniezek and van Swol. 2001).

Concerning a user's knowledge, scholars have observed that biases from personal beliefs

about one's own knowledge can also induce advice discounting, such that judges are more inclined to reject the advice given by their advisors (Sniezek and van Swol, 2001). Especially egocentric bias, which we define as the irrational valuation of one's own (subjective) knowledge over the knowledge of others, appears to be a strong factor for advice discounting (i.e., reduction in value) and, thus, may result in a decrease in trust in advice given by CAs (Bonaccio and Dalal, 2006).

Methodology: Interaction Experiment

We, therefore, investigate gender stereotyping as well as egocentric bias that result from a CA's gender as well as from a user's (subjective) knowledge. These two factors are connected by the important aspect that both influence a user's trust perceptions of cooperative CAs. Thus, these factors will have serious consequences on the effectiveness of CAs of businesses, possibly deciding about their success or failure. Consequently, we postulate the following research question: How do gender stereotyping and egocentric bias affect a user's trust in cooperative CAs?

We conducted an online experiment, in which participants interacted with an AI-based CA via an instant messaging user interface to tackle this research question. Drawing on social response theory (Nass et al., 1997) and literature on trust and judge-advisor systems (Sniezek and van Swol, 2001), we empirically examined how both a CA's gender and a user's subjective knowledge affect a user's trusting intentions in a CA in two

stereotypical male knowledge fields (i.e., math and finance).

We put forward several hypotheses, which we tested through various statistical analyses, i.e., multivariate linear regressions and bootstrap analyses with 5,000 samples and 95% bias-corrected confidence intervals.

Empirical Findings and Implications

Through the analyses and the observations from the experiment, we are able to contribute to research and practice with several findings, which we will briefly summarize. First, we find counterintuitive evidence that CAs with female gender cues are perceived as significantly more competent than their male counterpart in stereotypical male knowledge fields. This conclusion seems to challenge previous research on interactions with computers and robots. In contrast, we extend theory by elaborating that users apply contextual reasoning to assess the fit of a gender in similar situations, which explains why users more strongly associate the female CA with competence in a cooperative CA context, irrespective of the CA's traits and knowledge field. Thus, we support and further explain the observations of scholars like Beldad et al. (2016) that female representations appear to be more suitable for advice-giving IS.

Second, we deliver insights to research that the effects of gender cues may not be mediated by agentic and communal traits. We, thus, introduce IS research to the idea that gender cues comprise more than what we can potentially

measure with agentic and communal traits, and that further research may focus on investigating contextual differences for gender cues and various representations of gendered CAs.

Our third finding contradicts previous research which postulates that cues which convey competence are most important for competence perception of such agents. Instead, our observations of the significant effect of communal traits vs. the insignificant effect of agentic traits on a user's perceived competence of a CA indicate that cooperative human-computer interactions (HCIs) appear to be different from competitive ones. Thus, we enrich research on CAs by providing evidence that in interactions with cooperative CAs, communal traits lead to significant increases in a user's perceived competence of a CA, while agentic traits seem to be valued less.

As a conclusive contribution to theory, we draw attention to the conflict that an increase in users' subjective knowledge leads to a decrease in trust in CAs irrespective of the knowledge field. Consequently, analogous to the design of a CA's gender, our research suggests that CA designers and researchers must consider various cues and biases to understand a user's acceptance of CAs.

For practitioners, these findings imply that especially in a cooperative context, IS designers should pay attention to imbuing CAs with female gender cues and communal traits with special respect to the usage context, as prior research suggests (Beldad et al., 2016).

Furthermore, our observations lead us to the implication that the employment of CAs can be more effective in the intelligence augmentation of users who consider themselves unknowledgeable, such as when a user needs advice in novel and unfamiliar domains of knowledge.

Conclusion

In our research (Pfeuffer et al., 2019), we provide valuable insights on a cutting-edge technological topic at the intersection of AI and HCI. These insights will be useful for companies planning to invest in CA to increase productivity and customer communication alike, as well as for the technical and interaction designers of AI-powered CA.

References

Accenture:

Conversational Bots Are Here to Stay, https://www.accenture.com/usen/insights/ industry-x-0/conversational-bots, 2018.

