



NATIONAL RESEARCH
UNIVERSITY

EMPLOYEES' ACCEPTANCE OF NEW TECHNOLOGIES IN BANKING

Veronika Belousova, Vasily Solodkov,
Nikolay Chichkanov, Ekaterina Nikiforova

Moscow, 2018



CHANGES IN THE FINANCIAL SECTOR

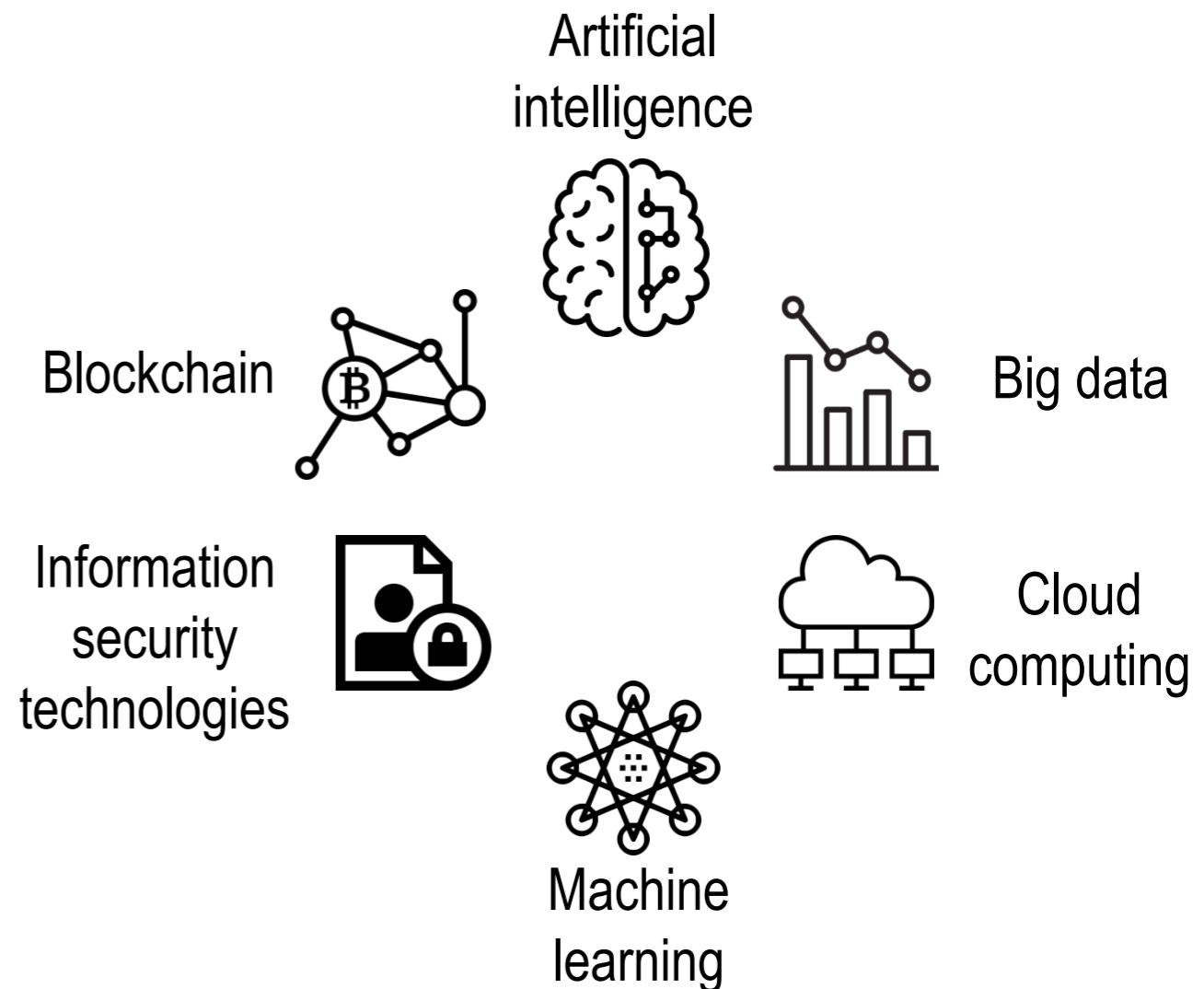
Digitization

In the world by 2036 will be automated up to **50%** of work processes¹

Top opportunities related to the rise of FinTech²

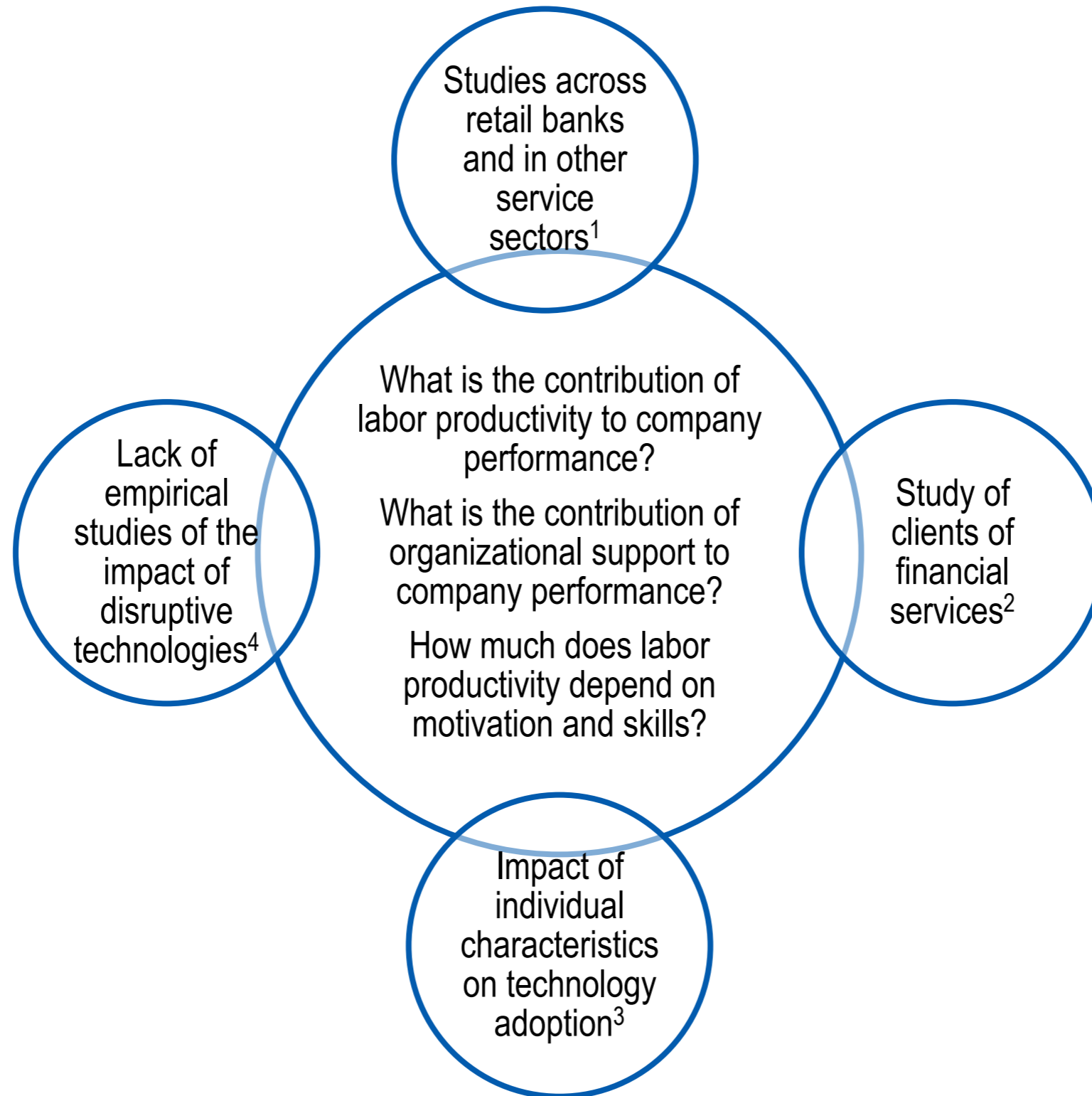
- Cost reduction (**73%**)
- Differentiation (**62%**)
- Improved retention of customers (**57%**)
- Additional revenues (**56%**)

