1. The Academia Copernicana PhD candidate's Project description

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Social and Technological Conditioning of Digital Finance Development

Due to technological advances and the digitalisation of services, completely new needs emerge in the scope of financial services, for which, traditional payment instruments are not able to meet those needs. These processes result in a dynamic development of a number of innovative solutions, including i.e. mobile banking, NFC mobile payments, instant transfers, blockchain and cryptocurrencies or QR codes payments.

The constant development of the area of digital financial solutions, opens an opportunity window for the research on the end-users attitude to innovations. Financial and payment services market is an example of two-sided markets. Therefore the proposed project will concern the implementation of financial innovations by both sides: (A) providers and (B) clients - which divide into customers and companies. The study will address several research questions, i.a.:

1. What social conditions influence the application or rejection of a given technology in selected financial services?
2. How should technologies be implemented and developed to have a chance for success in the financial market?

The customer-focused part A of the project will be based on the framework of Technology Acceptance Model and will provide answers on the perceived usefulness, perceived ease of use and several other determinants. With those questions answered, it will be possible to describe users' attitudes to new technologies, their intentions and willingness to applying them on their daily basis. The research is predicted to be divided into two parts.

The uniqueness of the projects comes out of approach, which involves conducting of parallel and methodologically consistent research, including perspective the payer and the seller perspective. It will allow to examine a given technology in financial services from the point of view of the consumer and the seller. This will allow to measure and describe differences in the perspective of the payer and the payee. Within this area of research, there will be a number of research methods used: CAWI (Computer Assisted Web Interview), IDI (Individual Depth Interview) and FGI (Focus Group Interview). During this project, there will be a new research grant application prepared and submitted to the National Science Centre - in partnership with the Vrije Universiteit Brussel - in order to obtain financing for the implementation of two large empirical studies.

The technology providers part B of the project will be focused more on technological aspects of digital finance, and will help understanding the practical functioning of innovative financial technologies. The most important element of this part of the research will be conducting research based on the methodology developed by the team of prof. M.Polasik - the video chronography study of innovative payment methods (Polasik *et al.* 2013). This complex study will be financed under the R&D project RPKP.01.03.01-IZ.00-04-168/18 (see point 2a). This method is based on a video recording of payment transactions in physical points-of-sale, during the regular working hours. The aim of this part of the research is to measure and analyse elements of transaction processes and interactions between customers and salespersons and different technologies. It will allow to identify bottlenecks of the developed technologies, and help to improve them. Chronometric study will be supported by the User Experience research, conducted with the use of technical equipment, i.e. eye tracking hardware.

The results expected from the project will allow to empirically verify many theoretical concepts and to develop new ones. It is worth noting that the effects of digital finance development is currently of deep interest among scientific teams around the world, although empirical studies are still at an initial level. Therefore, undertaking the research proposed in the project will allow to join a very topical and promising research trends and publish the results in renowned scientific journals from the Journal Citation Reports (JCR) list.

M. Polasik, J.Górka, G. Wilczewski, J. Kunkowski, K. Przenajkowska, N. Tetkowska, 'Time Efficiency of Point-of-Sale Payment Methods: Empirical Results for Cash, Cards and Mobile Payments', Enterprise Information Systems. Springer Berlin Heidelberg, 2013 pp. 306–320, doi.org/10.1007/978-3-642-40654-6_19.