Beldad, A.; Hegner, S.; Hoppen, J.:

Effect of Virtual Sales Agent (VSA) Gender – Product Gender Congruence on Product Advice Credibility, Trust in VSA and Online Vendor, and Purchase Intention.

In: Computers in Human Behavior, 60 (2016), pp. 62–72.

Bonaccio, S.; Dalal, R. S.:

Advice Taking and Decision-Making: An Integrative Literature Review, and Implications for the Organizational Sciences. In: Organizational Behavior and Human Decision Processes, 101 (2006) 2, pp. 127–151.

Gartner:

Gartner Predicts 25 Percent of Digital Workers Will Use Virtual Employee Assistants Daily by 2021,

https://www.gartner.com/en/newsroom/press-releases/2019-01-09-gartner-predicts-25-percent-of-digital-workers-will-u, 2019.

Koch, A. J.; D'mello, S. D.; Sackett, P. R.:

A Meta-Analysis of Gender Stereotypes and Bias in Experimental Simulations of Employment Decision Making.

In: Journal of Applied Psychology, 100 (2015) 1, pp. 128–161.

Nass, C.; Moon, Y.; Green, N.:

Are Machines Gender Neutral? Gender-Stereotypic Responses to Computers with Voices. In: Journal of Applied Social Psychology, 27 (1997) 10, pp. 864–876.

Pfeuffer, N.; Adam, M.; Toutaoui, J.; Hinz, O.; Benlian, A.:

Mr. and Mrs. Conversational Agent – Gender Stereotyping in Judge-Advisor Systems and the Role of Egocentric Bias.

In: Proceedings of the 40th International Conference on Information Systems (ICIS); Munich, Germany, 2019.

Sniezek, J. A.; van Swol, L. M.:

Trust, Confidence, and Expertise in a Judge-Advisor System.

In: Organizational Behavior and Human Decision Processes, 84 (2001) 2, pp. 288–307.

Research Report

Regional Political Climate and Individual Investors' Portfolios

THE LARGE FIELD OF PSYCHOLOGICAL AND NEUROSCIENTIFIC LITERATURE SUGGESTS THAT POLITICAL PREFERENCES STEM FROM OUR INDIVIDUAL CHARACTERISTICS AND PERSONAL VALUES AND ARE FORMED MUCH EARLIER THAN THE PERSON IS CONFRONTED WITH ANY KIND OF FINANCIAL DECISION. THIS ARTICLE INVESTIGATES WHETHER POLITICAL PREFERENCES AND POLITICAL CLIMATE CAN HAVE AN IMPACT ON FINANCIAL DECISIONS OF INDIVIDUAL INVESTORS – IN PARTICULAR, PORTFOLIO COMPOSITION AND PREFERENCES FOR NATIONAL SECURITIES.

Marina Mukhamadieva

Introduction

It is well documented that there exists significant heterogeneity in the behavior of investors which cannot be explained by a set of observable demographic or economic factors. One source of this heterogeneity stems from the fact that individuals have different tastes for financial assets that are hard to observe but can play a significant role in shaping investors' expectations (Fama and French, 2007). At the same time, psychological research has shown personal values and personality traits are responsible for forming political preferences which are partly exogenous and stable throughout the life (Campbell et al., 1960).

Political climate is measured along the left-right (liberate-conservative) dimension. Party identification as left or right is seen as a kind of heuristics that eases the voters orientation in the

political environment. Huber and Inglehart (1995) have shown that a single right-left factor helps communicate to the electorate the main focus of party opinions on different economic issues.

In this paper, I consider political preferences in order to account for the unobserved personal characteristics and link them to investment decisions of individuals (see Figure 1). This is an interesting and important link given that political climate has become an increasingly relevant topic in the recent years in Europe. The rising popularity of extreme parties and the Brexit are just a couple of examples of the political challenges that Europe is facing today. Understanding how households react to the changing political environment can be useful for a vast audience, including governments, banks, politicians, and financial advisors.

Psychological Roots of Political Preferences and Their Impact on Financial Decisions

This paper rests on three strands of literature: psychology, political science, and finance.

