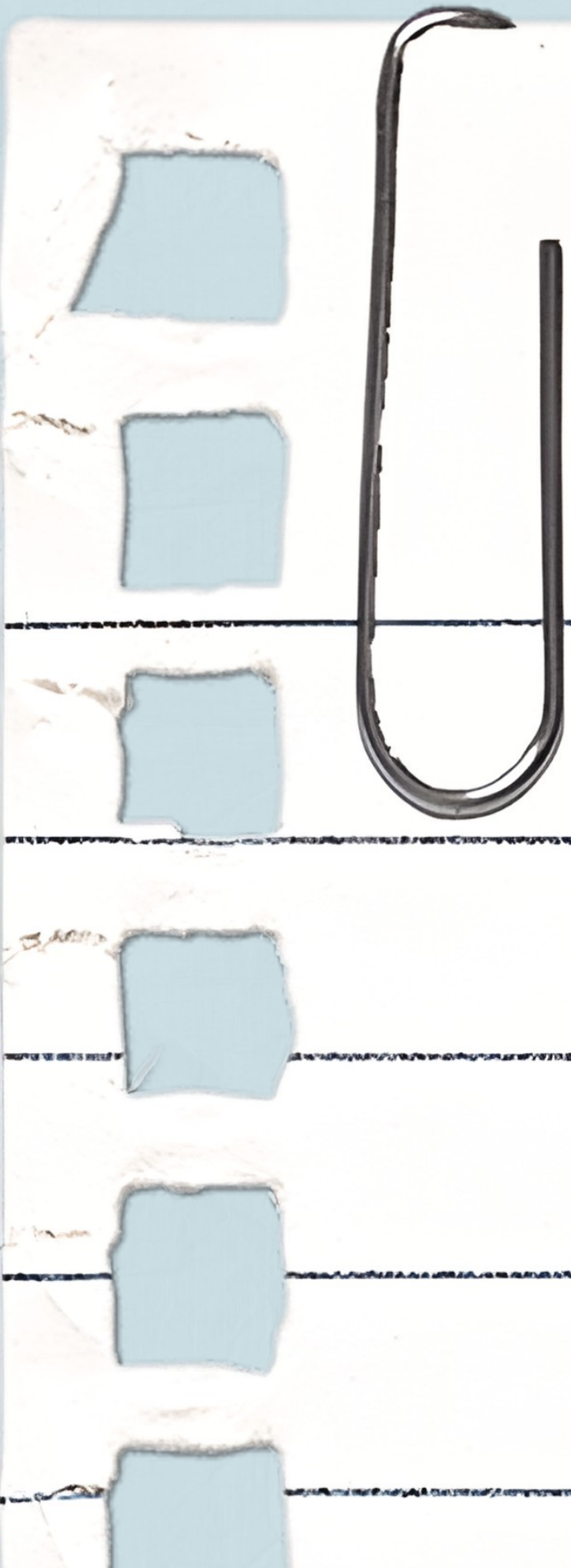


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AI-Based Tools as a Catalyst for Adaptive Organizational Behavior in the Non-Financial Sector

