

Evaluation Report – ZHAW Winterthur

1. Summary of Activities

ZHAW has the role of an executive board member and a work package leader within the Fintech-ho2020 project. Specifically, the responsibilities of ZHAW are summarized below:

- WP1 Management:
 - Executive Board Member;
 - Active participation in management board meetings, vertical and horizontal workshops.
- WP2 Big Data Research
 - Support of the research conducted;
 - Support the projects' events through specialized talks and presentations;
 - Co-organizer of the 1st Validation and Research Workshop on Big Data and Risk Management at ZHAW, Winterthur
- WP3 Artificial Intelligence
 - Support of the research conducted;
 - Support of the projects' events through specialized talks and presentations.
- WP4 Blockchain
 - WP Leader
- WP5 SupTech Trainings
 - Responsible for organizing research conferences and workshops in Hungary and Switzerland;
 - Support of the training sessions of other partners.
- WP6 RegTech
 - Responsible for the organization of the 3rd RegTech workshop on Artificial Intelligence in Finance;
 - Support of the RegTech sessions organized by other partners.
- WP7 Dissemination
 - Active internal and external promotion of the projects' activities, outcomes and events.

2. Events Organized by ZHAW

The below table summarizes the main workshops, conferences and trainings organized by ZHAW and related with the Fintech-ho2020 project.

When	Where	What	Further details
2/13/2019	ZHAW	Workshop on Cryptocurrencies	
4/3/2019	SIF	Fintech-ho2020 project	The meeting was attended by two representatives from SIF. Specifically, the participants work in the Capital Markets and Infrastructure Department at SIF.
4/15/2019	ZHAW	Workshop on Artificial Intelligence in Finance	
4/30/2019	ZHAW	Workshop on Big Data for Finance	

5/2/2019	ZHAW	Workshop on Big Data for Finance	
5/23/2019	FINMA	Fintech-ho2020 project	The meeting was attended by three representatives from FINMA. Specifically, the participants work in the Strategic Foundations Department, the Markets Department and Regulation Department.
6/12/2019	ZHAW	Workshop on AI-based solutions in Finance	
5/15/2019	Central Bank of Hungary - Hungary	Workshop on Big Data Analytics and P2P Lending.	The event was attended by 40-50 people from the Central Bank of Hungary and the topics covered were: Big Data Analytics, P2P Lending, Credit Risk and use cases on network-based scoring methodologies
6/17/2019	ZHAW	Workshop on FinTech disruption.	The event was attended by academics and fintech representatives from Switzerland discussing the Fintech experience in applying innovative technologies in their business models as well as the regulatory challenges they face in Switzerland.
7/8/2019	ZHAW	Workshop on Fintech and Automated Solution.	The event was attended by academics, fintech representatives and regulators. The discussion was focused on the dynamics of digital disruption in financial services; Growing power of FinTech ecosystems and their impact on the industry; Regulatory challenges. Furthermore, the event also focused on presenting automated risk management solutions that support regulatory compliance of financial companies and increase the efficiency of supervisory activities
9/3/2019	ZHAW	European Conference on Risk Management and Big Data Analytics in Finance in Winterthur, Switzerland.	The conference was attended by 80-90 academics, Fintechs, national and international regulators from all over Europe.
9/4/2019	ZHAW	European Workshop on ML-Based Solutions in Finance, Winterthur Switzerland.	The event was attended by 70-80 academic and fintech participants from all over Europe. A total of four use cases from the AI in finance research work package were presented together with the open source scripts. The use cases presented are listed below: <ul style="list-style-type: none"> - Use Case I: Market structure discovery with clique forests. Prof. Dr. Tomaso Aste – UCL - Use Case II: Convergence and Divergence in European Bond Correlations. Prof. Dr. Peter Schwendner, ZHAW School of Management and Law

			<ul style="list-style-type: none"> - Use Case III: Solvency Risk Zones in Europe During and After the Debt Crisis. Dr. Veni Arakelian, Panteion University - Use Case IV: Network models to improve robot advisory portfolio management. Paolo Pagnottoni, Università di Pavia, Italy
9/5/2019	ZHAW	4th European Conference on Artificial Intelligence in Finance and Industry, Winterthur Switzerland.	The event was attended by 200 academics and industry representatives from all over Europe.
9/6/2019	ZHAW	Research Workshop on AI for finance and industry	The workshop was attended by about 30 industry representatives discussing latest research topics
12/17/2019	ZHAW	Research Workshop on P2P Lending and Credit Risk	
1/31/2020	ZHAW	Special SupTech Workshop on AI and Blockchain	

Table 1. ZHAW's Events

3. Collaborations within the Fintech-ho2020 Network

Throughout the project, ZHAW engages in various collaborations with other partners from the network. Specifically, ZHAW:

- Supported the RegTech and SupTech sessions of other partners;
- Organized a joint conference with Humboldt-Universität zu Berlin (HU);
- Organized a variety of research seminars with other partners within the network;
- Engaged in joint research;
- Participated in other projects.