Disruptive innovation





RESEARCH QUESTIONS





LITERATURE REVIEW

Technology adoption

Internal factors

- Personal innovativeness¹
- Digital skills²
- Ambitious³
- Psychological barriers⁴
- Motivation⁵



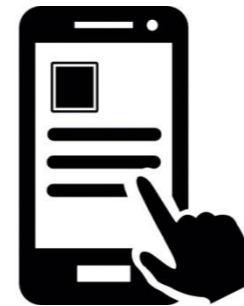
External factor

- Organizational support⁶

Control factors

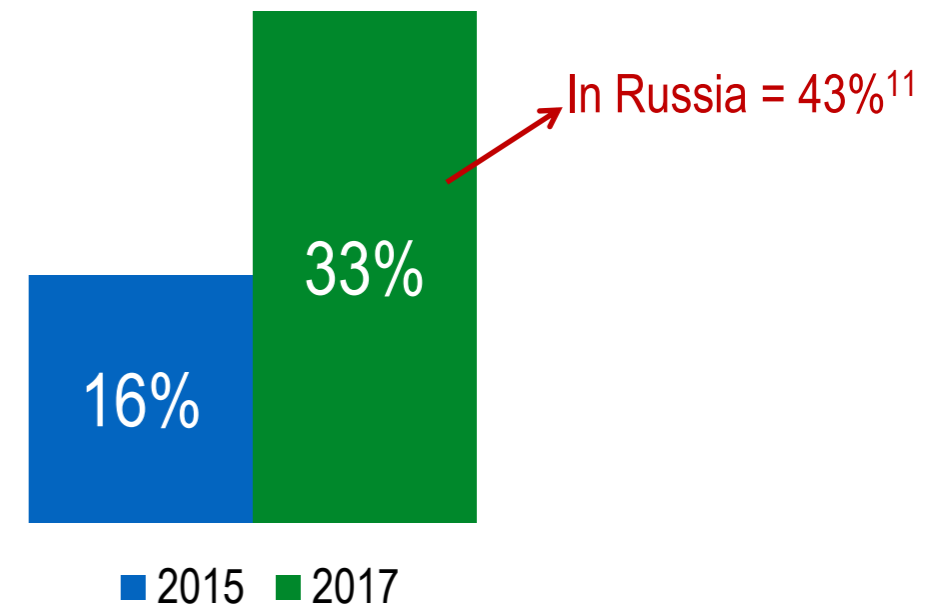
- Individual differences⁷
- Differences in organizations & industries⁸

Disruptive innovation & Digitization



Finance and insurance is on the **third level** by MGI Industry Digitization Index⁹

The average percentage of FinTech services penetration across 20 markets¹⁰



Source: ¹[Elie-Dit-Cosaque & Kalika, 2011]; [Walczuch et al., 2007];
²[Rubel et al., 2017]; ³[Lee et al., 2013]; ⁴[Chen, 2013]; ⁵[Strizhova, 2017];
⁶[Sengupta et al., 2015]; ⁷[Palfrey & Gasser, 2008] ⁸[Rauch & Hatak, 2016] and etc.

Source: [McKinsey Global Institute, 2016]¹⁰[EY, 2017]; ¹¹[EY Russia, 2017].



LITERATURE REVIEW

Labor productivity

Esprit de corps¹

- Teamwork and cohesion
- Employee attachment to seek common objectives
- Proudness, loyalty and dedication of employees



Commitment²

- Performance of responsibilities specified in his/her job description
- Compliance with formal performance requirements of the job
- Neglect of aspects of the job he/she is has to perform

Company performance

Financial performance¹

- Return on investment
- Revenue growth
- Profit margins
- Market share

Service performance²

- Quality and flexibility of process
- Dependability of delivery process
- Customer satisfaction



Source: [Riley et. al., 2017]; [Rauch & Hatak, 2016]; [Kaufman, 2015]; [Vosloban, 2012]; [Mathew et. al., 2012].

Operational performance³

- Innovation
- Entrepreneurial orientation
- Differentiation
- Quality of products/services.

Perceived performance⁴

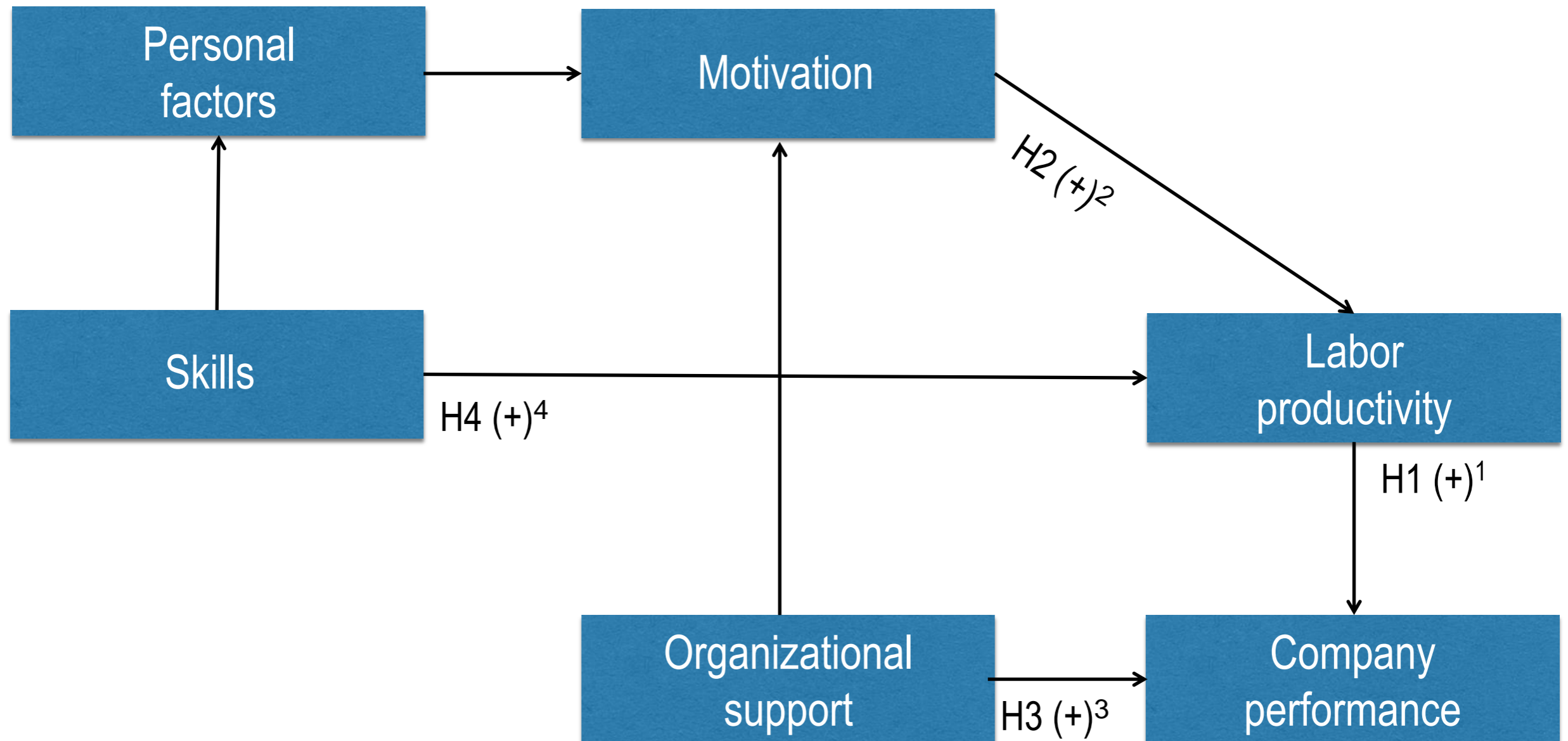
- Benchmarking (comparing with the performance of major competitors)

