

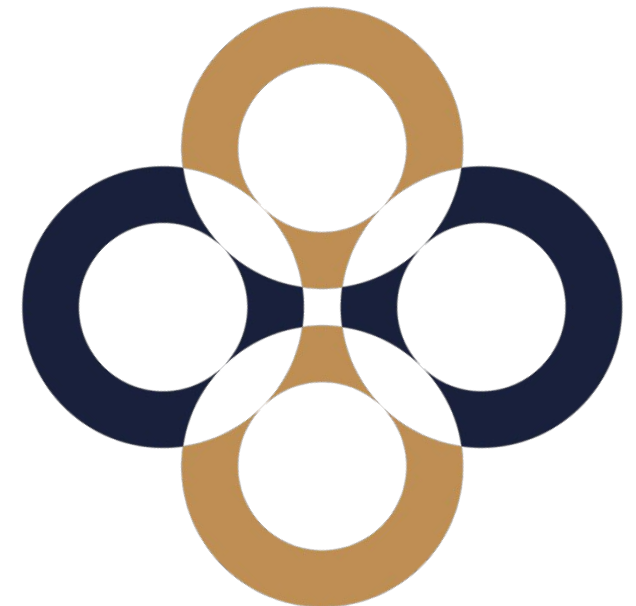
Investigating Leadership Styles and Skills Across the Turkic Nations: The Case of Hungary, Turkey, and Kazakhstan.

Unveiling Leadership Styles and Skills Through Serious Game Methodology

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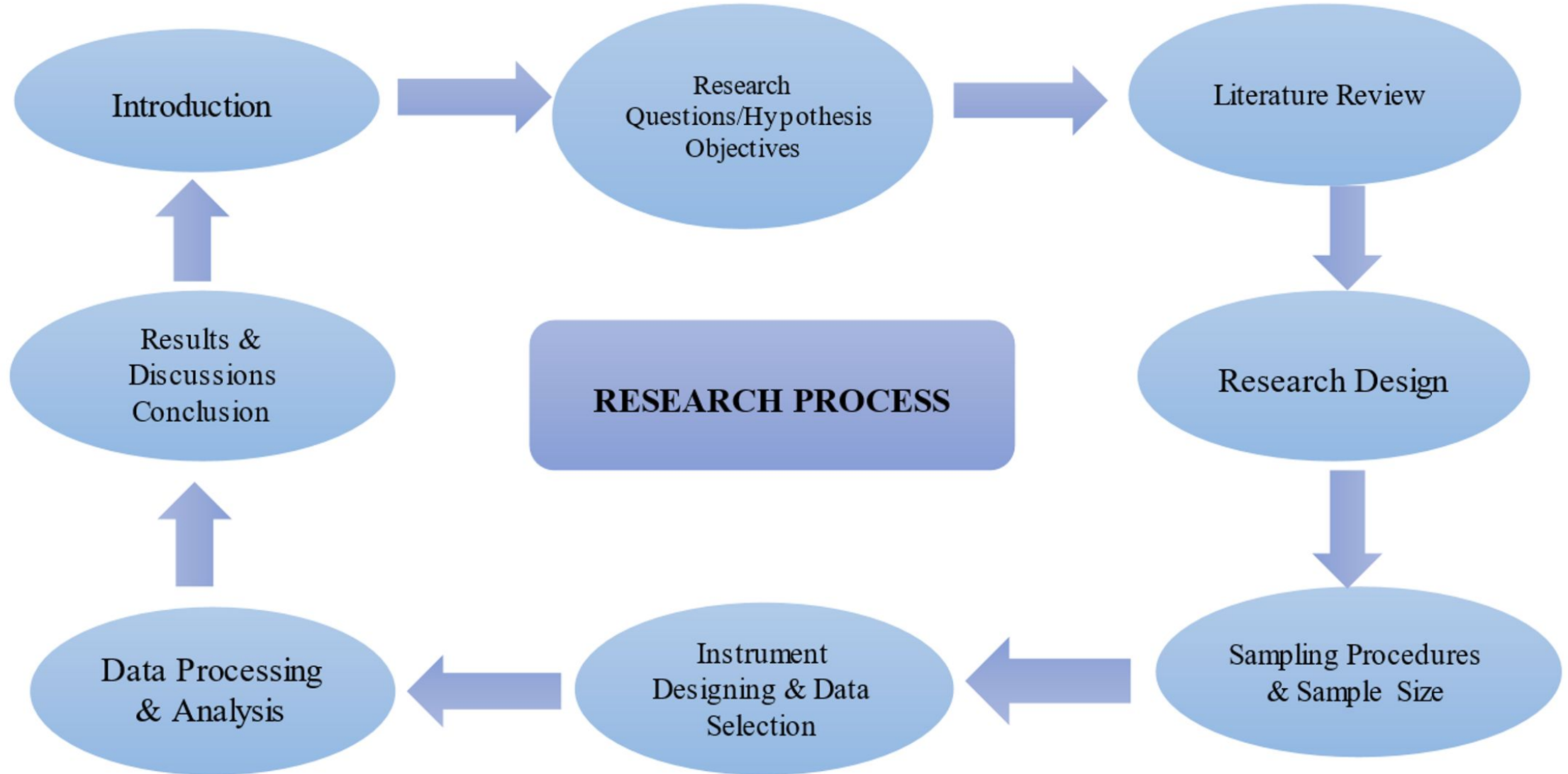
SIGNIFICANCE OF THE RESEARCH TOPIC

- Turkic nations: Hungary, Turkey, Kazakhstan — Organization of Turkic States is an umbrella organization
- Leadership skills assessed via serious game FLIGBY
- Leadership styles matter for organizational performance and international cooperation

PURPOSE OF THE RESEARCH TOPIC

The research aims to analyze leadership skills and styles in Hungary, Turkey, and Kazakhstan using the FLIGBY serious game.

