



TASK 10 – RESEARCH SKILLS 2

Field:
Cybersecurity

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Research Skills (2)

Task 10

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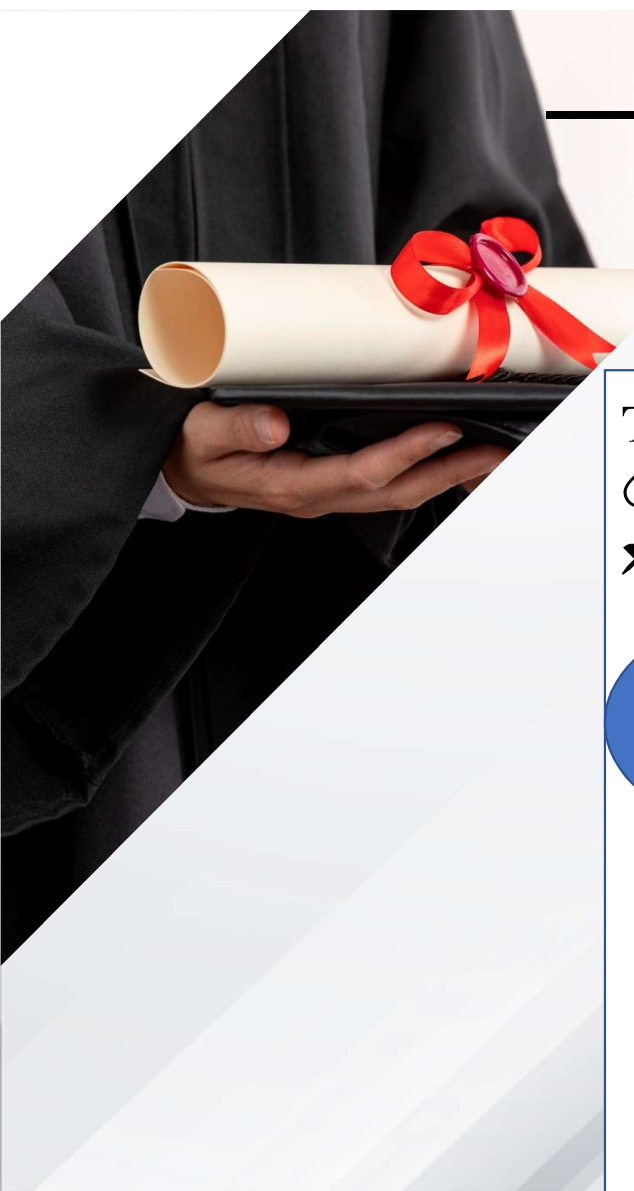
1. Choosing the scientific topic (at the heart of cybersecurity)

Title of the Selected Original Scientific Research

“Factors Influencing the Adoption of Cybersecurity Practices in Organizations”

This type of research is at the heart of the field of cybersecurity, as it directly deals with:

- the protection of information systems,
- security practices,
- organizational behavior in the face of cyber threats.



2. Using an Artificial Intelligence Tool

Tool used

☞ **ChatGPT (generative artificial intelligence tool)**

✦ **Instruction given to the tool**

"Based on the following research title, generate a research problem, research questions, objectives, and hypotheses."

◆ 3. Results generated by the AI tool (ChatGPT)

a) Research problem (AI-generated)

Many organizations continue to experience cybersecurity incidents despite the availability of security technologies. This raises questions about the factors that influence the adoption of effective cybersecurity practices within organizations.

b) Research Questions (AI)

What factors influence the adoption of cybersecurity practices in organizations?
How does organizational awareness affect cybersecurity adoption?
What role do technical and human factors play in cybersecurity implementation?

c) Objectifs de la recherche (IA)

- 1) To identify key factors influencing the adoption of cybersecurity practices.
- 2) To analyze organizational awareness regarding cybersecurity.
- 3) To examine the impact of human and technical factors on cybersecurity adoption.

d) Research hypotheses (AI)

- H1: Organizational awareness has a significant impact on cybersecurity adoption.
- H2: Technical readiness positively influences cybersecurity practices.
- H3: Human factors significantly affect the implementation of cybersecurity measures.

4. Content of Original Scientific Research (Comparison)

📄 In published original research, one generally finds:

✓ A more specific problem:

sectoral context (SMEs, public administrations, cloud, etc.)
mention of recent cyberattacks
theoretical framework (Technology Acceptance Model, Protection Motivation Theory...)

✓ More targeted questions:

link to a specific geographical or organizational context
well-defined variables

✓ More operational objectives:

measurable
linked to specific indicators
✓ More rigorous hypotheses:

statistical formulation
relationship between independent and dependent variables
empirically testable

5. Critical Comparison: Original Research vs AI

Q Main Differences

Element	Original research	AI Result
Problem	Contextualized, precise	General, descriptive
Questions	Specific, targeted	General
Objectives	Measurable, operational	Straight but wide
Hypotheses	Statistically formulated	Acceptable but simplified

6. Evaluating the Quality of AI Results

✓ Highlights of AI

- Speed
- Logical structure
- Good overall coherence
- Useful as a starting point

✗ Limitations of AI

- Lack of scientific depth
- Absence of theoretical framework
- No empirical contextualization
- Hypotheses sometimes too general

7. Answer to the key question

Was it enough to rely solely on the artificial intelligence tool?

✗ No.

☐ Artificial intelligence does not replace:

☐ domain knowledge,

☐ mastery of scientific methods,

☐ the researcher's experience,

☐ critical thinking skills.

✓ It should be used as an aid tool, not as a standalone solution.

8. General Conclusion (Key Message)

AI can:

- help structure an idea,
- suggest initial formulations,
speed up certain steps.

But scientific research requires:

- ✓ methodological skills,
- ✓ real academic practice,
- ✓ a deep understanding of the field being studied.

KEY REFERENCES – TASK 10

1. *Class by our professor Dr. Amira Gado* in “مهارات بحثية 2”
Course "Artificial Intelligence Tools and Scientific Research: A Complete Journey Toward the Academic Future"
2. Central reference in cybersecurity (core of the field)
Anderson, R. (2020). Security Engineering: A Guide to Building Dependable Distributed Systems (3rd ed.). Wiley. Armonk, NY: IBM Corp.
3. Adoption of cybersecurity practices
Herath, T., & Rao, H. R. (2009). Encouraging information security behaviors in organizations: Role of penalties, pressures and perceived effectiveness. *Decision Support Systems*, 47(2), 154–165.
4. **Generative AI and Researcher Skills**
van Dis, E. A. M., et al. (2023). ChatGPT: Five priorities for research. *Nature*, 614(7947), 224–226.
5. Scientific Research Methodology
Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). Sage Publications.



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Thank You