Source: ¹[Zaheer et. al., 2010]; ²[De Clercq et. al., 2018].

Source: ^{1,2}[Chari et. al., 2017]; [Hu et. al., 2017]; ^{3,4}[Rauch & Hatak, 2016].



CONCEPTUAL MODEL & HYPOTHESES

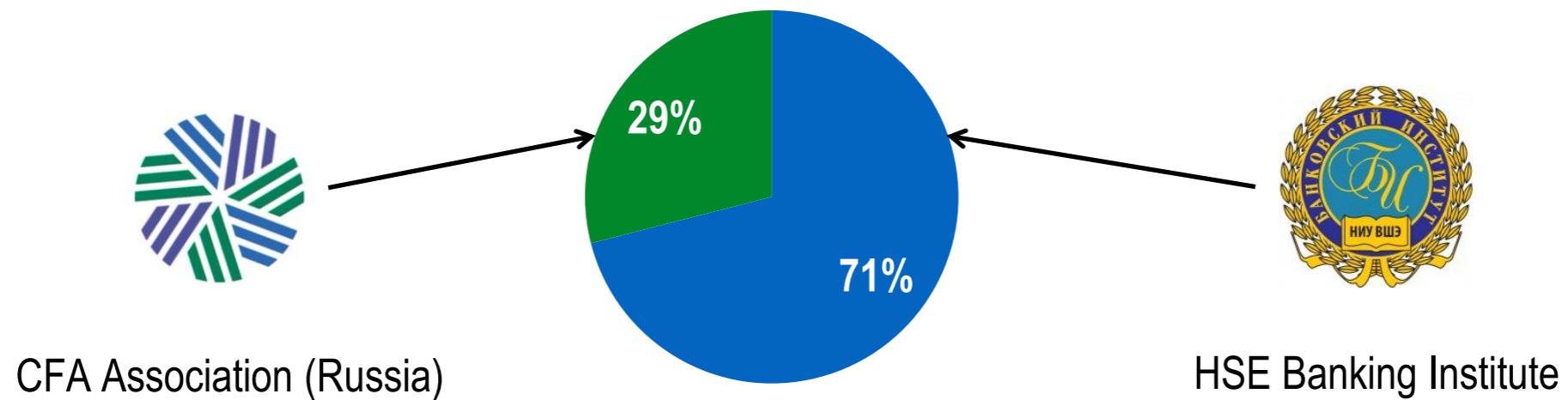


Source: ¹[Riley et. al., 2017]; ²[Ali et. al., 2012]; ³[Sengupta et. al., 2015]; ⁴[Rubel et. al., 2017].



ONLINE SURVEY PROCESS

Total number of respondents = 148



Data collection



1 round	28 February	600 members of CFA Russia
2 round	28 March	449 level III CFA exam candidates

Response rate = 4,1%



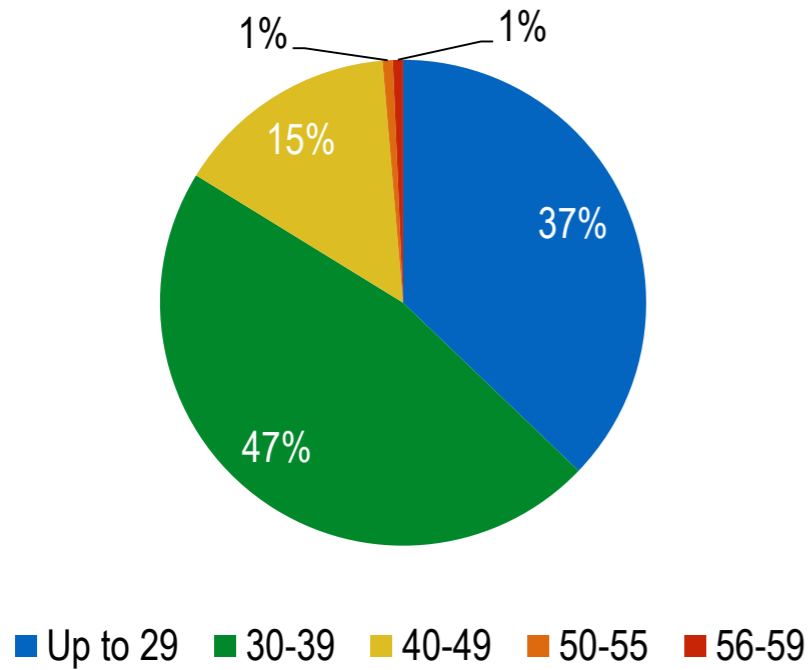
1 round	21 February	279 alumni of HSE Banking Institute
2 round	12 March	361 alumni of HSE Banking Institute
3 round	20 March	304 students of HSE Banking Institute