Psychological literature (e.g., Block and Block, 2006) suggests that certain personal characteristics that are already observable in early childhood are related to the political preferences of an adult. Neurocognitive science (Amodio et al., 2007) confirms the results that there are differences in perceiving information and coping with uncertainty between conservative and liberal individuals. These findings suggest that political values and preferences are partly exogenous and not only environment-related. In this paper, I look at political preferences of investors to extrapolate their expectations towards financial markets and shed light on the determinants of their portfolio decisions.

Personal characteristics and values are fundamental for one's behavior and have an impact on the life choices of individuals. including investments. These characteristics form one of the main sources of investor heterogeneity but are, unfortunately, difficult to measure directly. They may lead to such investment decisions as preference for national securities (home bias), sociallyresponsible investing (avoidance of "bad" companies, such as tobacco or alcohol), or overweighting employer's stocks. Despite some evidence that the impact of psychological factors diminished with investor sophistication, there is enough literature to suggest that even agents such as mutual fund managers are prone to biases caused by personal traits.

Political preferences have been used as one

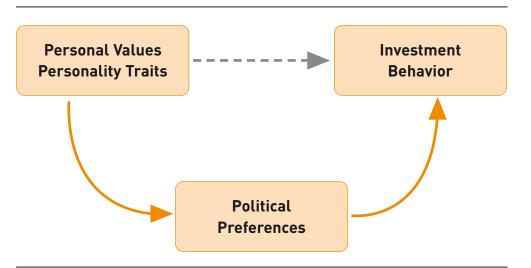


Figure 1: Impact of Political Preferences on Financial Decisions

of the proxies for investors' preferences in recent research. Most of the interest has been assigned to the topic of political preferences of large market players (fund managers and analysts). Hong and Kostovetsky (2012) and DeVault and Sias (2017) elaborate on the differences in the behavior of fund managers and analysts based on their affiliation towards the Republican or Democratic Party in the US. However, the evidence on the portfolio composition of individuals is still scarce. Kaustia and Torstila (2011) show that right-wing voters are more likely to invest in stocks by inferring people's political identities from the regional political climate.

Bonaparte et al. (2017) examine whether political climate together with political identity as a measure of optimism can help infer individuals' expectations about the economy.

Empirical Investigation

Given that personal values are related to political preferences, on the one hand, and to financial decisions, on the other hand, I expect political preferences and investment behavior to be related. I use political orientation as a channel through which individuals express their personal values and reveal personality traits. Taken together, these political values of a group of individuals form the political climate at the regional level, which can be either leftor right-wing dominated.

The differences in political climate across Germany and associated investment variables on a bank level are investigated here. Since the interest of this analysis lies in the regional differences, I restrict the whole universe of banks to those which operate on a regional basis (cooperative and savings). They play a

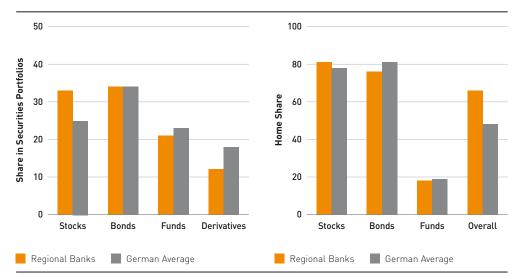


Figure 2: Investors' Portfolios at Regional Banks

significant role in the German financial system. Slightly more than 80% of all the domestic households' deposits are held at such banks (50% at savings and 30% at credit cooperatives). Thus, one can assume that individuals use their regional banks as the main provider of financial services. Figure 2 gives an overview of individual investors' portfolios at regional banks. On average, portfolio characteristics at regional banks are close to the averages across Germany, which supports the idea that the selected sample is representative and suits well the purposes of the research.

The data on political climate comes from two sources: election results and the survey evaluating people's attitude towards political parties. It allows to quantitatively evaluate political climate at a district level and to use it as the main descriptive variable ("political score") in statistical tests. Figure 3 depicts the average political score across Germany with darker color corresponding to left-wing dominated regions.

The Free Democratic Party (FDP) and the Christian Democratic (Social) Union of Germany (CDU/CSU) promote economic liberalism, free markets, and private ownership. On a left-right scale, they have higher-than-average scores (center-right). Their supporters are expected to share the same beliefs about financial markets. Left-wing parties (Die Linke) are known for their antipathy towards financial markets. Therefore, their supporters are less likely to participate in the financial market. However, this attitude is not driven by risk aversion.