THE RESEARCH OUTLINE



RESEARCH QUESTIONS

- R1. What are the distinct strengths and weaknesses in Hungarian, Turkish, and Kazakh managers' leadership skills as measured by FLIGBY's 29 skill metrics?
- R2. What are the *dominant leadership styles* exhibited by Hungarian, Turkish, and Kazakh managers in the Serious Game FLIGBY?
- R3. To what extent does the influence of transformational, sustainable, and flow-promoting leadership on organizational performance vary across Hungary, Turkey, and Kazakhstan in FLIGBY?

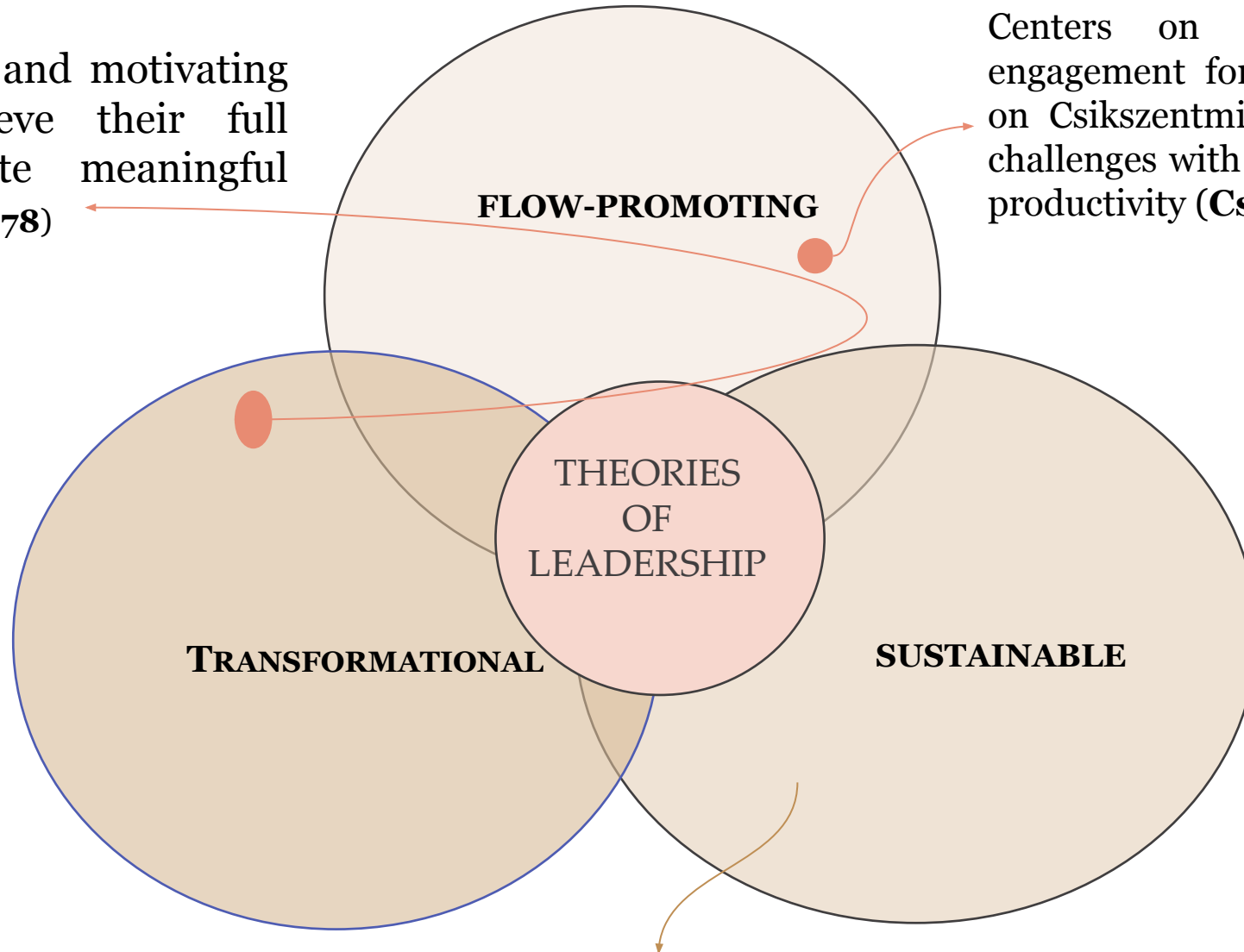
HYPOTHESES

- **H1:** Leadership styles differ significantly across Hungary, Turkey, and Kazakhstan in FLIGBY, with variations in transformational, sustainable, and flow-promoting approaches.
- **H2:** The leadership skillsets of managers from Hungary, Turkey, and Kazakhstan, as assessed through the FLIGBY simulation, reveal distinct strengths and weaknesses.
- **H3:** Transformational Leadership is the predominant leadership style among managers from Hungary, Turkey, and Kazakhstan in the Serious Game FLIGBY simulation, though sustainable and flow-promoting leadership exhibit varying degrees of prominence across these nations.
- **H4:** The impact of transformational, sustainable, and flow-promoting leadership styles on organizational performance is likely to exhibit variations among managers from Hungary, Turkey, and Kazakhstan in the Serious Game FLIGBY simulation.
- **H5:** There is a significant positive impact of Transformational leadership on Profit, Sustainability, and Flow in FLIGBY.
- **H6:** There is a significant positive impact of Sustainable leadership on Profit, Sustainability, and Flow in FLIGBY.
- **H7:** There is a significant positive impact of Flow-promoting leadership on Profit, Sustainability, and Flow in FLIGBY.