Response rate = 11,1%

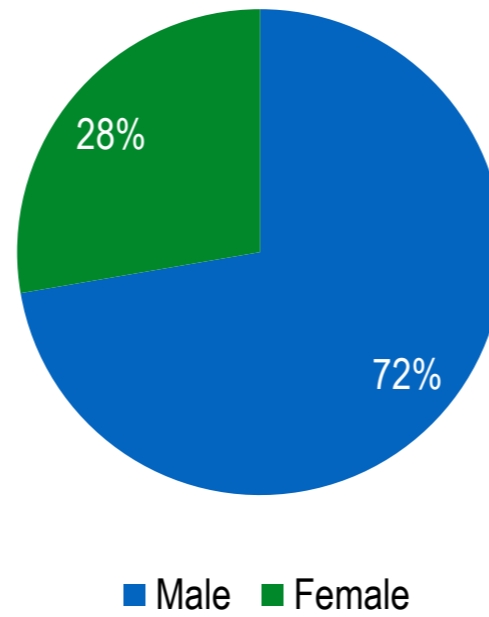


SAMPLING

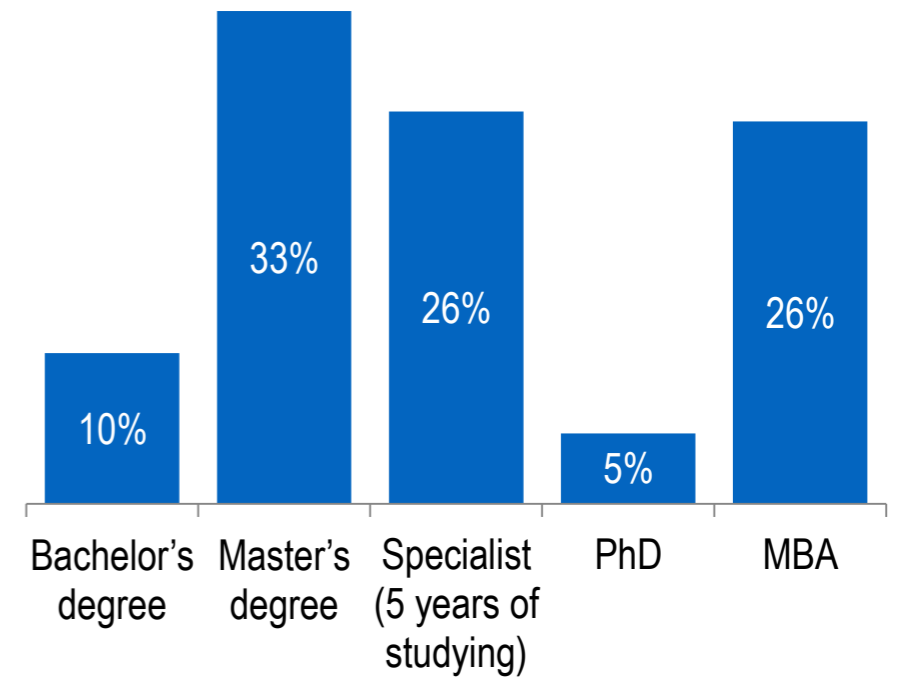
Age



Gender

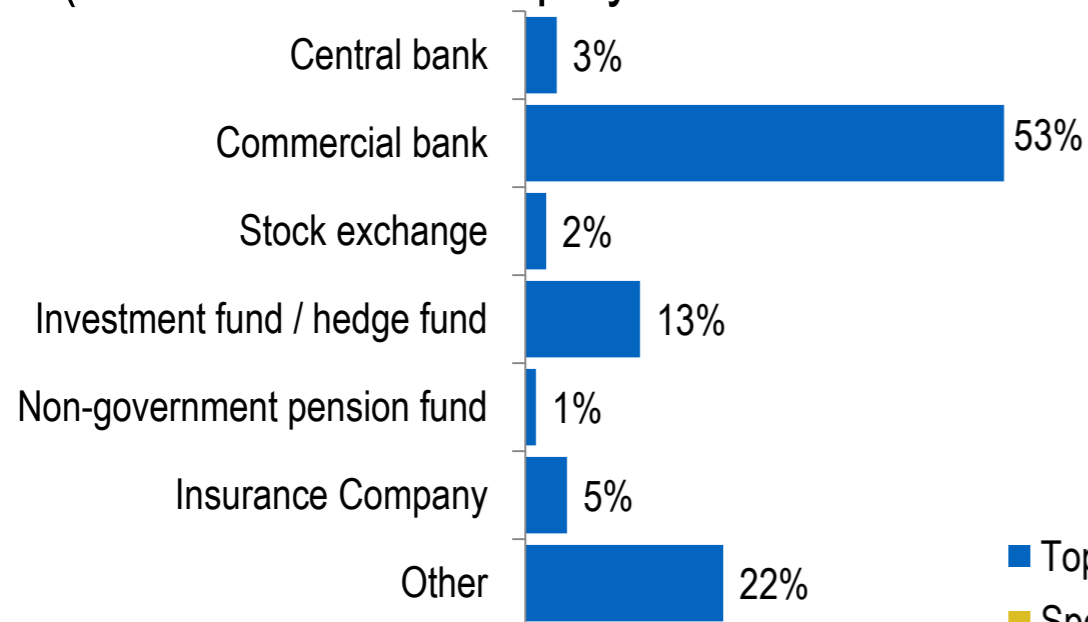


Education

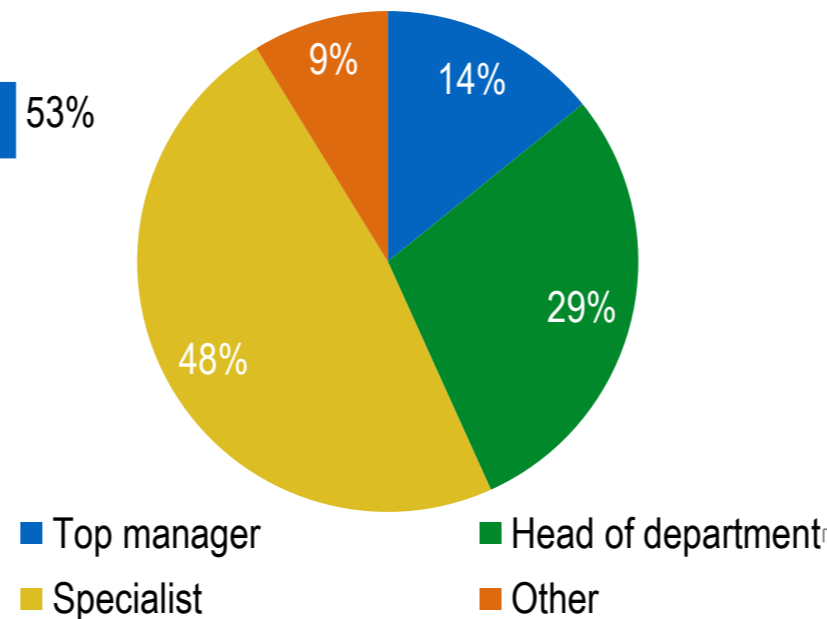


Type of financial institution

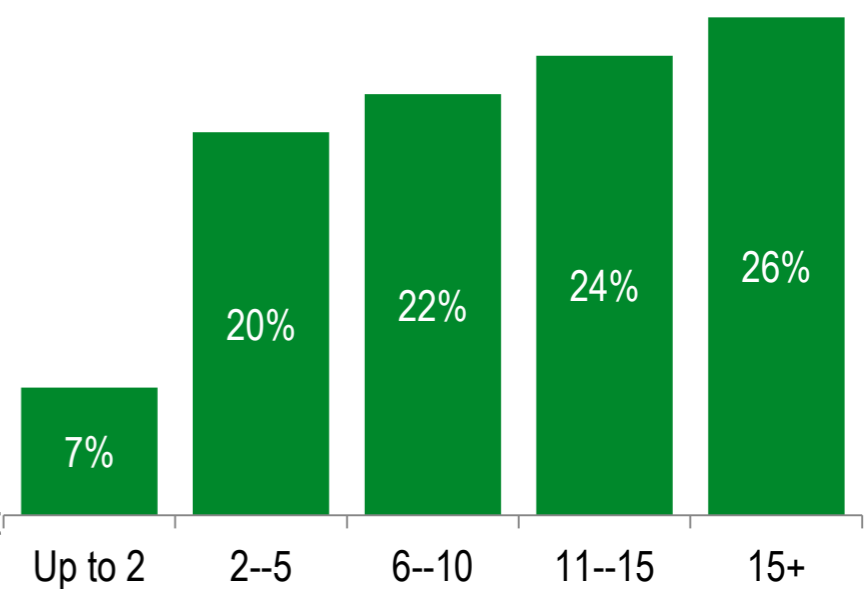
(from 58% of the employed in financial services)