Support of RegTech and SupTech workshops

ZHAW supported two RegTech Workshop:

- I. 1st RegTech Workshop Milan. Activities:
 - o Talk by Branka Hadji Misheva on “Network-based Scoring Models for P2P Lending Platforms”
- II. 2nd RegTech Workshop in Frankfurt. Activities:
 - o Introduction of the project and its activities – Branka Hadji Misheva
 - o Talk by Branka Hadji Misheva on “Network Models to Improve P2P Credit Risk Management”
 - o Moderation of FinTech Panel – Branka Hadji Misheva
- III. 4th RegTech Workshop in Vienna. Activities:
 - o Talk by Peter Schwendner on “Convergence and Divergence in European Bond Correlations”

Furthermore, ZHAW's team also supported the training sessions for the Danish regulator.

- Talk by Peter Schwendner on "Financial Application of Network Analysis" at "Big Data Analytics Knowledge Exchange Platform", Horizon 2020 FIN-TECH project, Copenhagen, August 26, 2019.

Organization of a joint conference

On 3rd of September 2019, in Winterthur, HU and ZHAW co-organized the 1st Research and Validation Workshop titled: ***European Conference on Risk Management and Big Data Analytics in Finance***. The conference was attended by 80-90 academics, Fintechs, national and international regulators from all over Europe. Among the speakers:

- Regulatory change and RegTech, Dr. Philipp Hartmann, Credit Suisse
- Building a big data and advanced analytics platform at the BIS, Dr. Rafael Schmidt, Bank for International Settlements
- Fintech and BigTech credit: A global overview, Dr. Jon Frost, Bank for International Settlements
- Predicting financial distress: Towards building an early-warning system, Dr. Bijan Sahamie, Deutsche Bundesbank
- Does Fintech crowd out banks: Evidence from China, Dr. Bihong Huang, Asian Development Bank

Organization of research seminars

ZHAW organized a variety of research seminars. The table below provides the details.

When	Where	What	Other partner from the network
2/13/2019	ZHAW	Workshop on Cryptocurrencies	Humboldt-Universität zu Berlin
12/17/2019	ZHAW	Research Workshop on P2P Lending and Credit Risk	Humboldt-Universität zu Berlin
1 st July 2020	ZHAW	Research Workshop on XAI models in finance	Universidad Complutense de Madrid
19 th June 2020	ZHAW	Research Workshop on Cryptocurrencies	University of Warsaw
September 2020	ZHAW	Research Workshop on Blockchain	Université Paris 1 Panthéon-Sorbonne

Table 2. ZHAW's Research Seminars

Joint research

Below, a list of papers written jointly by ZHAW and other members of the Fintech-ho2020 team:

- Giudici, P., **Hadji-Misheva, B.**, Spelta, (2019). Network based credit risk models. Quality Engineering

- Ahelegbey, D., Giudici, P. and **Hadji-Misheva**, (2019). Factorial network models to improve P2P credit risk management. Artificial Intelligence in Finance, Frontiers.
- Giudici, P., **Hadji-Misheva, B** and Spelta, (2019) Correlation network models to improve P2P credit risk management. Artificial Intelligence in Finance, Frontiers.
- P Giudici, R Hochreiter, **J Osterrieder**, J Papenbrock, P Schwendner, 2020, AI and Financial Technology. Editorial. Frontiers in Artificial Intelligence 2 (25)

Joint participation in other projects

- CHIST-ERA Funding: Joint work by ZHAW and UNIPV
- SNF Funding: ZHAW and Masaryk University
- EU H2020 European Industrial Doctorate Fintech and AI: HU and University College Dublin.
- COST Fintech and Artificial Intelligence in Finance - Towards a transparent: UNIPV, Webster Vienna Private University, University College Dublin, Masaryk University, Humboldt Universität zu Berlin, Panteion University, Politecnico di Milano, Kaunas University of Technology, University of Luxembourg, University of Warsaw, The Bucharest University of Economic Studies, University of Economics in Bratislava, University College London.

