

Project Group
Business & Information
Systems Engineering



### Fintech and the New Financial Landscapes

## Integrating the Troublemakers: A Taxonomy for the Cooperation between Banks and Fintechs

University of Bayreuth

**André Schweizer** 

Research Center Finance & Information Management

Project Group
Business & Information Systems Engineering
of the Fraunhofer FIT

Chair of Information Systems and Strategic IT Management

www.fim-rc.de

www.fit.fraunhofer.de/bise

Fintech - Impact on Consumers, Banking, and Regulatory Policy September 29, Philadelphia Benedict Drasch, André Schweizer, Nils Urbach



# In our presentation, we will explain the applied methodology, the resulting artifact, and our contribution Fraunhofer



Introduction Research Method 3 **Artifact Description Cluster Analysis** 4 5 Contribution Limitations and Further Research 6

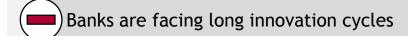
## The banking sector is undergoing fundamental changes Challenges of Banks and Fintechs can be addressed by joining forces



#### Banks need to rethink their current business models

- Digital transformation raises new customer demands
- Technologies enables novel banking applications





#### Fintechs work on alternatives to established banks

- Fintechs pick up technology-enabled opportunities
- Fintechs are quick and agile





Fintechs are innovators in the banking sector

### Innovation enables differentiation against competitors and is a critical factor for long-term success

- Paradigm shift towards inclusion of external innovativeness and cross-organizational cooperation
- Innovation is not a single-player activity but rather an inter-firm collaboration
- Organizations bring in expertise and benefit from other organizations' knowledge and technology



Cooperations between banks and fintechs need to combine innovative fintech characteristics, embodying the mindset towards new ideas and change, with banking controls, know-how, processes and assets

Sources: [1], [2], [3], [4] and [5]

# Addressing the challenge, a fundamental analysis is required to lay the foundation for future research



The cooperation challenges banks and fintechs

- Banks and fintechs face challenges that can be addressed by joining forces
- The majority of banks struggle to meet the challenges and complexity of cooperations

Research has not developed solutions

- Research started in the realm of cooperation, innovation, and their coherences
- However, theory does not fully account for the idiosyncratic character of cooperation
- To date, neither conceptual, analytical nor evaluating work serves as support

A base for future work is necessary

- To foster the knowledge of bank and fintech cooperations, "theory to analyze" is required
- Our taxonomy allows to structure the field of interest and to derive predominant patterns
- We lay the foundation for further research and help banks/fintechs to improve cooperations

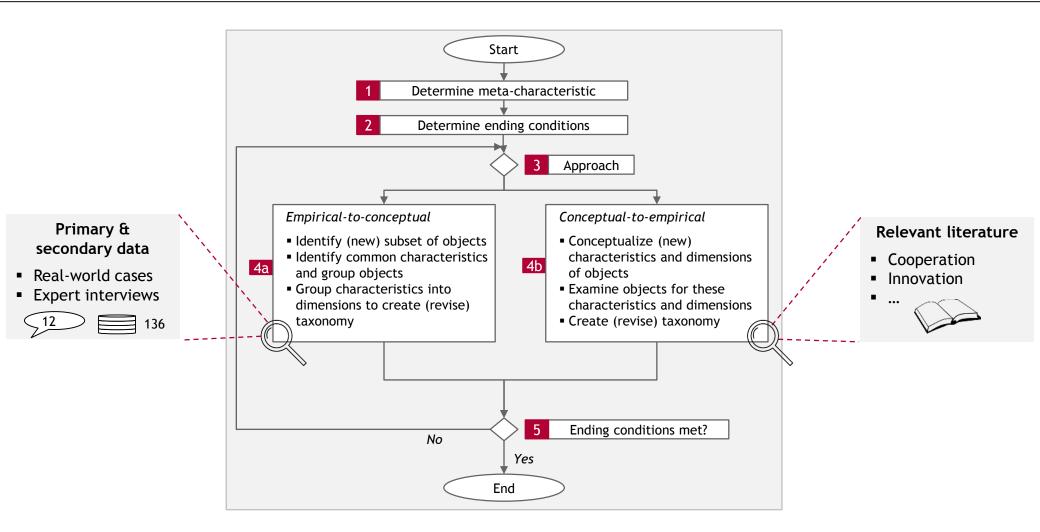
Research question

Which design parameters of cooperation between banks and fintechs can be distinguished?