Job title



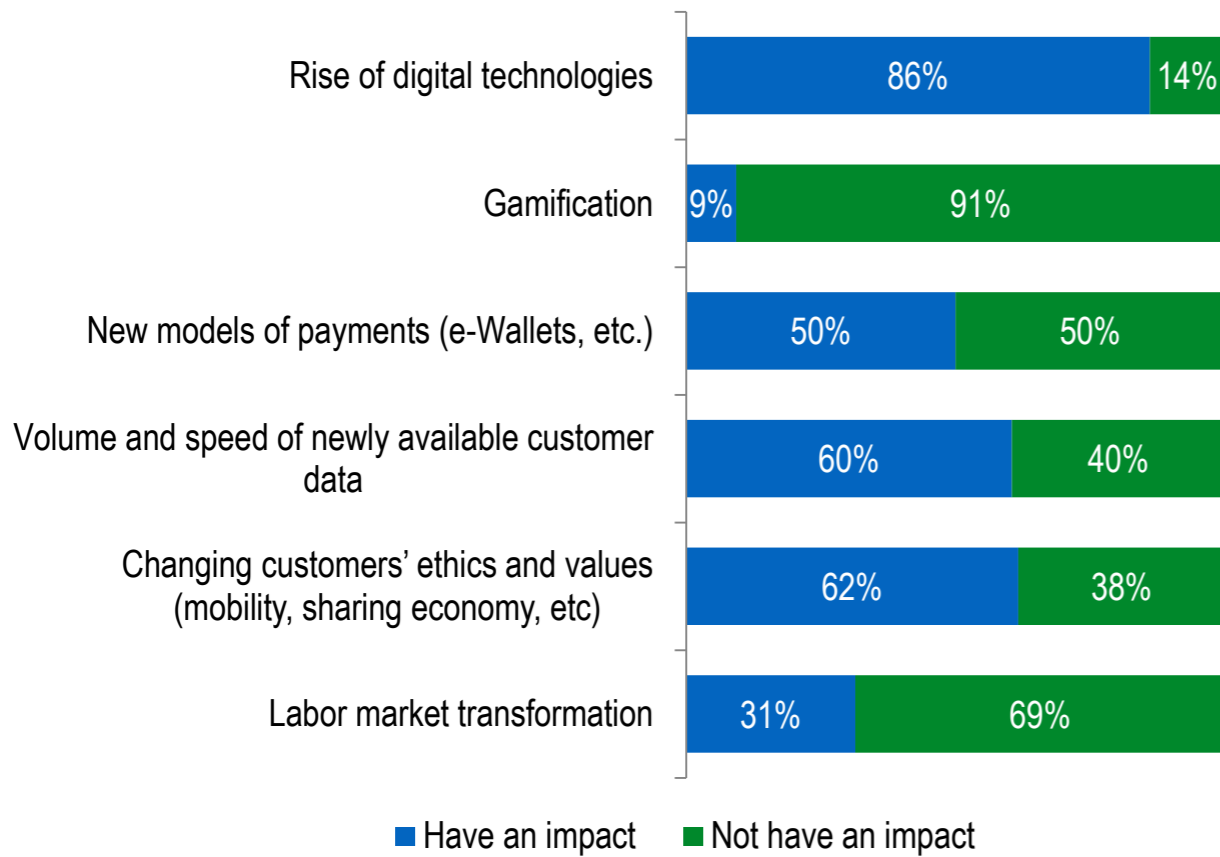
Total job experience



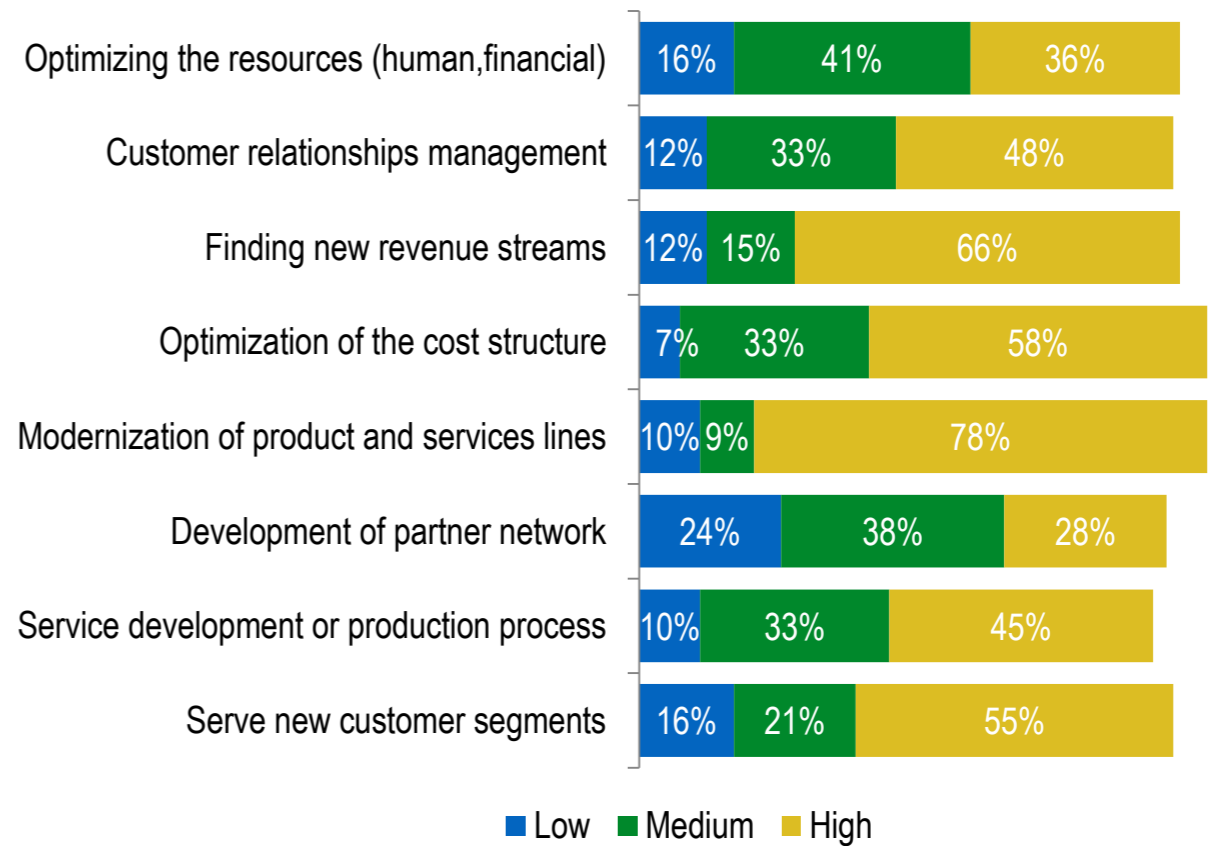


RESULTS: GLOBAL TRENDS

Impact of global trends on the financial industry



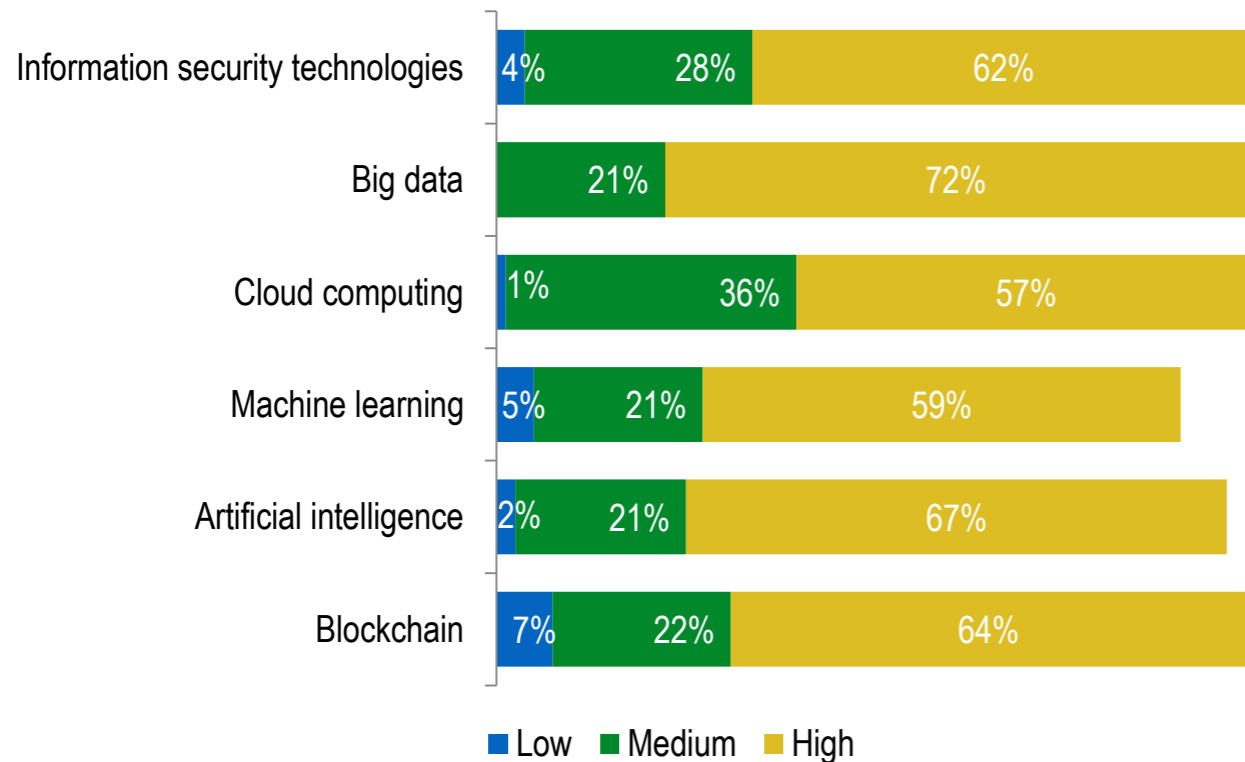