LITERATURE REVIEW I: LEADERSHIP THEORIES

Focuses on inspiring and motivating individuals to achieve their full potential and create meaningful change (Burns, J. M., 1978)

Centers on fostering deep focus and engagement for optimal performance. Based on Csikszentmihalyi's Flow Theory, it aligns challenges with skills to create motivation and productivity (Csikszentmihalyi, M., 1990).



Prioritizes ethical decision-making and long-term value creation. Builds resilient systems that benefit current and future generations, ensuring lasting impact (Hargreaves, A., & Fink, D., 2006).

LITERATURE REVIEW II. OVERVIEW

Sources	Construct	Findings	Limitations & future research
Karacsony (2021)	Leadership style & Organizational Performance	The results of this study established that there was a significant positive relationship between leadership and organizational performance	
Karacsony and Czibula (2020)	The relationship between organizational performance and style of leadership in Hungarian SMEs	The results indicate that leadership style has a significant effect on organizational performance in the studied enterprises	
Sabancı and Şahin (2016)	Interpersonal communication skills of inspection group leaders	Inspectors' and group leaders' views show significant differences in empathic listening, effectiveness, feedback, and trust dimensions	
Buzady et al. (2022)	FLIGBY serious game & Flow-promoting leadership	The measurement of leadership skills via serious gaming represents a novel way of auditing the skill sets of all manager-leaders at all organizational levels.	To explore the differences in leadership skills and styles in major global regions.
Buzady and Almeida (2019)	Serious game FLIGBY and management, leadership, and entrepreneurship skills	FLIGBY offers relevant potentials and new possibilities in the development of management, leadership, and entrepreneurship skills.	it is important to explore how performance in each of the 29 MAP dimensions has an impact on students' academic success through the use of non-parametric and parametric statistical techniques
Wimmer et al. (2022)	decision-making skills in relation to 29 leadership skills measured through FLIGBY, a Flow-developing serious game.	decision-making approaches could support the Flow-promoting leadership style, however intuitive thinking has a stronger relationship with it.	
Almeida and Buzad (2021)	serious game FLIGBY, soft skills, leadership development	FLIGBY can be used primarily to develop skills in dimensions such as leadership, conflict management, diplomacy and emotional intelligence	to conduct a longitudinal study to assess skills development considering a medium- to long-term perspective
Kiss and Schmuck (2020)	Business simulation game, management and leadership	main managerial skills are developed with simulation games but there is no need for enhanced mathematical and financial knowledge	Sustainability education could also benefit from simulations, since a well-designed simulation is able to provide appropriate skills and knowledge for students.
Sousa and Rocha (2018)	Leadership skills, game-based learning, leadership styles	a game-based learning approach is an effective approach to leadership skills development and the primary skills developed were: motivation, facilitation, coaching, mindset changing, and communication.	determining which games allow the transfer of competencies to the organisational context in a more efficient way 2. The role of the leader in successful and unsuccessful projects.

LITERATURE REVIEW III: RESEARCH GAPS

Prior Studies Have Not...

- ✓ Compared leadership styles in **Hungary, Turkey, and Kazakhstan** using FLIGBY.
- ✓ Tested **transformational, sustainable, and flow leadership together** in a simulation.
- ✓ Measured leadership's impact on **profit, sustainability, and flow** in these cultures.

This Study Fills the Gap By...

- ✓ Analyzing FLIGBY data from **three understudied countries**.
- ✓ Identifying **which leadership style dominates** in each culture.
- ✓ Linking leadership to **performance outcomes** in a simulated environment.

29 LEADERSHIP SKILLS MEASURED BY FLIGBY



Source: Buzady and Marer (2019)

LEADERSHIP STYLES, RELATED SKILLS & THE 29 FLIGBY LEADERSHIP SKILLS

TRANSFORMATIONAL LEADERSHIP (Burns, 1978)

- Idealized Influence
- Intellectual Stimulation
- Inspiration
- Individualized consideration



FLIGBY 29 LEADERSHIP SKILLS

- Delegation
- Empowerment
- Motivation
- Emotional Intelligence

(Almeida & Buzady, 2022)

SUSTAINABLE LEADERSHIP (A. Hargreaves and D.Fink, 2006)

- Manage complexity
- Challenge and innovate
- Exercise judgment
- Communicate vision



- Conflict Management
- Entrepreneurship / Risk-taking
- Prioritizing
- Future Orientation

(Visser & Courtice, 2011)

FLOW-PROMOTING LEADERSHIP (Csikszentmihalyi, 1990)

- Balancing Skills
- Feedback
- Recognizing Personal Strengths
- Strategic Thinking



- Balancing Skills
- Feedback
- Recognizing Personal Strengths
- Strategic Thinking

(Buzady and Marer, 2019)

THEORETICAL FRAMEWORK

INDEPENDENT VARIABLES

TRANSFORMATIONAL LEADERSHIP

- Delegation
 - Empowerment
 - Team Management
 - Emotional Intelligence
- (Almeida & Buzady, 2022).