Sources: [5] and [6]

# The applied method follows Nickerson et al. (2013) and draws on expert interviews, data and existing theory





# The resulting taxonomy encompasses 13 dimensions and 43 categories



	Dimensions	Characteristics						Description	
Cooperation	Cooperation Type	Acquisition		Alliance Incubation		bation	Joint Venture		Which type of cooperation is chosen?
	Innovation Type	Bank-2-Customer Process		Customer-2-Customer Process		ess	Product		What kind of innovation is involved?
	Maturity of Innovation	Introduction / Uncoordinated		Growth / Segmental			Maturity / Systemic		Which lifecycle stage is the product in?
	Value-chain Location		Channel Solut Interaction Pla		al market cructure	Core Banking	g Systems	Financial Market Infrastructure	Where in the value-chain is the innovation located?
	Business Ecosystem	Restricted by Bank Restric		ted by Fintech Restricted by Both		ed by Both	Not Restricted		Who is restricting the business ecosystem?
	Holder of Innovation	Fintech			В		Bank		Where the innovation is located in the cooperation?
Bank	Type of Bank	Commercial Bank		Cooperative Bank		Saving Bank		What type of bank is involved?	
	Bank having Branches		Yes	N			No		What is the bank's main distribution channel?
	Role of Bank	Service Provider		Service Consumer			Investor		What asset contributes the bank to the cooperation?
	Bank's Strategic Aim	Mark	Technology Access			What strategy does the bank follow?			
Fintech	Category of Fintech	API & Infrastructure		Cross Product Service			Current Account		What kind of Fintech is
		Lending		Payment	Inve	esting		Insurance	involved?
	Maturity of Fintech	Start-up		Emergin	Growth		Mature Stage		Which lifecycle stage is the Fintech in?
	Fintech with bank license	Yes			No		Does the Fintech hold a bank license?		

# Within the database, we are able to distinguish 6 unique cooperation clusters - "Prevailing Pattern"



<ul> <li>The Ecosystem Bank (38%)</li> <li>Focus on Alliance (90%)</li> <li>Ecosystem Restricted by fintech (80%)</li> <li>Innovation stays with Fintech (96%)</li> <li>Bank aims at Technology (86%)</li> </ul>	<ul> <li>The Buyer (6%)</li> <li>Focus on Acquisition (75%)</li> <li>Aiming at Product (100%) innovation</li> <li>Bank (100%) integrates innovation</li> <li>Bank aims at Technology (75%)</li> </ul>	<ul> <li>The Lending Bank (3%)</li> <li>Focus on Alliance (100%)</li> <li>Innovate Bank-to-customer process (100%)</li> <li>Value-chain Core banking systems (75%)</li> <li>Ecosystem Restricted by bank (50%)</li> </ul>
Cooperate with fintechs to form an alliance and access the ecosystem	Acquire fintechs to integrate technology innovation	Integrate lending innovation into core banking systems to optimize bank-to-customer processes
<ul> <li>The Investment Bank (33%)</li> <li>Focus on Alliance (95%)</li> <li>Aiming at Product (86%) innovation</li> <li>Bank functions as Service provider (93%)</li> <li>Bank aims at Market (91%) access</li> </ul>	<ul> <li>Cross Product Integration (10%)</li> <li>Innovate Bank-to-customer process (100%)</li> <li>Innovation stays at Fintech (100%)</li> <li>Bank aims at Technology (100%)</li> <li>Fintech offers Cross product service (100%)</li> </ul>	<ul> <li>The Early Bird (10%)</li> <li>Focus on Alliance (100%)</li> <li>Innovation stays at Fintech (100%)</li> <li>Invest in innovation Introduction (92%)</li> <li>Ecosystem Restricted by fintech (85%)</li> </ul>
Access investment markets by providing banking services to fintechs	Cross product services to innovate bank- to-customer processes in bank ecosystems	Early-stage cooperation to access technology

# Our final taxonomy and the taxonomy development process contribute to theory and practice



### Research process

Which design parameters of cooperation between banks and fintechs can be distinguished?

- Development of a taxonomy for the cooperation between banks and fintechs
- Application of a cluster analysis and identification of prevailing cooperation patterns

# Theoretical contribution

- First relevant, valid, useful and effective dimensions and characteristics to structure field
- Descriptive theory depicting an important step towards a deeper understanding of the field
- Basis for the development of a higher-order theory (e.g. predictive theory)
- Guideline for other industries, where similar phenomena are likely to have similar impacts

# Practical implications

- The identified cases indicate that cooperation is an eligible strategy to foster innovation
- Our taxonomy allows practitioners to categorize and analyze their cooperation endeavors
- Our cluster analysis enables practitioners to gain insights on common cooperation practices
- Our findings indicate, fintechs are far from being weak partners within the cooperations