Degree of importance of disruptive technologies for business activities in the financial industry



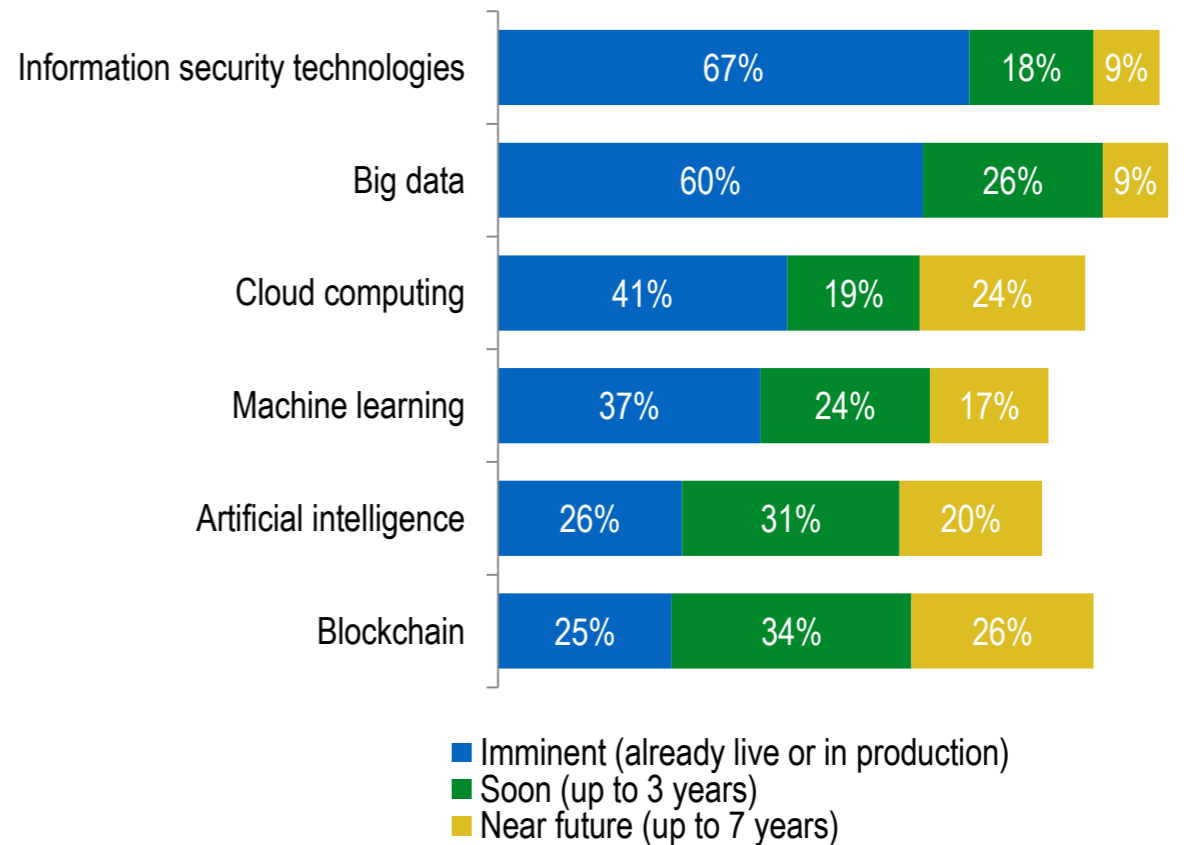


RESULTS: DISRUPTIVE TECHNOLOGIES

Degree of investment attractiveness of disruptive technologies in the financial industry