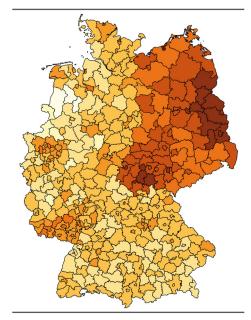


Figure 3: Average Political Score across German Regions

On the contrary, the psychological literature suggests that right-wing ideology supporters are more likely to be risk averse. Therefore, the first hypothesis reads:

H1: In the districts where political climate is more right-oriented, investors are more likely to participate in financial markets and invest more in securities portfolios relative to deposits.

However, the conservatism dimension on top of that works in the other direction: psychological literature provides evidence that two main conservatism traits are resistance to change and justification of inequality, which are related to such characteristics as death anxiety, threat of system instability, dogmatism, fear of loss. Openness to experience, uncertainty tolerance, integrative complexity are common for liberal individuals. For this reason:

H2: Within securities portfolios, in the rightwing dominated regions individuals allocate larger part of their wealth to safer product classes.

Finally, politically optimistic people are expected to have higher expectations of the local market. Political optimism is defined as condition when the ruling party coincides with one's preferred ideology. Given the fact that the German Parliament is dominated by right-wing parties since 2005, the third hypothesis is:

H3: In the districts where majority of voters support right-wing parties, investors are likely to be more optimistic about the economy and, thus, to exhibit higher levels of home bias.

Discussion of the Results

A more right-wing political environment has a positive influence on the participation rate at the district level. An increase of one in political score (which translates to the movement from average left to average right) increases the participation on a district level by around 0.7 percentage points, which is a significant increase of more than 10% given that the average participation rate equals to 7%. Moreover, individuals in right-wing domi-

nated districts hold higher share of their wealth in securities relative to deposits. This confirms the hypothesis that right-wing climate transmits the liberal attitudes towards financial markets to the individual investors which forces them to invest relatively more in securities.

Conditional on participation, households in right-wing tilted districts are less likely to invest in riskier products such as derivatives, and more likely to hold safe assets (bonds and funds). The impact on stocks share is negative, although statistically insignificant. An increase of one in political climate in the right direction causes a decrease of 8% in derivatives holdings and an increase of approximately 3% in bond and fund shares. These results are partially in line with conservatism of rightwing supporters. For example, structured products are riskier, imply more uncertainty, and form a relatively new class, and, therefore, do not fit the psychological characteristics of (politically) conservative individuals.

Other potential explanations such as differences in investment culture between East and West Germany, differences in personal characteristics of the party supporters (FDP supporters are considered to be wealthier), or the impact of social capital are ruled out here. In order to account for these issues, I include a wide set of control variables, including fixed effects for states, regional unemployment and average income, as well as two common proxies of social capital (home ownership and

voter activity). Although most of these controls are statistically and economically significant, the coefficient of political score remains significant as well.

Although there is some effect of political climate on home shares, it is rather marginal. This suggests that the political climate can have an impact on the overall attitude towards financial markets, however, it does not help overcome or explain such investment mistakes as high levels of home bias. This measure is, thus, linked to such personal characteristics as attitudes towards risk, conservatism, or liberalism, but does not relate to financial sophistication or literacy, which are usually known to be responsible for the investment mistakes. The results also suggest that election surprise and (or) political uncertainty can influence home bias. However, discussion of these issues is out of the scope of this paper, but could become a valid point for future research.

References

Amodio, D. M.; Jost, J. T.; Master, S. L.; Yee, C. M.: Neurocognitive Correlates of Liberalism and Conservatism.

In: Nature Neuroscience, 10 (2007) 10, pp. 1246–1247.

Bonaparte, Y.; Kumar, A.; Page, J. K.:

Political Climate, Optimism, and Investment Decisions.

In: Journal of Financial Markets, 34 (2017), pp. 69-94.

Campbell, A.; Converse, P. E.; Miller, W. E.; Stokes, D. E.:

The American Voter.

John Wiley & Sons, Inc., New York (NY), US, 1960.

Block, J.; Block, J. H.:

Nursery School Personality and Political Orientation Two Decades Later.

In: Journal of Research in Personality, 40 (2006) 5, pp. 734–749.

