

Gender Diversity and the Doing-Using-Interacting Mode of Innovation: A Study of Medium- and Large-Sized Enterprises in Post-Communist Economies

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Introduction

- Innovation is a key driver of socioeconomic development and enterprise growth;
- Advanced knowledge of business modes of innovation;
- Experiential, interaction-based innovation approach, critical for resource-constrained contexts;
- Gender diversity is linked to better organizational outcomes, yet its role in innovation remains underexplored;
- Insufficient research on how gender diversity interacts with innovation drivers;
- Provide actionable insights for managers and policymakers to enhance enterprise performance.

Theoretical background

DUI mode

- Learning-by-doing, by-using and by-interacting,
- Practice, experience, specialization in production, product customization, interaction and network;
- Tacit knowledge, know-how, know-who; Post-communist countries operate behind the technology frontier, have scarce financial resources for R&D, and grow mostly based on imported technology, the DUI mode naturally appeared as a dominant

Hypotheses

H1: Gender diversity has a positive direct impact on the innovation output

H2: Gender diversity has a positive indirect impact on the innovation output

H3: Gender diversity moderates the impact of the DUI drivers on the innovation output

H4: Gender diversity has a positive effect on the DUI drivers

Data and Methodology

- Data source: BEEPS
- Sample: 2,871 enterprises from 22 post-communist countries
- Multilevel ordinal probit regression and generalized SEM

Multi-level mixed-effect probit

Variable	M1a	M1b	M1c	M1d	M1e	M1f	M1g	M1h	M1i	M1j
Doing	.06***	.06***	.06***	.05***	.06***	.06***	.06***	.06***	.06***	.06***
Using	.27***	.27***	.27***	.27***	.27***	.27***	.26***	.30***	.27***	.27***
Interacting	.07*	.07*	.07*	.07*	.07*	.07*	.07*	.07*	0.07	0.03
RnD	.27***	.28***	.27***	.28***	.27***	.28***	.27***	.28***	.28***	.27***
Blau_owners	-0.13	-0.14		-0.9			-0.52		-0.28	
Blau_empl	0.36		0.36		0.46		0.61			-0.09
Blau_owners_Doing				0.11						
Blau_empl_Doing					-0.01					
Blau_owners_Using						0.17				
Blau_empl_Using							-0.11			
Blau_owners_Interact								0.05		
Blau_empl_Interact										0.14
lnAge	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
lnSize	-.08*	-.08*	-.08*	-.08*	-.08*	-.08*	-.08*	-.08*	-.08*	-.08*
Manufacturing	.19**	.20**	.19**	.21**	.19**	.20**	.19**	.21**	.21**	.19**
McFadden's R-squared	0.061	0.177	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176

Structural equation modelling

Indicator	M2a	M2b	M3c
Doing	.06***	.06***	.06***
Using	.24***	.24***	.24***
Interacting	.09**	.09**	.09**
RnD	.30***	.30***	.30***
Manufacturing	.17***	.17***	.17***
lnGII	-.87***	-.88***	-.88***
Doing			
FDI	.98***	.91***	.91***
LnCEO_experience	0.09	0.12	0.12
Univ_degree	0.01	-0.01	-0.01
LnSize	.28***	.27***	.27***
lnAge	.26***	.24***	.24***
Blau_owners	0.36		0.32
Blau_empl		2.06***	2.05***
Using			
FDI	.48***	.46***	.47***
LnCEO_experience	.11***	.12***	.11**
Univ_degree	0.01	0.01	0.01
LnSize	.20***	.19***	.20***
lnAge	.07*	.08*	.07*
Blau_owners	.54***		.53***
Blau_empl		0.08	0.07
Interacting			
FDI	.11**	.11**	.11**
LnCEO_experience	.09***	.09***	.09***
Univ_degree	-.01***	-.01***	-.01***
LnSize	-0.03	-0.03	-0.03
lnAge	.11***	.11***	.11***
Blau_owners	-0.05		-0.05
Blau_empl		-0.07	-0.07

Results

- No significant direct effect of gender diversity on innovation output;
- Gender diversity has a positive indirect impact on the innovation output through DUI drivers;
- No significant moderation effects of gender diversity on DUI drivers;
- Gender diversity has a positive effect on DUI drivers;
- All DUI drivers (Doing, Using, Interacting) positively affect innovation performance

Conclusion and implications

- Gender diversity at the workforce level has a positive effect on Doing drivers of innovation by fostering a richer pool of perspectives, experiences, and cognitive styles;
- Gender diversity in key strategic decision-making enhances innovation performance by fostering diverse perspectives in acquiring and implementing technologies and equipment;
- Promote policies that encourage gender diversity in the workplace. It can be incentives for firms to hire and promote women, offering training programs to enhance women's skills and leadership abilities, as well as subsidizing childcare and making it possible to reconcile and mandate diversity reporting;
- Integrate gender diversity metrics into strategic objectives;
- Design policies that go beyond R&D and support experiential, interaction-based learning DUI mode of innovation.