# Our taxonomy development process has limitations and serves as foundation for future research



### Limitations

- The applied dataset and the sequence of iterations in the taxonomy development process influences the resulting taxonomy
- Our taxonomy focuses on categorizing the phenomenon of bank-fintech cooperations but has no specific focus on the dependencies of categories
- We integrated twelve interviews with industry experts, however the majority of cases were examined based on publicly available information
- We developed an artifact, which is attributed to the "theory to analyze" and represents a first step in theory development
- Our taxonomy has a specific focus on the banking industry, thus cannot simply applied to other industries that indicate analogous developments

### Future research

Applying a divergent sequence of iterations and different cooperation cases in the taxonomy development process allows to further verify and establish the artifact in the domain

The classification of objects requires further indepth analysis for the identification of determining factors and category interdependencies

A detailed case study research, focusing on particular cooperation patterns, would reveal more insights about the intentions, contributions and strategic objectives of the involved parties

It seems promising to develop a predictive theory that allows to better evaluate and manage bank-fintech cooperation approaches

Further research might built upon our findings to examine similar phenomena in other industries, such as the digital transformation in the automotive sector



Thank you very much for your attention.

I look forward to your questions and comments.

# Fraunhofer

### Literature

- [1] Nemet, Gregory F. (2009): Demand-Pull, Technology-Push, and Government-Led Incentives for Non-Incremental Technical Change. In *Research Policy* 38 (5), pp. 700-709.
- [2] Marous, Jim (2013): Top 10 Retail Banking Trends and Predictions for 2014. The Financial Brand. Available online at http://thefinancialbrand.com/36367/2014-top-bank-trends-predictions-forecast-digital-disruption/, checked on 4/9/2016.
- [3] Christensen, Clayton (2013): The Innovator's Dilemma. When New Technologies Cause Great Firms to Fail. Boston, MA: Harvard Business Review Press.
- [4] Teece, David J. (2010): Business Models, Business Strategy and Innovation. In *Long Range Planning* 43 (2-3), pp. 172-194. DOI: 10.1016/j.lrp.2009.07.003.
- [5] Economist Intelligence Unit (2015): Strategic Partnerships for the Digital Age. Telstrea report. Available online at http://connectingcompanies.economist.com/whitepaper/about-the-report/, checked on 4/19/2016.
- [6] Tornjanski, Vesna; Marinković, Sanja; Săvoiu, Gheorghe; Čudanov, Mladen (2015): A Need for Research Focus Shift: Banking Industry in the Age of Digital Disruption. In *Econophysics*, *Sociophysics & Other Multidisciplinary Sciences Journal* 5 (3), pp. 11-15.
- [7] Nickerson, Robert C.; Varshney, Upkar; Muntermann, Jan (2013): A Method for Taxonomy Development and its Application in Information Systems. In *European Journal of Information Systems* 22 (3), pp. 336-359.



# **Backup**

# 12 Interviewees across with different levels of experience, varying firm positions and sectors dedicated there time toward the study



ID#	Respondent's Position	Relatedness to Bank-Fintech interaction	Firm size*	Firm Sector
1	Middle management	Currently involved in bank-Fintech cooperation	Medium	Fintech
2	Executive- / C-Level	Currently involved in strategic alignment to bank-Fintech cooperation	Large	Banking
3	Senior Project Manager	Formerly involved in structuring of bank-Fintech cooperation project (Bank perspective)	Large	Consultancy
4	Referent	Currently involved in regulatory requirements and matters of bank-Fintech cooperation	Large	Regulatory authority
5	Executive- / C-Level	Formerly M&A in the banking sector; formerly C-Level central bank	Large	Banking
6	Executive- / C-Level	Currently involved in bank-Fintech cooperation and incubation	Large	Banking
7	Middle management	Currently involved in bank-Fintech cooperation and incubation	Large	Banking
8	Middle management	Currently involved in bank-Fintech cooperation and incubation	Large	Banking
9	Middle management	Currently involved in bank-Fintech cooperation and incubation	Large	Banking
10	Middle management	Currently involved in bank-Fintech cooperation and incubation	Small	Fintech
11	Middle management	Currently involved in bank-Fintech cooperation and incubation	Small	Fintech
12	Middle management	Currently involved in bank-Fintech cooperation and incubation	Medium	Fintech

<sup>\*)</sup> Firm size from the EU recommendation 2003/361

# Description of the dimension Cooperation type



- Dimension: Cooperation type
  Which type of cooperation is chosen?
- Characteristic: Acquisition

