

Digital transformation for Sustainability (third semester)

The theoretical framework for Digital Transformation

Prof. ssa Giustina Secundo – Secundo@lum.it

Ordinario di Ingegneria Economico Gestionale (SSD ING-IND 35)

(41° Cycle First semester)

Course Format

We have 6 four-hour sessions of teaching classes, plus 4 hours of interactive teaching, dedicated to e-tivity supporting the students' final work development. While sessions may differ somewhat in their execution, each session will generally touch upon the following issues:

- Describe and articulate the research questions raised by a paper.
- Describe the theoretical framework and explain the arguments that are brought to bear on the research questions.
- Assess how relevant the research questions are in scientific and societal advancement.
- Assess how sound and convincing the theoretical arguments developed.
- Describe the data and assess how well they capture the phenomena of interest.
- Describe the research methods and evaluate how appropriate they are in addressing the research questions.
- Summarize the findings and conclusions.
- Point out the scope, limitations, strengths and weaknesses of the study.
- At the end of each session, synthesize (not summarize!) what you have learned from this body of articles and outline new possible research questions.

Note that we expect you to be prepared to do these things on all papers. Before the session, each student must:

- **Read the papers;**
- **Analyze the papers;**
- **Prepare a short (about 12-15 slides) presentation** (please use ppt) in which you highlight: The theoretical context/framework of the paper, the research question(s)/hypotheses, the methodology used by the author(s), the results, the main conclusions and implications, and the limits and clues for future research suggested by the author(s). Your presentation should also include and point out the main logic flow of the paper, the research question(s), strengths and weaknesses, your critical point of view, your future developments.
- **Assignment for each session to be submitted no later than the day before each session date (midnight!) through Classroom. Assignment for each session to be submitted no later than the day before each session date (midnight!) through Classroom:**

Course evaluation: The final evaluation will consist of:

- **Class participation (10%).**
- **Assessment of each session assignment (20% of grade):** Participants must be prepared for each session. Reading the articles will hardly be enough. Your objective must be to understand them.
- **Final individual paper (70% of grade).**



Detailed syllabus with sessions' assignment

Interactive teaching activities (4 hours) will be scheduled with the students throughout the semester.

Session 1	
November, 3rd 2025 (h 9-13) G. Secundo	
Topic	<i>The theoretical framework for Digital Transformation</i>
Assignments	<p><u>Readings:</u></p> <ul style="list-style-type: none"> • Plekhanov, D., Franke, H., & Netland, T. H. (2023). Digital transformation: A review and research agenda. <i>European Management Journal, Vol 41, Issue 6, 821-844</i> • Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business and management research: An overview of the current status quo. <i>International Journal of Information Management, 63, 102466.</i> • Vial, G. (2021). Understanding digital transformation: A review and a research agenda. <i>Managing Digital Transformation, 13-66.</i> • Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. <i>Research Policy, 48(8), 103773.</i> • Gong, C., & Ribiere, V. (2021). Developing a unified definition of digital transformation. <i>Technovation, 102, 102217.</i> • Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. <i>Sage Open, 11(3).</i> <p><u>Further readings:</u></p> <ul style="list-style-type: none"> • Nadkarni, S., & Prügl, R. (2021). Digital transformation: a review, synthesis and opportunities for future research. <i>Management Review Quarterly, 71(2), 233-341.</i>

Session 2	
November, 13th 2025 (h 9-13) G. Secundo	
Topic	<i>Innovation Ecosystem and Digital Transformation</i>
Assignments	<p><u>PRESENTER 1</u></p> <ul style="list-style-type: none"> • Corrales-Garay, D., Rodríguez-Sánchez, J. L., & Montero-Navarro, A. (2024). Co-creating Value with Artificial Intelligence. A Bibliometric Approach to the Use of AI in Open Innovation Ecosystems. <i>IEEE Access.</i> <p><u>DISCUSSANT 1</u></p> <ul style="list-style-type: none"> • Leone, D., Schiavone, F., Appio, F. P., & Chiao, B. (2021). How does artificial intelligence enable and enhance value co-creation in industrial markets? An exploratory case study in the healthcare ecosystem. <i>Journal of Business Research, 129, 849-859.</i> <p><u>PRESENTER 2</u></p> <ul style="list-style-type: none"> • Primario, S., Rippa, P., & Secundo, G. (2024). Peer innovation as an open innovation strategy for balancing competition and collaboration among technology start-ups in an innovation ecosystem. <i>Journal of Innovation & Knowledge, 9(2), 100473.</i> <p><u>DISCUSSANT 2</u></p> <ul style="list-style-type: none"> • Roundy, P. T. (2022). Artificial intelligence and entrepreneurial ecosystems: understanding the implications of algorithmic decision-making for startup communities. <i>Journal of Ethics in Entrepreneurship and Technology, 2(1), 23-38.</i> <p><u>PRESENTER 3</u></p> <ul style="list-style-type: none"> • Bejjani, M., Göcke, L., & Menter, M. (2023). Digital entrepreneurial ecosystems: A systematic literature review. <i>Technological Forecasting and</i>