Author: Gerdana Miteva

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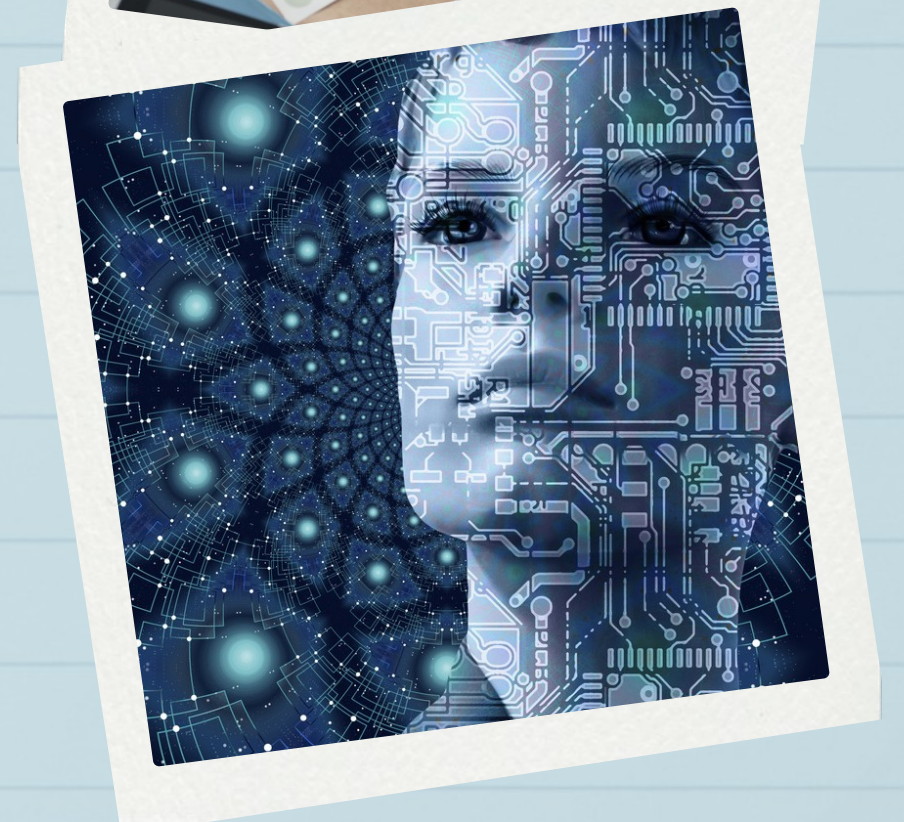
Introduction & Research Objective

- Context

The contemporary business environment is characterized by high uncertainty, dynamic market changes, and rapid technological development. For non-financial sector enterprises, the capacity for adaptation is crucial for competitiveness. Traditional data management systems are often too slow for critical decision-making.

- Objecti

To examine the perceived role of artificial intelligence (AI)-based tools as a potential catalyst for adaptive organizational behavior in the non-financial sector.



Introduction & Research Objective

Research
Tasks

1 To clarify the theoretical framework of organizational adaptability and the role of digital technologies.



2 To present the methodology of the empirical survey.

3 To analyze the collected data regarding **AI** usage, organizational adaptability, and employee adaptation.



4 To formulate conclusions and practical guidelines.

Methodology & Measurement Instrument

- Sample & Design

The empirical study was conducted in **August 2026** via an online questionnaire among **100 respondents** (employees, specialists, and managers) from the non-financial sector.



- Demographics & Profile

45% hold a Master's degree, **32%** a Bachelor's degree, **11%** a Ph.D. Gender: **62%** female, **34%** male. By company size: **37%** large, **28%** medium, **19%** small, **16%** micro-enterprises. By position: **30%** managers, **27%** specialists.

Methodology & Measurement Instrument

- Scales & Reliability

Composite indices evaluated via Cronbach's Alpha (N = 100).

Tab.1 Reliability of Measurement Scales

Measurement Scale	Indicators	Cronbach's Alpha (α)	Valid Observations (N)
AI_Catalyst	Q5, Q6, Q7 Q5 managerial decision support, Q6 faster responses to change, and Q7 new development opportunities	0.895	100
Organizational_Adaptability	Q8, Q9, Q10 Q8 organizational adaptation, Q9 process adaptation, and Q10 employee adaptation	0.855	100

Methodology & Measurement Instrument

- Research

Hypotheses

H1

•
•

There is a positive relationship between the perceived role of **AI**-based tools (**AI_Catalyst**) and organizational adaptability (**Organizational_Adaptability**).

H2

•
•

There is a positive relationship between **AI_Catalyst** and employees' ability to adapt to new technologies (**Q10**).



H3

•

There are differences in organizational adaptability across groups defined by the frequency of **AI** usage (**Q4**).