SUSTAINABLE LEADERSHIP

- Conflict Management
 - Entrepreneurship / Risk-taking
 - Prioritizing
 - Future Orientation
- (Visser & Courtice, 2011)

FLOW-PROMOTING LEADERSHIP

- Balancing Skills
 - Feedback
 - Recognizing Personal Strengths
 - Strategic Thinking
- (Buzady and Marer 2019)

DEPENDENT VARIABLES

ORGANIZATIONAL PERFORMANCE

- FLOW
- SUSTAINABILITY
- PROFIT

NATIONAL CONTEXT (HUNGARY, TURKEY AND KAZAKHSTAN)

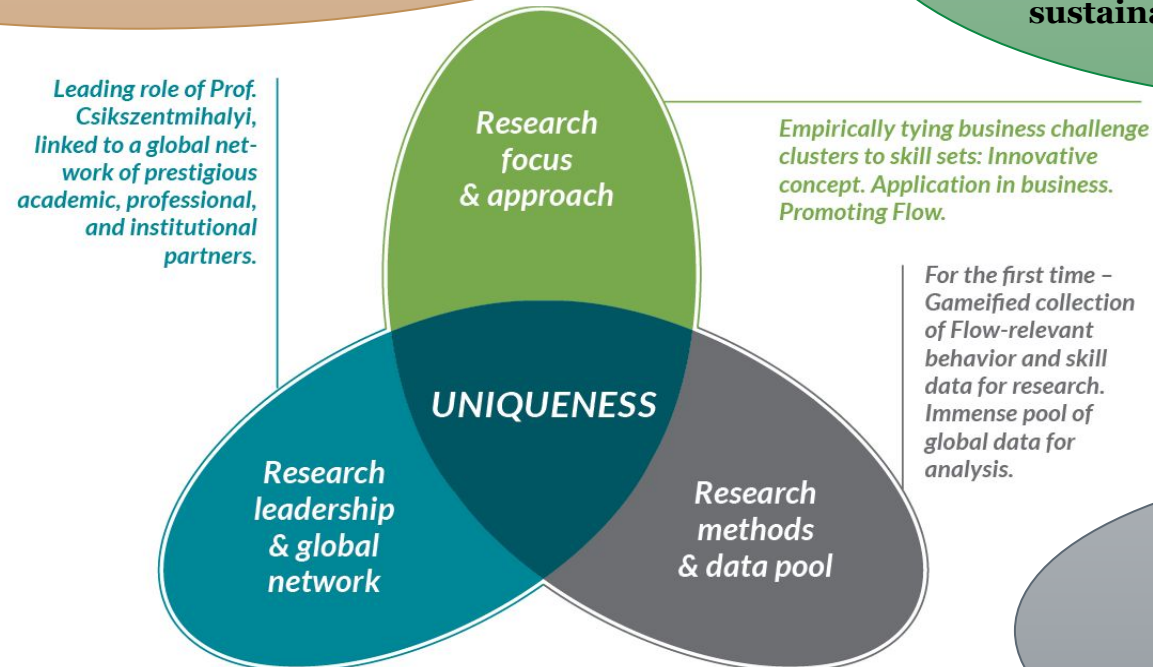
MEASUREMENT TOOL FLIGBY SERIOUS GAME

FLIGBY as a Serious Game

- Designed for leadership training
- Based on **Flow theory** and **positive psychology**
- Developed by **Csikszentmihalyi and colleagues (2007–2012)**
- Focuses on **leadership challenges and decision-making**

How FLIGBY Works

- Players make **150+ leadership decisions**
- Interactive movie-style **simulation**
- Algorithm evaluates **29 leadership skills**
- Measures impact on **profitability, Flow, sustainability, and team mental states**



Learning Outcomes

- Development of 29 Leadership Skills
- Strategic and Critical Thinking
- Self-Awareness & Personal Growth
- Team and Organizational Impact

Source: Buzady and Marer (2019)

DATA ANALYSIS AND RESULTS. (SMARTPLS 4 SOFTWARE)

1. Measurement Model assessment

1.1. Reliability and Convergent validity

1.2. Higher order and Lower order construct validation

DESCRIPTIVE ANALYSIS

Gender	Male	%	Female	%	Total
Hungary	351	54.08	298	45.92	649
Turkey	242	61.73	150	38.27	392
Kazakhstan	199	54.08	169	45.92	368

Pipeline across countries

	Senior managers	Business/func.head	First-line managers	Total
Hungary	177	236	236	649
Turkey	70	103	219	392
Kazakhstan	106	142	120	368