DeVault. L.: Sias. R.:

Hedge Fund Politics and Portfolios.

In: Journal of Banking and Finance, 75 (2017), pp. 80–97.

Fama, E. F.; French, K. R.:

Disagreement, Tastes, and Asset Prices. In: Journal of Financial Economics, 83 (2007) 3, pp. 667–689.

Hong, H.; Kostovetsky, L.:

Red and Blue Investing: Values and Finance. In: Journal of Financial Economics, 103 (2012) 1, pp. 1–19.

Huber, J.; Inglehart, R.:

Expert Interpretations of Party Space and Party Locations in 42 Societies.

In: Party Politics, 1 (1995) 1, pp. 73–111.

Kaustia, M.; Torstila, S.:

Stock Market Aversion? Political Preferences and Stock Market Participation.

In: Journal of Financial Economics, 100 (2011) 1, pp. 98–112.

Insideview

The Regulatory and Legal Challenges of Blockchain Technology

INTERVIEW WITH NINA-LUISA SIEDLER

Blockchain technology is seen as a promising alternative to established business models in the financial industry. What are the main challenges from your perspective?

The main challenge for the financial but also other industries is the boundaries of national and regional regulations, which fragment the globe into numerous local markets. While the technology might work globally, law does not – it is decentralized. Plus: No jurisdiction managed to provide true legal certainty yet.

Further, the blockchain space itself fragmented rapidly during the past years. Driven by the need to find initial supporters, public blockchain projects focused on setting economic incentives for early movers. This worked well as long as there had been just a handful of projects, attracting a global community of likeminded. But it fostered the creation of an overwhelming number of initiatives seeking funding on this basis (the

ICO hype), too many projects competing in the same area (who needs hundreds of identity solutions?) and ultimately weakened the power of the movement. I believe we need to rethink what we can achieve with this technology.

What could this be?

Leave aside any business-plan driven motivation for a moment: How would you like the digital infrastructure of future generations to look like? Typically, everyone quickly agrees that we would like them to find a publicly accessible digital infrastructure, at least at the base layer, not being dominated or owned by anyone, just like the public streets outside. No roadblocks at any intersection where you need to pay some toll in yet another currency whenever you make a turn. We need to create a base layer that is not profit driven, but enables the for-profit services and solutions on top of it. Blockchain technology can enable such an infrastructure, but not as it is being built



currently (most prominently: LIBRA – Facebook's initiative for a global cryptocurrency).

We need new funding mechanisms as no single state will provide for a tax-funded global infrastructure due to its regional scope. I am convinced that Germany could kick off a discussion about the criteria for such future digital infrastructure by setting the right regulatory and tax incentives, aligning the European Union and its member states to agree on finally creating a true single (in this case digital) market fostering all industries (including the financial industry).

In April 2019, the "International Association for Trusted Blockchain Applications" (INATBA) was founded. Can you give us some background on the INATBA idea and goals?

INATBA was formed upon the initiative of the European Commission as private

Dr. Nina-Luisa Siedler
Partner
DWF Germany
Rechtsanwaltsgesellschaft mbH

blockchain industry association with a built-in communication channel to the governmental authorities worldwide. It provides for a governmental advisory board which is currently built with representatives of the World Bank, United Nations bodies, OECD, and alike. Its working groups (supported by the currently about 170 INATBA members, from large industrials to micro startups) strive to cooperate with these institutions in finding sensible solutions for transparent and inclusive governance structures, agreeable standards, and legal certainty.

How does INATBA strive to achieve these goals?

INATBA, together with i.a. the European Commission, will hold its first congress (Convergence – The Global Blockchain Congress) to bring together industry and governmental bodies, fostering a joint discussion about our global digital future.

Thank you for this interesting conversation.

Infopool

News

Chair of Prof. Hinz Wins in the KI Innovation Competition of the BMWi

The Chair of Prof. Hinz wins in the KI Innovation Competition of the Federal Ministry of Economics (BMWi) around the smart living project "ForeSight". The goal of the project is to develop a platform for context-sensitive, intelligent, and innovative smart living services.

Prof. Skiera Receives ERC-Advanced Investigator Grant

For his project "Economic Consequences of Restrictions on the Usage of Cookies", Prof. Skiera received one of the most prestigious research grants in Europe: an Advanced Research Grant of the European Research Council ("ERC Advanced Grant").