H4

•
•

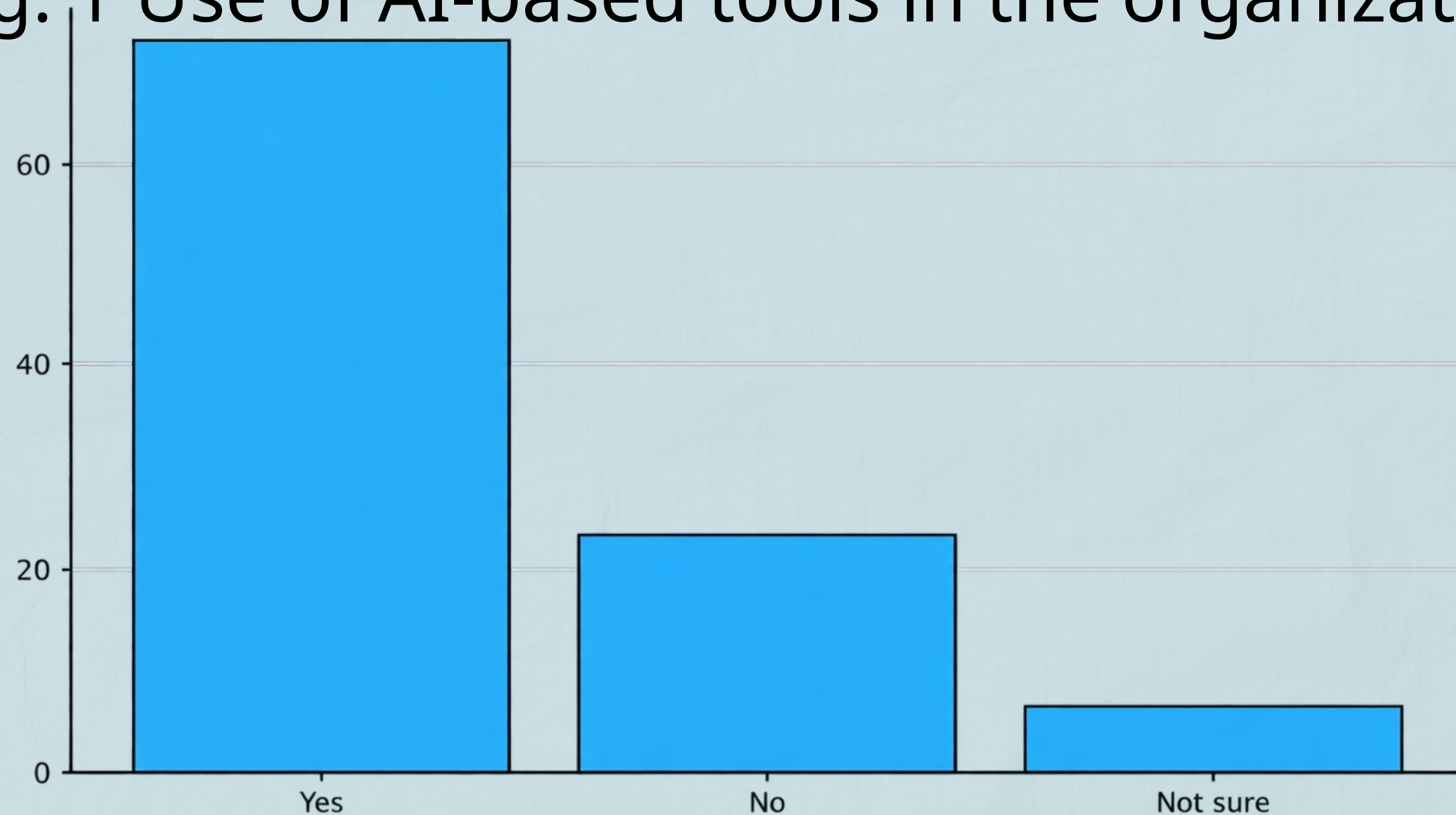
There are differences in indicators across organization-size groups (**Q18**).

Results & Visualizations

- AI Adoption and Functional

Adoption Status: **70.0%** of organizations use **AI**, **23.0%** do not use **AI**, and **7.0%** are uncertain.