Managerial roles across countries

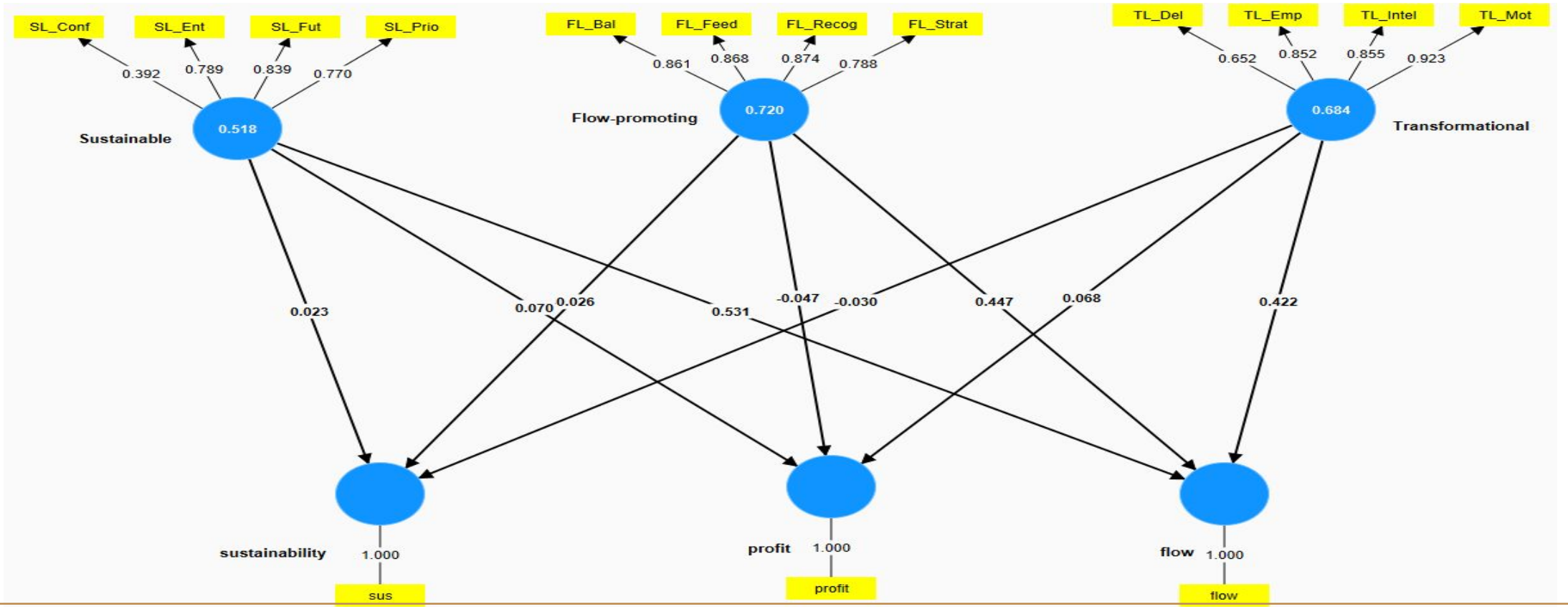
	Administrator	Entrepreneur	Expert	Leader	Manager	Total
Hungary	13	26	72	264	274	649
Turkey	33	20	66	84	189	392
Kazakhstan	39	25	62	79	163	368

Average Managerial Time (Experience).

	Less than One Year	1-3 Years	3-7 Years	7-15 Years	More than 15 Years	Total
Hungary	49	176	174	143	107	649
Turkey	45	136	111	78	22	392
Kazakhstan	68	121	109	53	17	368

Note: Descriptive analysis according to four categories. **Author's own compilation, data extracted from FLIGBY global database**

MEASUREMENT MODEL ASSESSMENT



Items	Hungary			Turkey			Kazakhstan			Complete		
	Alpha	CR	(AVE)	Alpha	CR	(AVE)	Alpha	CR	(AVE)	Alpha	CR	(AVE)
Flow-promoting Leadership	0.872	0.874	0.724	0.860	0.860	0.706	0.866	0.869	0.714	0.874	0.874	0.727
Sustainable Leadership	0.724	0.805	0.568	0.857	0.869	0.707	0.483	0.790	0.411	0.704	0.772	0.535
Transformational Leadership	0.846	0.870	0.691	0.828	0.907	0.661	0.845	0.897	0.683	0.848	0.905	0.688