4. Details on Communication with Regulators

Hungary: The Central Bank of Hungary

Location	Central Bank of Hungary
Participants and their roles:	The event was attended by 40-50 participants. All participants were from the Central Bank of Hungary and they were from a variety of departments including but not limited to: Central Bank Statistics Department; Risk Management Department; Economic Analysis Department; Financial Market Analysis Department; Digitalization technology Department; MNB FinLab etc.
Fintech-ho2020 team	The two-day training was organized by ZHAW and was supported by Firamis. Specifically, the speakers were: <ol style="list-style-type: none"> 1. Branka Hadji Misheva, ZHAW 2. Prof. Dr. Jörg Osterrieder, ZHAW 3. Dr. Jan-Alexander Posth, ZHAW 4. Dr. Jochen Papenbrock, FIRAMIS
Topics covered:	<ul style="list-style-type: none"> - Overview of the FIN-TECH project; Introduction of the Project's goal, activities and network; Introduction of MNB's team and the FinTech's lab activities - Big data analytics: Introduction to the technology; Opportunities and risks in the financial sector; Big data and Central Banks; Big data and FinTech; Regulatory Concerns

	<ul style="list-style-type: none"> - The case study of peer-to-peer lending platforms; The platforms' working mechanisms; Advantages and main risk concerns - Introduction to Network Models; Sustainable and explainable AI; Regulatory Issues - Credit risk management - Presentation of use cases with hands-on coding examples in R
How participants remain involved?	<ul style="list-style-type: none"> - ZHAW is in regulator contact with the Central Bank of Hungary, sharing updates, new use cases, project materials, etc. - ZHAW has informed and invited participants from the Central Bank of Hungary to all open events organized under the Fintech-ho2020 Network
What is their feedback on the use cases presented?	The participants were very much interested in the use cases presented. It is important to note that majority of the participants expressed their interest for high level examples of the application of the big data technology in finance. A smaller group, focused on quantitative research, was able to follow the use cases and the practical implementation in R. Many participants requested platform access following the training.
Are the selected use cases the ones that meet the expectations and requirements at most?	The training presented the network-based scoring approach to credit scoring together with the R implementation. An important feedback from some of the participants was that the network approach can be appropriate for other applications apart from credit scoring. Specifically, several participants indicated the possibility of using the presented methodology for tracking central nodes within payment systems.

SIF and FINMA

Location	SIF
Participants and their roles:	From SIF, the meeting was attended by participants from the Capital Markets and Infrastructure Department.
Topics covered:	<ul style="list-style-type: none"> - Overview of the FIN-TECH project; Introduction of the Project's goal, activities and network; - The dynamics of digital disruption in financial services; Growing power of FinTech ecosystems and their impact on the industry; Regulatory challenges - Automated risk management solutions that support regulatory compliance of financial companies and increase the efficiency of supervisory reporting and analytics including systemic risk

How participants remain involved?	<ul style="list-style-type: none"> - ZHAW remains in periodic contact with the SIF by sharing updates and inviting participants from SIF to other open events organized by ZHAW. - SIF has access to the project's platform where they can review the use cases in detail.
What is their feedback on the use cases presented?	<ul style="list-style-type: none"> - The participants were interested in the general topics of the projects; however, they expressed more interest for the Blockchain topic. - SIF currently has no clear focus on our technical papers.
Are the selected use cases the ones that meet the expectations and requirements at most?	SIF expressed more interest for the actual experience of companies applying innovative technologies within their business models, rather than our specific technical papers. SIF furthermore suggested that they cannot commit currently to future workshops but are willing to keep-up with the updates and the platform where they can access the outcomes and the use cases.

Location	FINMA
Participants and their roles:	From FINMA, the meeting was attended participants from the Strategic Foundations Department, the Markets Department and Regulation Department.
Topics covered:	<ul style="list-style-type: none"> - Overview of the FIN-TECH project; Introduction of the Project's goal, activities and network; - The dynamics of digital disruption in financial services; Growing power of FinTech ecosystems and their impact on the industry; Regulatory challenges - Automated risk management solutions that support regulatory compliance of financial companies and increase the efficiency of supervisory reporting and analytics including systemic risk
How participants remain involved?	<ul style="list-style-type: none"> - ZHAW did not remain in contact with representatives from FINMA as they expressed no interest to participate in workshops, conferences and training sessions organized under the Fintech-ho2020 project.
What is their feedback on the use cases presented?	<ul style="list-style-type: none"> - The participants suggested that currently they are part of many different initiatives with similar focus; - FINMA has no clear focus on our specific technical solutions; - The participants suggested that their legal mandate does not focus on the precise technological mandate at the moment.
Are the selected use cases the ones that meet the expectations and requirements at most?	FINMA currently has no focus on our technical papers