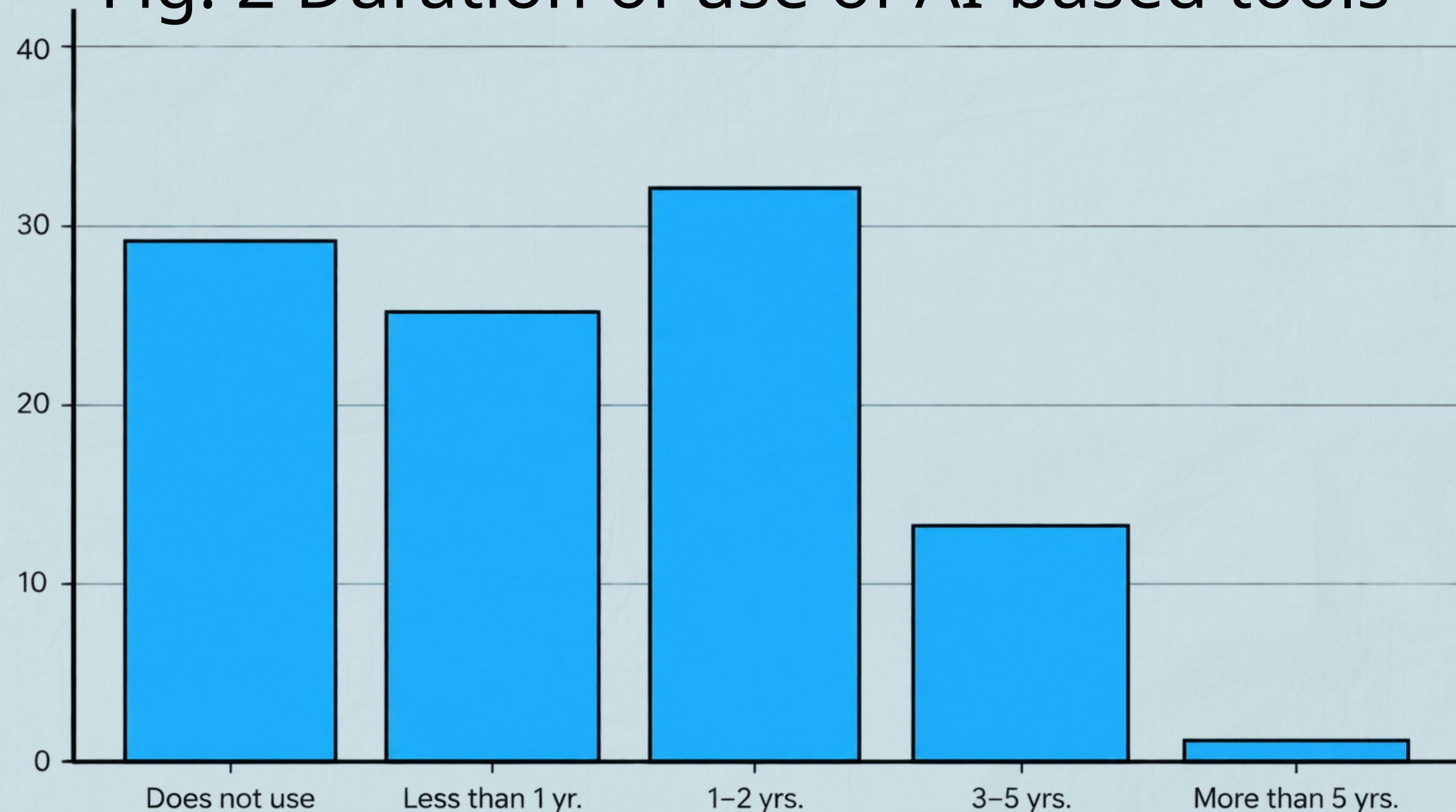
Fig. 1 Use of AI-based tools in the organization



Results & Visualizations

Duration of Use: Organizations with **1-2 years** of experience hold the largest share (**32.0%**), followed by less than **1 year** (**25.0%**).