NOTE: AVE, convergent validity, reliability, and Cronbach α of the constructs

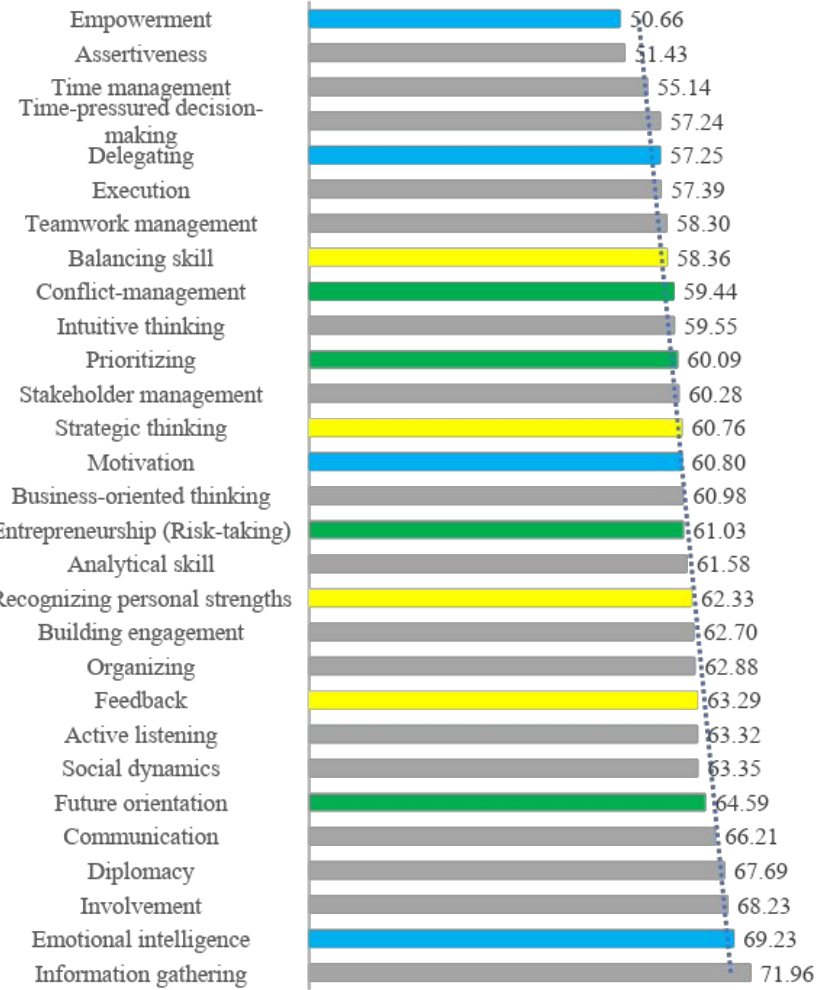
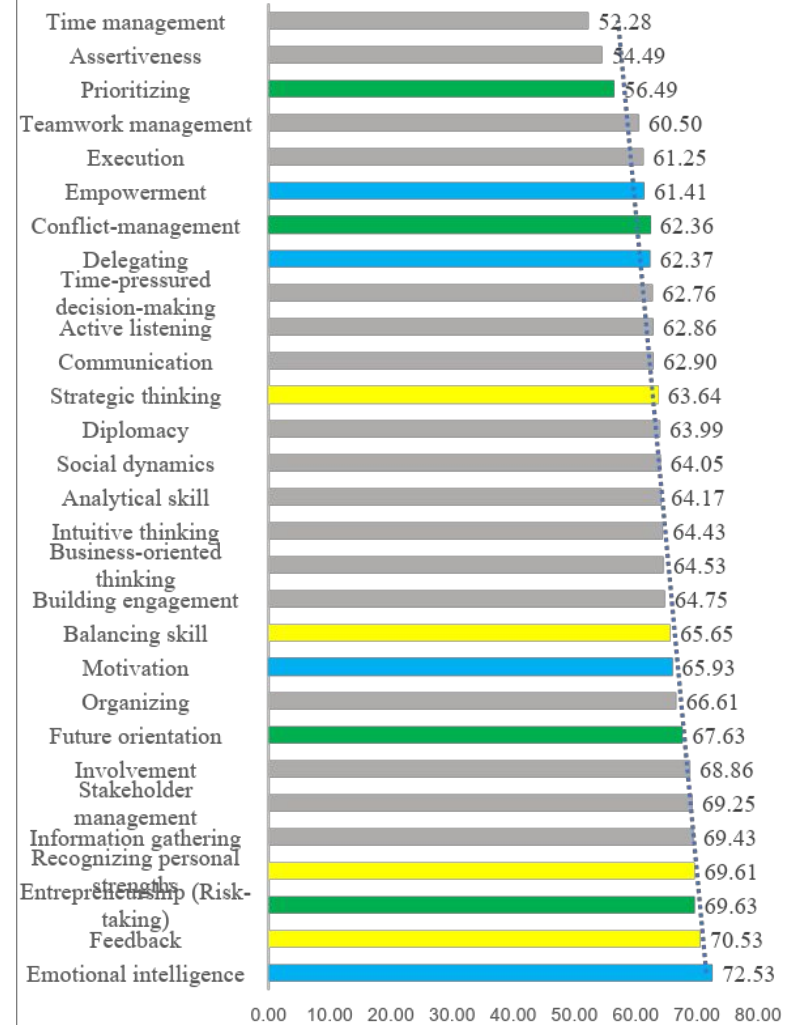
HIGHER-ORDER CONSTRUCTION VALIDATION (STRUCTURAL EQUATION MODEL)

Items	Hungary						Turkey						Kazakhstan						Complete					
	Outer Weights	T Statistics	P values	VIF	Outer Loadings	P Values	Outer Weights	T Statistics	P values	VIF	Outer Loadings	P Values	Outer Weights	T Statistics	P values	VIF	Outer Loadings	P Values	Outer Weights	T Statistics	P values	VIF	Outer Loadings	P Values
FL_Bal	0.301	81.425	0.000	2.629	0.868	0.000	0.304	54.425	0.000	2.603	0.854	0.000	0.328	61.405	0.000	2.197	0.855	0.000	0.293	115.714	0.000	2.686	0.861	0.000
FL_Feed	0.313	87.288	0.000	2.423	0.873	0.000	0.302	56.413	0.000	2.266	0.861	0.000	0.277	56.027	0.000	2.282	0.858	0.000	0.289	121.144	0.000	2.400	0.868	0.000
FL_Recog	0.285	70.589	0.000	2.394	0.854	0.000	0.293	62.366	0.000	2.615	0.875	0.000	0.291	69.802	0.000	2.526	0.878	0.000	0.283	119.378	0.000	2.671	0.874	0.000
FL_Strat	0.290	27.563	0.000	1.772	0.765	0.000	0.292	29.419	0.000	1.673	0.766	0.000	0.288	32.132	0.000	1.720	0.787	0.000	0.317	56.008	0.000	1.652	0.788	0.000
SL_Conf	0.286	43.840	0.000	1.096	0.811	0.000	0.048	0.649	0.206	1.012	0.060	0.258	0.016	0.809	0.350	1.007	0.069	0.209	0.141	9.372	0.000	1.077	0.392	0.000
SL_Ent	0.331	69.912	0.000	2.428	0.849	0.000	0.399	23.568	0.000	1.324	0.761	0.000	0.395	39.464	0.000	1.764	0.844	0.000	0.343	50.387	0.000	1.662	0.789	0.000
SL_Fut	0.309	98.662	0.000	2.524	0.899	0.000	0.383	16.937	0.000	1.313	0.740	0.000	0.453	73.702	0.000	1.942	0.890	0.000	0.409	63.332	0.000	1.753	0.839	0.000
SL_Prio	0.293	30.789	0.000	1.354	0.713	0.000	0.507	28.836	0.000	1.269	0.809	0.000	0.341	24.654	0.000	1.457	0.769	0.000	0.429	48.672	0.000	1.286	0.770	0.000
TL_Del	0.240	25.749	0.000	1.447	0.666	0.000	0.141	8.578	0.002	1.481	0.539	0.000	0.205	16.992	0.000	1.529	0.671	0.000	0.199	28.406	0.000	1.553	0.652	0.000
TL_Emp	0.298	71.256	0.000	2.461	0.860	0.000	0.266	41.083	0.000	2.414	0.859	0.000	0.246	41.149	0.000	2.191	0.835	0.000	0.247	77.556	0.000	2.423	0.852	0.000
TL_Intel	0.346	71.259	0.000	2.320	0.849	0.000	0.413	41.821	0.000	2.259	0.868	0.000	0.358	54.687	0.000	2.189	0.853	0.000	0.391	95.939	0.000	2.120	0.855	0.000
TL_Mot	0.319	101.575	0.000	3.233	0.910	0.000	0.367	87.683	0.000	3.024	0.919	0.000	0.380	131.592	0.000	3.096	0.926	0.000	0.353	199.684	0.000	3.238	0.923	0.000