Two Successful Disputations

Jascha-Alexander Koch has received his doctoral degree on July 8th, 2019, with his dissertation on "Online Crowdfunding Platforms: Campaign Success, Cancellation, and Fraud". Florian Glaser has received his doctoral degree on July 11th, 2019, with his dissertation on "Decentralized Digital Platforms". Both dissertations were supervised by Prof. Gomber. Congratulations!

New Colleague at the Chair of Prof. Hackethal

Guido Lenz joined the Chair of Prof. Hackethal as an external doctoral student in April 2019. Guido completed the Master's program Money and Finance at Goethe University after receiving his Bachelor's degree in Tübingen. He will focus on cultural and social influences on individual investor behavior as well as geospatial variation in household portfolio decisions.

Nathanial Weir Placed Second at ACM Research Competition

Nathanial Weir (advised by Prof. Binnig) placed second at the ACM Student Research Competition at SIGMOD2019 with his work on a natural language interface for databases called DBPal. Congratulations!

Best Student Paper Award at "Data 2019" Conference

Abdallah Salama (advised by Prof. Binnig) received the Best Student Paper Award for his paper "XAI – A Middleware for Scalable AI". In this paper, Abdallah presents XAI, a middleware on top of existing deep learning frameworks to easily scale-out distributed training of deep neural nets (DNNs). Congratulations!

Dr. Daniel Ringel Awarded with the "2019 Wolfgang Ritter Prize"

For his dissertation "Creating Insights in Large Markets", Dr. Daniel Ringel received this year's "Wolfgang-Ritter-Prize" in Bremen, Germany. Congratulations!

Dr. Daniel Blaseg Appointed Assistant Professor at ESADE Business School

On September 1st, 2019, Dr. Daniel Blaseg, former doctoral student of Prof. Skiera, started a position as an Assistant Professor at ESADE business school in Barcelona, Spain.

Selected efl Publications

Benlian, A.; Klumpe, J.; Hinz, O.:

Mitigating the Intrusive Effects of Smart Home Assistants by using Anthropomorphic Design Features: A Multi-Method Investigation. Forthcoming in: Information Systems Journal.

Bräuer, K.; Hackethal, A.; Hanspal, T.:

Consuming Dividends.

In: 46th Annual Meeting of the European Finance Association (EFA); Carcavelos, Portugal, 2019.

Cabinakova, J.; Ostern, N. K.; Krönung, J.:

Understanding Preprototype User Acceptance of Centralised and Decentralised Identity Managament Systems.

In: Proceedings of the 27th European Conference on Information Systems (ECIS); Stockholm/ Uppsala, Sweden, 2019.

Gomber, P.; Clapham, B.; Lausen, J.; Panz, S.:

The MiFIR Trading Obligation: Impact on Trading Volume and Liquidity.

In: Lecture Notes in Business Information Processing (LNBIP), 345 (2019), pp. 3–26.

Koch, J.; Siering, M.:

The Recipe of Successful Crowdfunding Campaigns: An Analysis of Crowdfunding Success Factors and Their Interrelations.

Forthcoming in: Electronic Markets.

Meyll, T.; Pauls, T.; Walter, A.:

Why Do Households Leave Money on the Table? The Case of Subsidized Pension Products. Forthcoming in: Journal of Behavioral Finance.

Mihale-Wilson, C.; Felka, P.; Hinz, O.:

"The Bright and the Dark Side of Smart Lights" The Protective Effect of Smart City Infrastructures. In: Proceedings of the 53rd Hawaii International Conference on System Sciences (HICSS); Maui (HI), US, 2019.

Pfeuffer, N.; Adam, M.; Toutaoui, J.; Hinz, O.; Benlian. A.:

Mr. and Mrs. Conversational Agent – Gender Stereotyping in Judge-Advisor Systems and the Role of Egocentric Bias.

In: Proceedings of the 40th International Conference on Information Systems (ICIS); Munich, Germany, 2019.

Weinhardt, C.; Hinz, O.; van der Aalst, W.:

Introducing Registered Reports to the Information Systems Community.

In: Business & Information Systems Engineering, 61 (2019) 4, pp. 381–384.