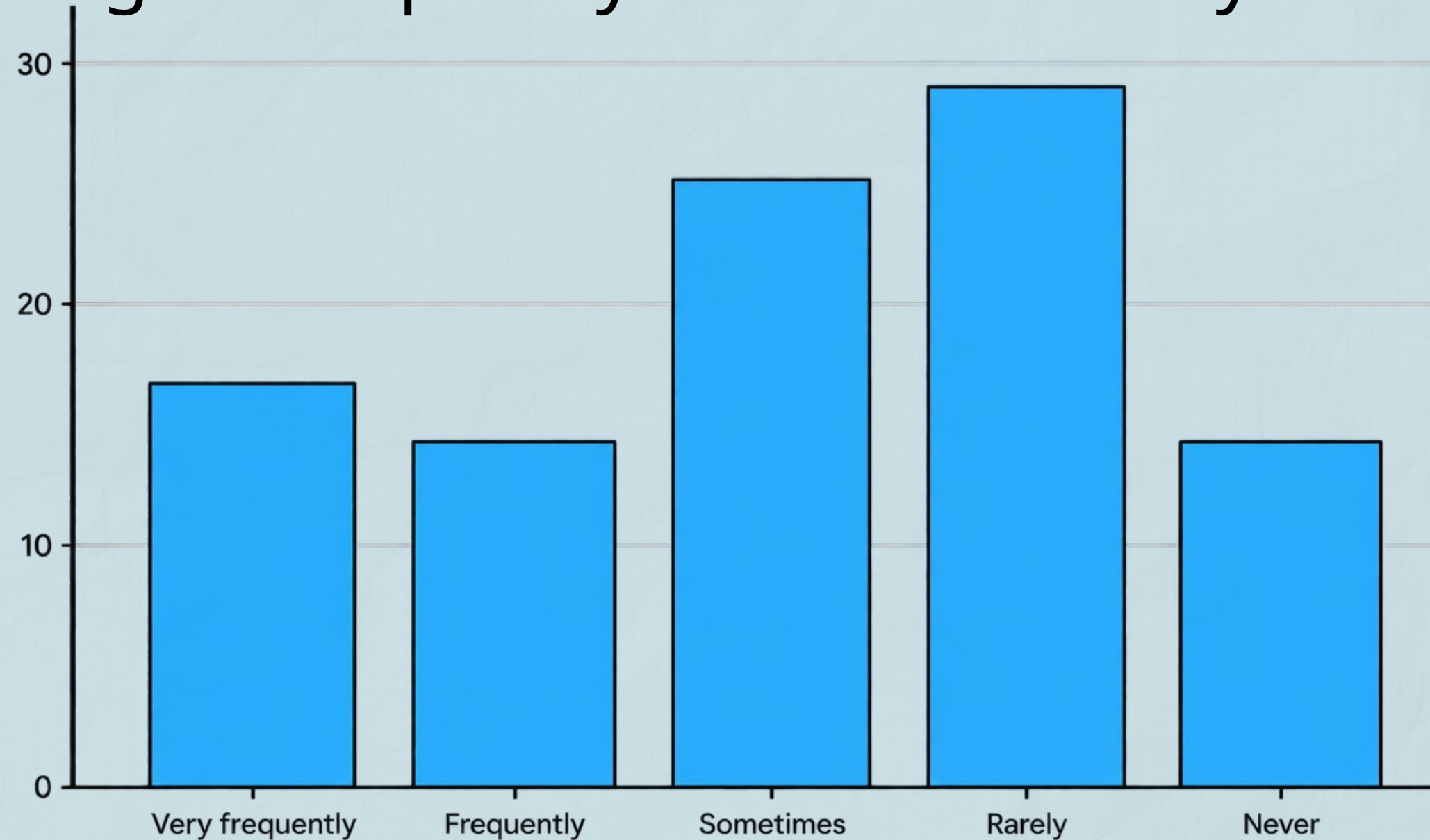
Fig. 2 Duration of use of AI-based tools



Results & Visualizations

Frequency of Use in Daily Work: **31.0%** use **AI** with high frequency (“very frequently” – **17.0%** and “frequently” – **14.0%**), **26.0%** “sometimes”, **29.0%** “rarely”, and **14.0%** “never”.

Fig. 3 Frequency of AI use in daily work



Results & Visualizations

Functional Areas: Multiple responses (total **265**) indicate the following leading applications.

Tab. 2 Functional areas of application of AI-based tools

<i>Application Area</i>	<i>Number of Responses</i>	<i>% of Respondents</i>
<i>Text and document generation and processing</i>	54	54.00%
<i>Data analysis and processing</i>	50	50.00%
<i>Automation of routine activities</i>	36	36.00%
<i>Marketing and communications</i>	34	34.00%
<i>Decision-making support</i>	19	19.00%
<i>Customer service</i>	18	18.00%
<i>Forecasting and planning</i>	17	17.00%
<i>Human resource management</i>	8	8.00%
<i>Other</i>	29	29.00%
<i>Total responses</i>	265	265.00%