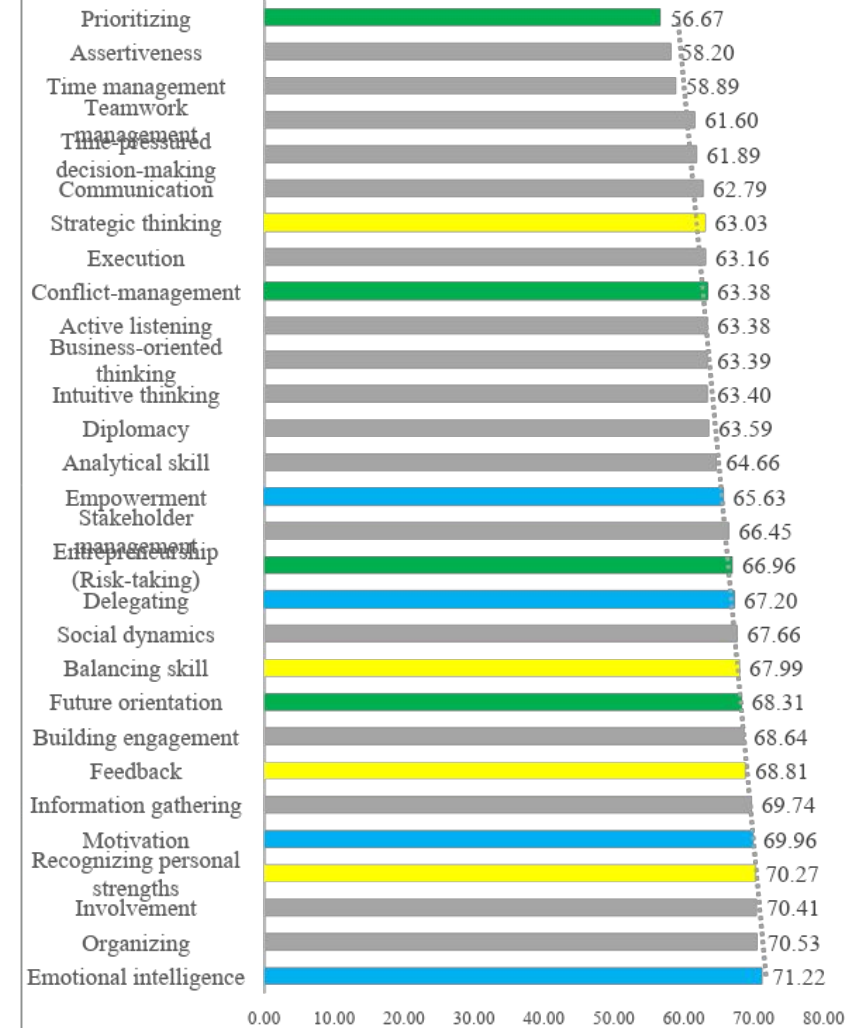
Note: VIF-Variance Inflation Factor values less than or equal to 5 (Hair et al., 2021) indicate no multicollinearity issues.

29 FLIGBY LEADERSHIP SKILLS ACROSS THREE COUNTRIES

Hungary



Kazakhstan



The 29 leadership skills measured in FLIGBY(N=1409). Color coding: **blue** –transformational leadership skills, **green**-sustainable leadership skills, **yellow**-flow-promoting leadership skills. Source: **Author's own compilation, data extracted from FLIGBY global database**

ANALYSIS OF LEADERSHIP SKILLS THROUGH THREE COUNTRIES

HUNGARY

Emotional intelligence **72.53**
Feedback **70.53**
Entrepreneurship / Risk-taking **69.63**

Prioritizing **56.49**
Assertiveness **54.49**
Time management **52.28**

TURKEY

Information gathering **71.96**
Emotional intelligence **69.23**
Involvement **68.23**