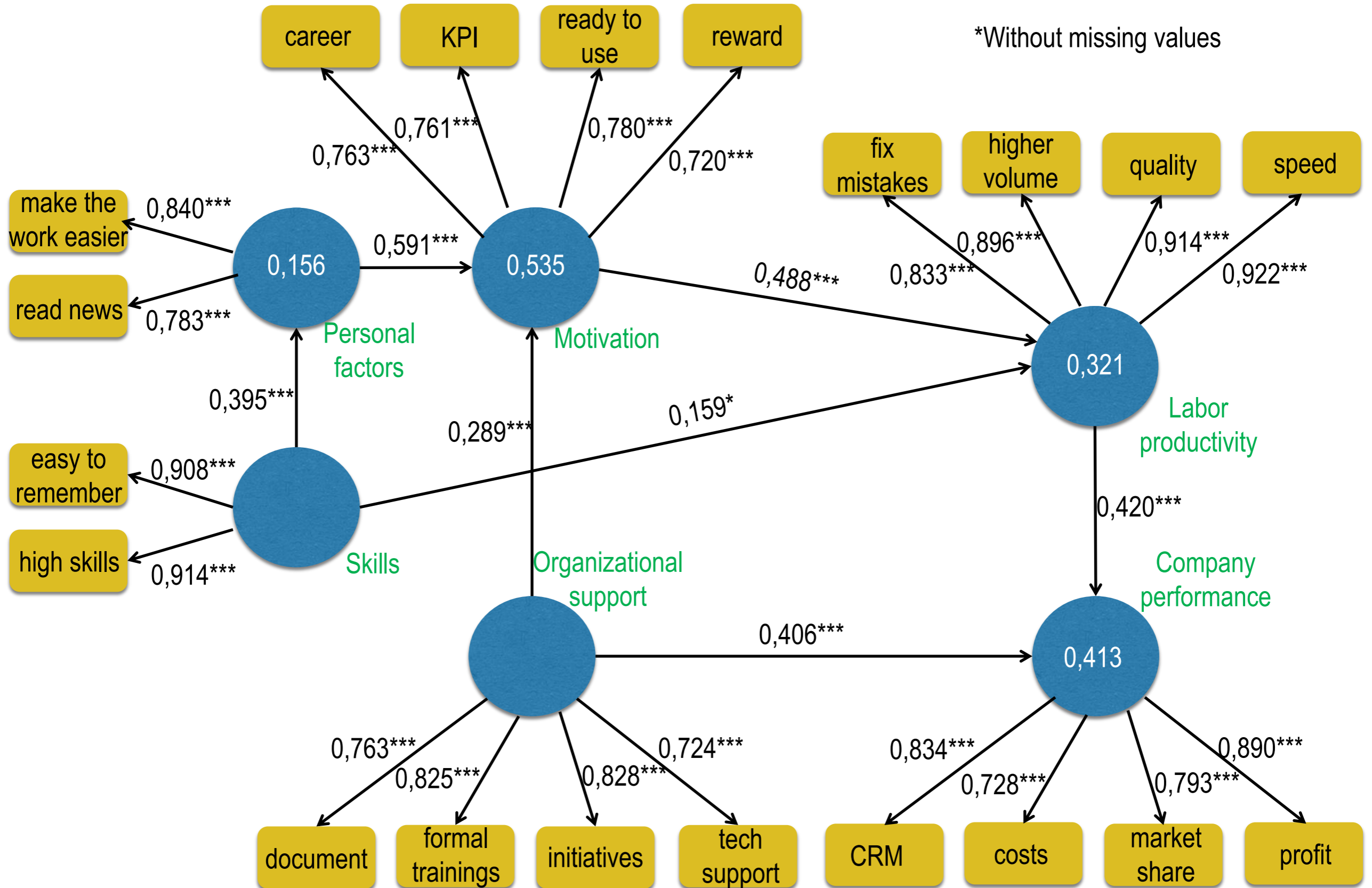


Usage of disruptive technologies in the financial industry





BASELINE MODEL RESULTS*





RELIABILITY & VALIDITY

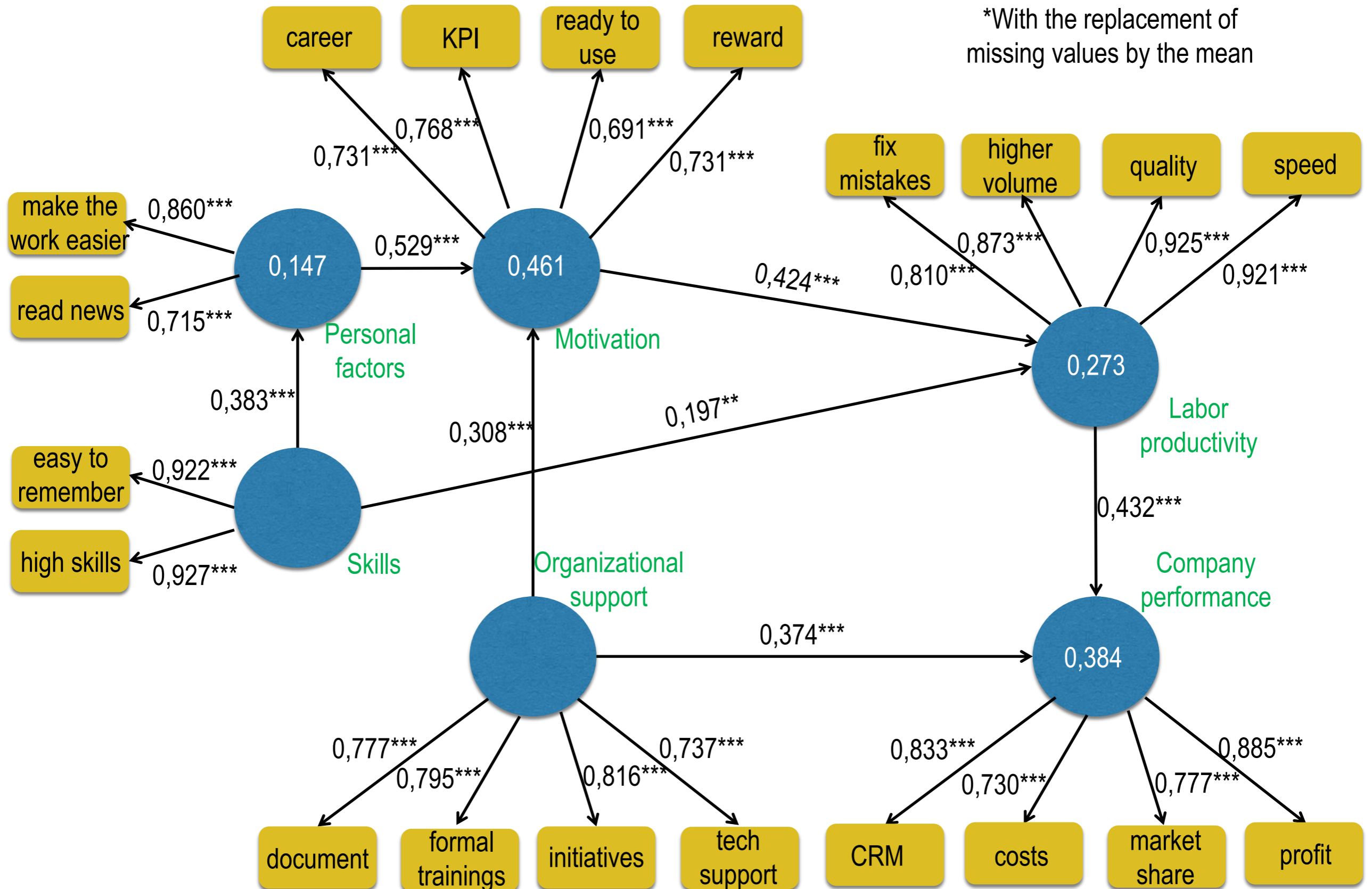
	AVE	Composite Reliability
Company performance	0,6614	0,886
Employee performance	0,7958	0,9396
Motivation	0,5531	0,8318
Personal factors	0,6598	0,7948
Skills	0,8292	0,9066
Organizational support	0,6185	0,866

	VIF		
Personal factors	Motivation	Organizational support	1,28
Organizational support	Motivation	Personal factors	1,85
Motivation	Skills	Employee performance	1,13
Skills	Motivation	Employee performance	1,43
Employee performance	Company performance	Organizational support	1,32
Organizational support	Company performance	Employee performance	1,34