For a comprehensive list of all efl publications see http://www.eflab.de/publications

Infopool

RESEARCH PAPER: DO FIRMS STRATEGICALLY DISSEMINATE? EVIDENCE FROM CORPORATE USE OF SOCIAL MEDIA

The ever-increasing number of users of social networks also attracts companies. This study investigates whether companies use strategic approaches to influence their environment to, e.g., reduce information asymmetries and, thus, capital costs. Therefore, the authors conduct an analysis of the twitter usage behavior of S&P 1,500 firms regarding earnings announcements and find strong evidence that firms disseminate good earnings news more intensively than bad earnings news. Furthermore, the results suggest that a higher litigation risk of a firm is associated with a higher probability that the firm uses strategic dissemination. Similar positive relationships exist with the size of the Social Media audience and the level of investors' sophistication. As opposed to previous literature, the authors reveal a clear and separable strategic dissemination behavior by firms, thereby, also showing potential pitfalls like undesirable retweets of users and negative media coverage in response.

Jung, M. J.; Naughten, J. P.; Tahoun, A.; Wang, C. In: The Accounting Review, 93 (2018) 4, pp. 225–252.

RESEARCH PAPER: RELATIVE PRIVACY VALUATIONS UNDER VARYING DISCLOSURE CHARACTERISTICS

There is growing awareness among consumers regarding data collection activities by companies and research suggests that consumers' monetary valuation of private information is increasing. This study examines how consumers' valuation of their individual private information is affected by three dimensions of the information disclosure setting. Based on willingness-to-accept experiments, the study investigates the effects of (1) information context (medical data vs. shopping behavior data), (2) secondary use of disclosed information, and (3) requirement to disclose personally identifying information. In contrast to previous research, these dimensions are tested in combination, resulting in a more realistic experimental setting. The study finds no significant effect for any of the three dimensions. This finding suggests that the decision to disclose private information is rather an all-or-nothing decision and not a consequence of the activation of individual dimensions as suggested by previous research.

Buckman, J. R.; Bockstedt, J. C.; Hashim, M. J. In: Information Systems Research, 30 (2019) 2, pp. 357–388.

efl quarterly

The efl publishes the quarterly in the form of a periodic newsletter which appears four times a year. Besides a number of printed copies, the efl quarterly is distributed digitally via E-mail for reasons of saving natural resources. The main purpose of the newsletter is to provide latest efl research results to our audience. Therefore, the main part is the description of two research results on a managerial level – complemented by an editorial, an interview, and some short news.

For receiving our efl quarterly regularly via E-mail, please subscribe on our homepage www.eflab.de (\rightarrow news \rightarrow sign up / off newsletter) as we need your E-mail address for sending the efl quarterly to you. Alternatively, you can mail your business card with the note "efl quarterly" to the subsequent postal address or send us an E-mail.

Prof. Dr. Peter Gomber
Vice Chairman of the eft – the Data Science Institute
Goethe University Frankfurt
Theodor-W.-Adorno-Platz 4
D-60629 Frankfurt am Main

quarterly@eflab.de

Further information about the eff is available at www.eflab.de.



The efl – the Data Science Institute is a proud member of the House of Finance of Goethe University, Frankfurt. For more information about the House of Finance, please visit www.hof.uni-frankfurt.de.

THE EFL - THE DATA SCIENCE INSTITUTE IS AN INDUSTRY-ACADEMIC RESEARCH PARTNERSHIP BETWEEN FRANKFURT AND DARMSTADT UNIVERSITIES AND PARTNERS DEUTSCHE BÖRSE GROUP, DZ BANK GROUP, FINANZ INFORMATIK, 360T, FACTSET, AND USD LOCATED AT THE HOUSE OF FINANCE, GOETHE UNIVERSITY, FRANKFURT.

For further information please contact:

Prof. Dr. Peter Gomber Vice Chairman of the efl – the Data Science Institute Goethe University Frankfurt Theodor-W.-Adorno-Platz 4 D-60629 Frankfurt am Main

Phone +49 (0)69 / 798 - 346 82 E-mail gomber@wiwi.uni-frankfurt.de

Press contact **Phone** +49 (0)69 / 798 - 346 82

E-mail presse@eflab.de

or visit our website http://www.eflab.de