Time management **55.14**
Assertiveness **51.43**
Empowerment **50.66**

KAZAKHSTAN

Emotional intelligence **71.22**
Organizing **70.53**
Involvement **70.41**

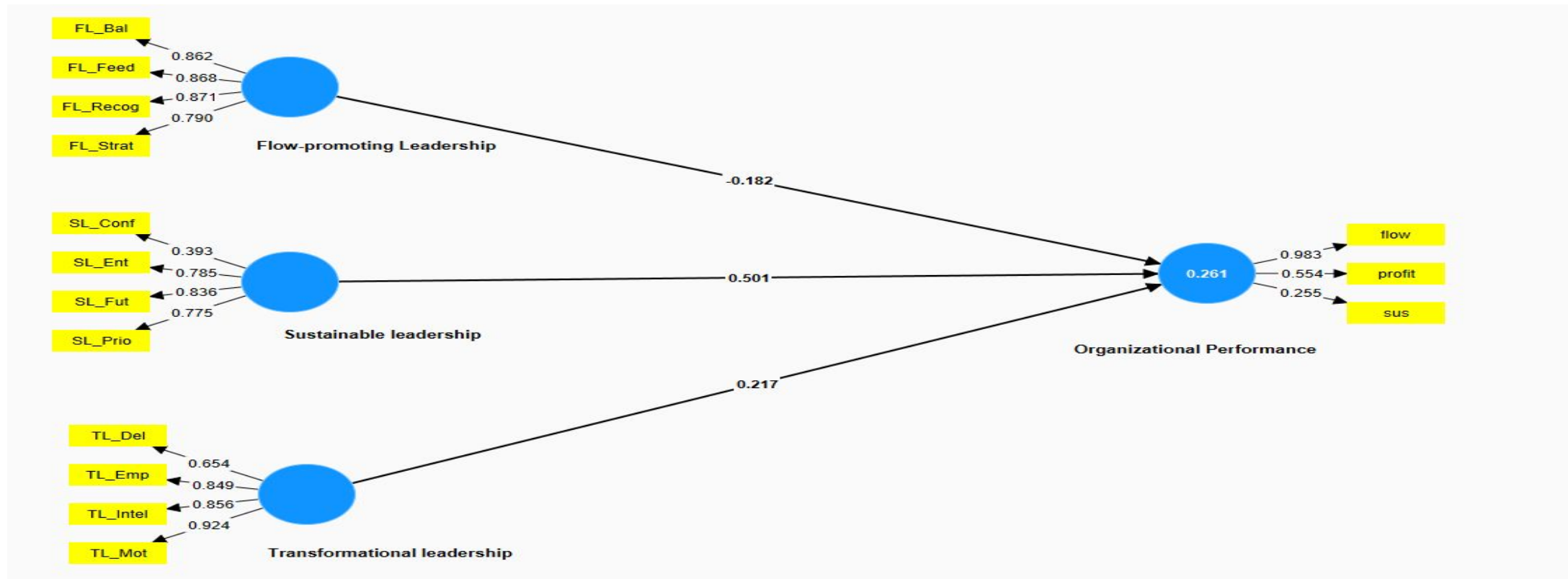
Time management **58.89**
Assertiveness **58.20**
Prioritizing **56.67**

2. Structural Model assessment

2.1. Direct relationships

2.2. Multi-group analysis

HYPOTHESIS TESTING. DIRECT RELATIONSHIPS



Hypothesis	Hungary				Turkey				Kazakhstan				Completed			
	B	T	P	Results	B	T	P	Results	B	T	P	Results	B	T	P	Results
H5: TL-> OP	0.456	8.810	0.000	Supported	0.130	2.069	0.019	Supported	0.151	2.279	0.011	Supported	0.217	5.471	0.000	Supported
H6: SL-> OP	0.311	4.240	0.000	Supported	0.469	7.637	0.000	Supported	0.421	4.619	0.000	Supported	0.501	11.950	0.000	Supported
H7: FPL-> OP	0.008	0.074	0.470	Not Supported	-0.091	1.052	0.146	Not Supported	0.074	0.685	0.247	Not Supported	-0.182	2.765	0.003	Supported

Note* Relationships are significant at $P < 0.05$, B=Beta Coefficient, T=t-Statistics, P=Probability (P) value

MULTI-GROUP ANALYSIS

	Difference (Hungary - Turkey)	P- value	Difference (Hungary - Kazakstan)	P- value
FPL -> OP	0.099	0.242	-0.066	0.338
SL -> OP	-0.158	0.050	-0.110	0.173
TL -> OP	0.326	0.000	0.305	0.000

Note: The differences are significant in the relationship between the three countries ($P < 0.05$)

- ✓ **First comparative study** analyzing leadership styles (transformational, sustainable, flow-promoting) across **Hungary, Turkey, and Kazakhstan** using **FLIGBY**.

- ✓ Validated **29 FLIGBY leadership skills** mapped to three theoretical frameworks, confirming their cross-cultural applicability.

- ✓ Identified **dominant leadership styles** per country:
 - **Transformational leadership** showed significant prevalence (supporting **H3**).
 - Sustainable and flow-promoting styles exhibited **variations by national context**.

- ✓ Demonstrated **positive impacts** of leadership styles on organizational outcomes (**profit, sustainability, flow**), supporting **H4–H7**.

- ✓ Provided empirical evidence linking **leadership skills to performance metrics** in a simulated environment.

CONTRIBUTION AND FINDINGS, LIMITATION, CONCLUSION AND NEXT STEPS

- ✓ Limited to **FLIGBY simulation**—real-world validation needed.
- ✓ Focus on **three countries**—expanding to more **Turkic nations** can enhance insights.
- ✓ Future studies should explore **long-term impact** of leadership styles beyond simulations.

NEXT STEPS.....

- ✓ Checking differences between years of the FLIGBY data (2014-2024)
- ✓ Analyzing data based on managers' age classification and industry sector in the FLIGBY dataset
- ✓ To publish papers according to my research topic



**Thank you for
your attention!**