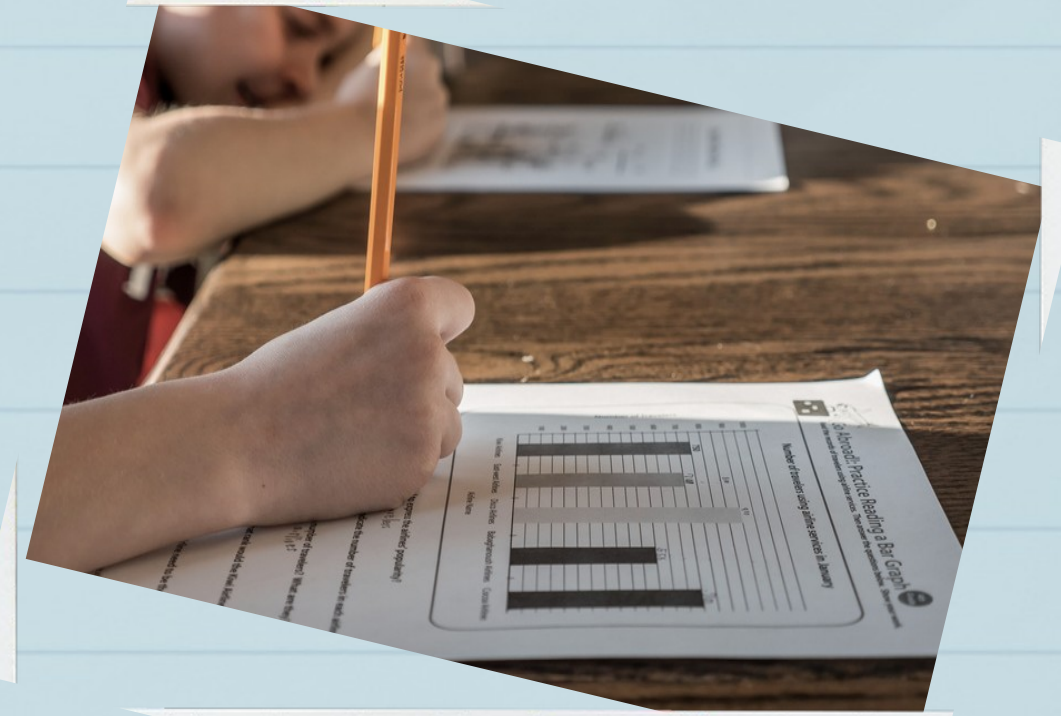
Note: Multiple responses were permitted; therefore, percentages represent the proportion of respondents selecting each application area and do not sum to **100%**. The total number of recorded responses was **265**

Results & Visualizations

- Hypothesis Testing (Statistical Results)

Testing

A moderate positive monotonic association was established via **Spearman's correlation** ($\rho = 0.402$, $p < 0.001$). The simple linear regression model is statistically significant ($F(1, 98) = 55.526$, $p < 0.001$, $R^2 = 0.362$). **H1 is supported.**