	Company performance	Employee performance	Motivation	Personal factors	Skills	Organizational support
Company performance	0,8133					
Employee performance	0,5052	0,8921				
Motivation	0,4783	0,5465	0,7437			
Personal factors	0,4482	0,6355	0,6774	0,8123		
Skills	0,2387	0,3387	0,3678	0,3948	0,9106	
Organizational support	0,4940	0,2099	0,4655	0,2982	0,2864	0,7864

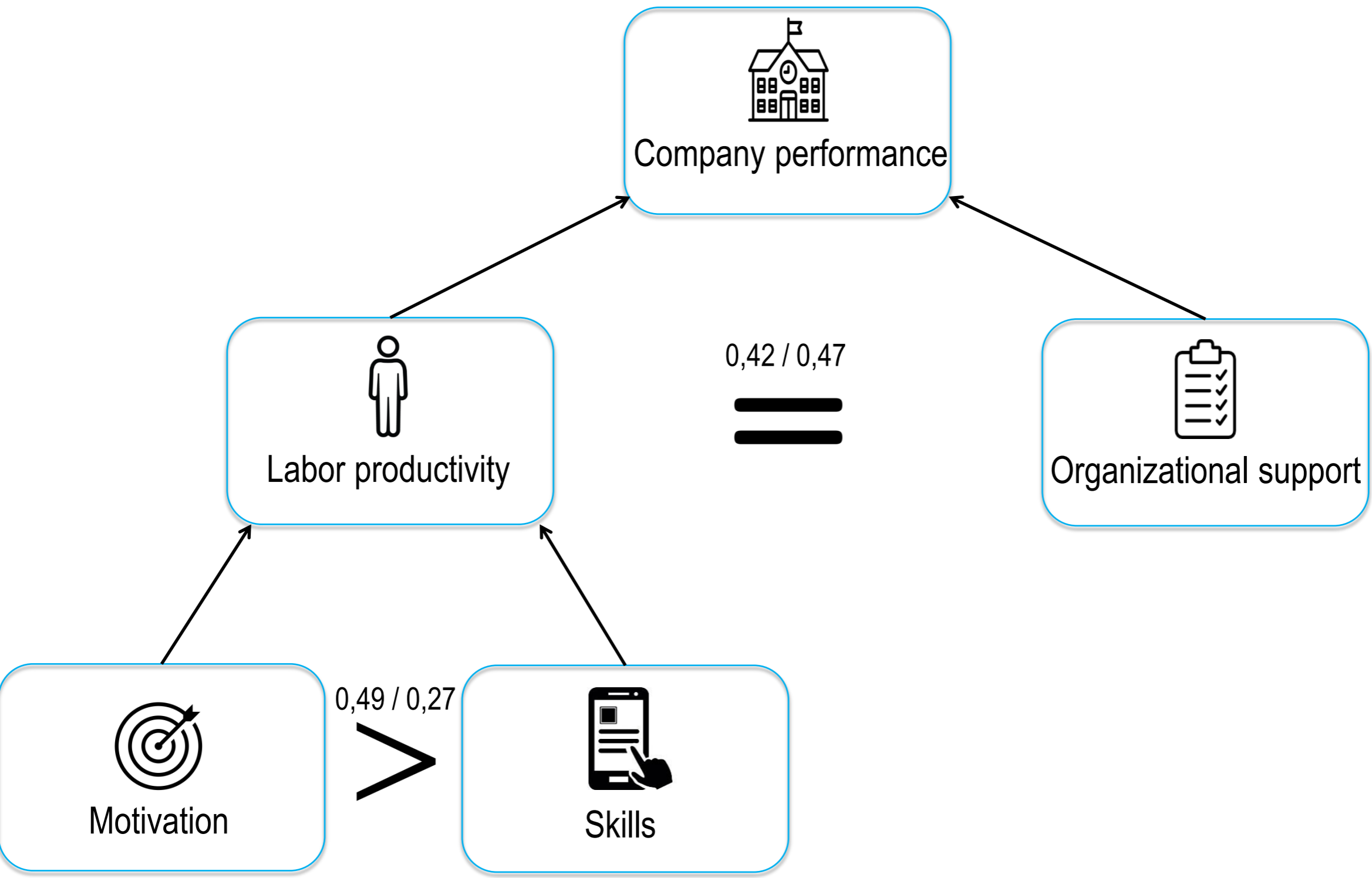


ROBUSTNESS CHECK*





CONCLUSIONS





NATIONAL RESEARCH
UNIVERSITY

Thank you for your attention!

www.hse.ru

Address: 101000, Moscow, Myasnitskaya street, 20



APPENDIX (SOURCES)

Personal innovativeness → Technology adoption	[Elie-Dit-Cosaque & Kalika, 2011]; [Walczuch et .al., 2007]; [Kamaludin & Purba, 2015].
Psychological barriers → Technology adoption	[Walczuch et .al., 2007]; [Elie-Dit-Cosaque & Kalika, 2011]; [Chen, 2013].
Ambitious → Technology adoption	[Nasri & Charfeddine, 2012]; [Lee et. al., 2013].
Digital skills → Technology adoption	[Rubel et. al., 2017]; [Elie-Dit-Cosaque & Kalika, 2011].
Motivation → Employee performance	[Ali et. al., 2012]; [Strizhova, 2017]; [Seiler et. al., 2012]; [Turner et .al., 2008].
Organizational support → Technology adoption	[Sengupta et. al., 2015]; [Lee et. al., 2013]; [Walczuch et al., 2007] .
Individual differences → Technology adoption	[Elie-Dit-Cosaque & Kalika, 2011]; [Morris et. al., 2005]; [Riquelme & Rios, 2007]; [Sengupta et. al., 2015]; [Palfrey & Gasser, 2008].
Organizational differences → Technology adoption	[Rauch & Hatak, 2016]; [Elie-Dit-Cosaque & Kalika, 2011]; [Messersmith & Wales, 2013].
Technology adoption → Employee performance	[Imran, 2014]; [Sengupta et. al., 2015]; [Rubel et. al., 2017]; [Kurts, 2015].
Technology adoption → Company performance	[Zaheer et al., 2010]; [Saeed et. al., 2012].
Employee performance → Company performance	[Riley et. al., 2017]; [Rauch & Hatak, 2016]; [Kaufman, 2015]; [Vosloban, 2012]; [Mathew et. al., 2012]; [Guest, 2001].



APPENDIX (RELIABILITY & VALIDITY)

	AVE	Composite Reliability
Company performance	0,6534	0,8824
Employee performance	0,7806	0,9342
Motivation	0,5341	0,8208
Personal factors	0,6255	0,7681
Skills	0,8545	0,9216
Organizational support	0,6109	0,8625

	VIF		
Personal factors	Motivation	Organizational support	1,25
Organizational support	Motivation	Personal factors	1,6
Motivation	Skills	Employee performance	1,13
Skills	Motivation	Employee performance	1,31
Employee performance	Company performance	Organizational support	1,25
Organizational support	Company performance	Employee performance	1,33

	Company performance	Employee performance	Motivation	Personal factors	Skills	Organizational support
Company performance	0,8083					
Employee performance	0,4983	0,8835				
Motivation	0,4541	0,4877	0,7308			
Personal factors	0,3769	0,6442	0,6109	0,7909		
Skills	0,1925	0,3348	0,3244	0,3834	0,9244	
Organizational support	0,4501	0,1761	0,4481	0,2654	0,2137	0,7816