  The bank undertakes a corporate action and buys the majority of the Fintech and integrates it into the existing structures
- Characteristic: Alliance
  Bank and Fintech enter into an contractual arrangement to share resources and knowledge to achieve common goals
- Characteristic: Incubation
  The Bank fosters the Fintech through financial, managerial, or other assistance without deciding or owning the Fintech
- Characteristic: Joint Venture

  Bank and Fintech pool resources in a specifically independent but common entity, whereas risks and responsibilities are carried by both participants

## Description of the dimension Innovation type



**Dimension:** *Innovation type*What kind of innovation is involved?

- Characteristic: Product
- The core of the cooperation is a product innovation, that is the introduction of a good or service which is new or significantly improved regarting its characteristics or intended uses.
- Characteristic: *Process*The core of the cooperation is a process innovation, that is the implementation of a new or significantly improved production or delivery method.

## Description of the dimension Maturity of Innovation



- Dimension: Maturity of Innovation
  In which lifecycle stage is the product / process?
- Characteristic: Introduction / Uncoordinated

  The product is introduce into a potential market / The process is follow an uncoordinated approach and are easily able to respond to environmental changes
- Characteristic: Growth / Segmental
  The product's sales, market shares and profitability is growing / The process is characterized through a higher degree of integration and automation
- The product's sales and market shares stabilize or decline / The process is described as highly developed and integrated with resistance to change

## Description of the dimension Holder of innovation



- **Dimension:** Holder of innovation Where the innovation is located in the cooperation?
- Characteristic: Fintech
  In the cooperation, the innovation (knowledge about the innovation) remains with the Fintech.
- Characteristic: Bank
  In the cooperation, the innovation is fully integrated into the bank.

# Description of the dimension Type of bank



- Dimension: Type of bank
  What type of bank is involved?
- Characteristic: Commercial bank
  The commercial banks are privately owned and act more profit oriented than cooperative and saving banks.
- The cooperative banks indicate characteristics of commercial banks, however the internal structure differs significantly, as the bank is owned by its members.
- The saving banks are characterized through a specific business focus on savings and savings mobilization as well as a focus on local markets.

### Description of the dimension Bank's main distribution channel



- **Dimension:** Bank's main distribution channel? What is the bank's main distribution channel?
- Characteristic: Branches
  The bank's access to customers is mainly facilitated through a branch system
- Characteristic: Online
  The bank's access to customers is mainly facilitated through online channels

## Description of the dimension Strategic objective of bank



- Dimension: Strategic objective of bank What strategy does the bank follow?
- Characteristic: Market access

  The bank mainly pursues access to new markets and opportunities (Environmental changes, internationalization and globalization, new products, markets, branding)
- Characteristic: Technology access

  The bank mainly pursues access to technology vi the cooperation (Tacit knowledge of technology, technology transfer, technology application, technological leapfrogging)

# Description of the dimension Role of bank



- Dimension: Role of bank
  What asset contributes the bank to the cooperation
- Characteristic: Service provider

  The bank acts as a service provider for the Fintech (Account management, holding of Bank license)
- Characteristic: Service consumer

  The bank acts as a service consumer and demands services from the Fintech

## Description of the dimension Category of Fintech (1/2)



- **Dimension:** Category of Fintech What kind of Fintech is involved?
- Characteristic: API / Infrastructure
  Fintechs providing APIs or infrastructure to companies and customers that use the Fintech's solution as basis for their products and services.
- Characteristic: Cross product service
  Fintechs providing innovative solutions that improve processes alongside several products and services.
- Characteristic: Current account
  Fintechs providing innovative account management solutions.

# Description of the dimension Category of Fintech (2/2)



- **Dimension:** Category of Fintech What kind of Fintech is involved?
- Characteristic: Lending
  Fintechs providing innovative lending solutions.
- Characteristic: Payment
  Fintechs providing innovative payment solutions.
- Characteristic: *Investing*Fintechs providing innovative investment solutions.
- Characteristic: *Insurance*Fintechs providing innovative insurance solutions.

## Description of the dimension Maturity of Fintech



- Dimension: Maturity of Fintech In which lifecycle stage is the Fintech?
- The Fintech is focusing on the development of a business plan and the entrance into the market
- Characteristic: Emerging growth
  The Fintech is focusing on expansion efforts
- Characteristic: *Mature stage*The Fintech is in a stage of slow growth rates

## Description of the dimension Fintech holding full banking license



- Dimension: Fintech holding full banking license Does the Fintech hold a bank license
- Characteristic: Yes
  The Fintech holds a banking license and is liable to financial and banking regulation
- Characteristic: No
  The Fintech does not hold a banking license and cannot supply banking products