Testing

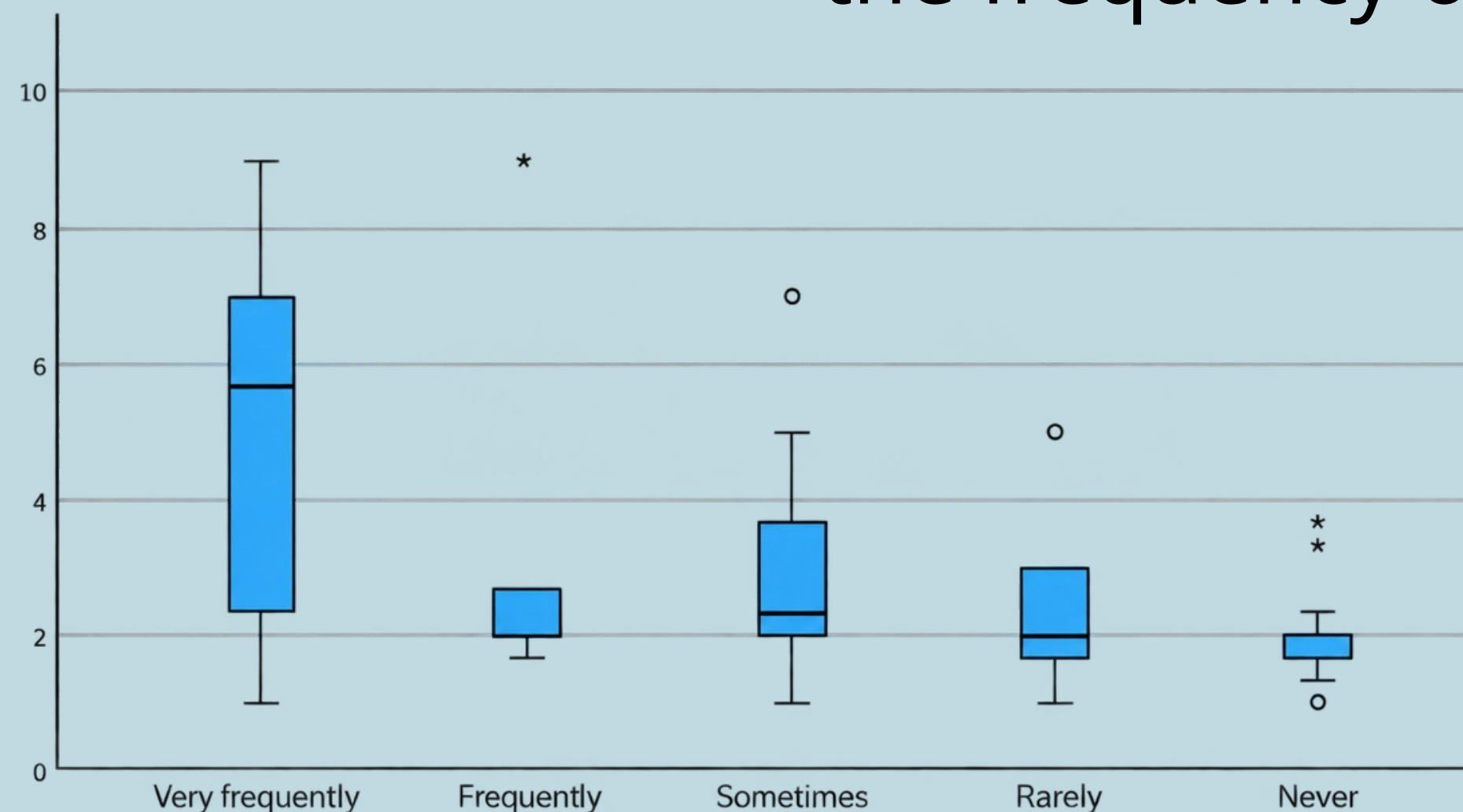
The regression model for employee adaptability (**Q10**) against **AI Catalyst** is significant ($F(1, 98) = 39.517$, $p < 0.001$, $R^2 = 0.287$, $\beta = 0.536$). **H2 is supported.**

Results & Visualizations

Testing

The **Kruskal-Wallis test** reveals statistically significant differences across usage-frequency groups ($H(4) = 15.046, p = 0.005$).

Fig. 4 Distribution of Organizational_Adaptability according to the frequency of AI use



The diagram shows the distribution of organizational adaptability relative to **AI** usage frequency. The highest mean rank is observed in the “very frequently” group (**72.74**), while the lowest is in the “never” group (**37.14**).



There is no monotonic increase in adaptability with increasing frequency of use
– **H3 is supported** solely regarding the existence of differences between extreme groups.

Results & Visualizations

Testing

The **Kruskal-Wallis test** regarding organization size shows no statistically significant differences for any of the analyzed indicators. **H4 is not supported.**

Tab. 3 Kruskal-Wallis test results according to organization size (H4)

<i>Indicator</i>	<i>Statistic H</i>	<i>Degrees of Freedom (df)</i>	<i>p-value</i>
<i>The use of AI enables the organization to respond more quickly to changes in the business environment (Q6)</i>	3.755	3	0.289
<i>The organization in which I work adapts quickly to changes in the external environment (Q8)</i>	1.375	3	0.711
<i>The organization in which I work quickly changes its processes when conditions require it (Q9)</i>	1.051	3	0.789
<i>Employees in the organization adapt quickly to new technologies and requirements (Q10)</i>	4.759	3	0.19
<i>The use of AI-based tools enhances the organization's ability to adapt to uncertainty and change (Q11)</i>	1.773	3	0.621

Conclusion



- Artificial intelligence should not be viewed as an independent and automatic driver of change, but as a catalyst whose potential is realized through the interaction between technological capabilities, organizational processes, and the human factor.
- For successful adaptation, organizations must combine technological deployment with the targeted development of employee skills and appropriate managerial support.

About Me

I'm



Gergana
Miteva

- Education

Bachelor's and Master's degrees in Business Administration (**UNWE**).

- Academic

First-year regular Ph.D. Student,
Department of Management (**UNWE**).

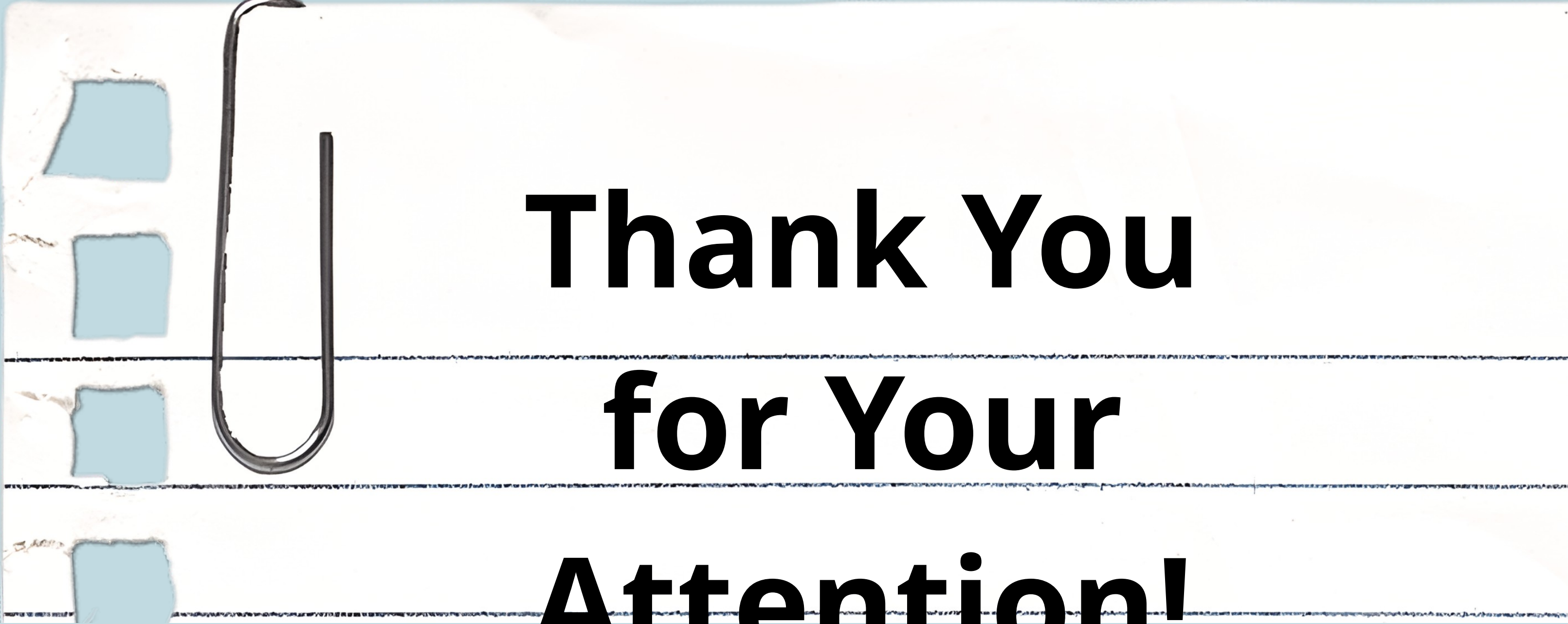
- Research

Organizational adaptive behavior, digital transformation, and the application of **AI** tools in the non-financial sector.

Contact Me



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Gergana Miteva

A black metal paperclip is positioned vertically on the left side of a piece of off-white, lined paper. The paper has four rectangular punch holes along its left edge. The background is a solid light blue color.

**Thank You
for Your
Attention!**