	<p><i>Social Change</i>, 189, 122372.</p> <p><u>DISCUSSANT 3</u></p> <ul style="list-style-type: none"> Mariani, M. M., Machado, I., & Nambisan, S. (2023). Types of innovation and artificial intelligence: A systematic quantitative literature review and research agenda. <i>Journal of Business Research</i>, 155, 113364. <p><u>PRESENTER 4</u></p> <ul style="list-style-type: none"> Ştefan, S. C., Popa, I., & Breazu, A. (2025). A new framework for the artificial intelligence entrepreneurship ecosystem. <i>Journal of Innovation & Knowledge</i>, 10(6), 100850. <p><u>DISCUSSANT 4</u></p> <ul style="list-style-type: none"> Secundo, G., Spilotro, C., Gast, J., & Corvello, V. (2024). The transformative power of artificial intelligence within innovation ecosystems: a review and a conceptual framework. <i>Review of Managerial Science</i>, 1-32.
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Session 3	
November, 18th 2025 (h 14-18) – G. Secundo	
<i>Topic</i>	<i>Open Innovation and Digital transformation</i>
<i>Assignments</i>	<p><u>Readings:</u></p> <ul style="list-style-type: none"> Holgerson, M., Dahlander, L., Chesbrough, H., & Bogers, M. L. (2024). Open Innovation in the Age of AI. <i>California Management Review</i>, 67(1), 5-20. Konopik, J., Jahn, C., Schuster, T., Hoßbach, N., & Pflaum, A. (2022). Mastering the digital transformation through organizational capabilities: A Conceptual Framework. <i>Digital Business</i>, 2(2), 100019. Orlando, B., Scuotto, V., Cillo, V., & Del Giudice, M. (2025). University-Business R&D collaborations and innovation in light of Artificial Intelligence: a new AI-based Open Innovation paradigm. <i>The Journal of Technology Transfer</i>, 1-29. Saarikko, T., Westergren, U. H., & Blomquist, T. (2020). Digital transformation: Five recommendations for the digitally conscious firm. <i>Business Horizons</i>, 63(6), 825-839.

Session 4	
November, 19th 2025 (h 14-18) G. Secundo	
<i>Topic</i>	<i>Dynamic capabilities for Digital Transformation</i>
<i>Assignments</i> Presenters will present the assigned paper. Discussants will criticize the presented paper based on, and starting from, the assigned paper	<p><u>Readings:</u></p> <p><u>PRESENTER 1</u></p> <ul style="list-style-type: none"> Warner, K. S., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. <i>Long range planning</i>, 52(3), 326-349. <p><u>DISCUSSANT 1</u></p> <ul style="list-style-type: none"> Chirumalla, K. (2021). Building digitally-enabled process innovation in the process industries: A dynamic capabilities approach. <i>Technovation</i>, 105, 102256. <p><u>PRESENTER 2</u></p> <ul style="list-style-type: none"> Helfat, C. E., & Raubitschek, R. S. (2018). Dynamic and integrative capabilities for profiting from innovation in digital platform-based ecosystems. <i>Research policy</i>, 47(8), 1391-1399. <p><u>DISCUSSANT 2</u></p> <ul style="list-style-type: none"> Kindermann, B., Salge, T. O., Wentzel, D., Flatten, T. C., & Antons, D. (2022). Dynamic capabilities for orchestrating digital innovation



	<p>ecosystems: Conceptual integration and research opportunities. <i>Information and Organization</i>, 32(3), 100422.</p> <p><u>PRESENTER 3</u></p> <ul style="list-style-type: none"> • Ellström, D., Holtström, J., Berg, E., & Josefsson, C. (2021). Dynamic capabilities for digital transformation. <i>Journal of Strategy and Management</i>. Vol. 15 No. 2, pp. 272-286. <p><u>DISCUSSANT 3</u></p> <ul style="list-style-type: none"> • Mele, G., Capaldo, G., Secundo, G., & Corvello, V. (2023). Revisiting the idea of knowledge-based dynamic capabilities for digital transformation. <i>Journal of Knowledge Management</i>, print. https://doi.org/10.1108/JKM-02-2023-0121. <p><u>PRESENTER 4</u></p> <ul style="list-style-type: none"> • Schneider, M. H., Kanbach, D. K., Kraus, S., & Dabić, M. (2023). Transform me if you can: leveraging dynamic capabilities to manage digital transformation. <i>IEEE transactions on engineering management</i>, 71, 9094-9108. <p><u>DISCUSSANT 4</u></p> <ul style="list-style-type: none"> • Magistretti, S., Pham, C. T. A., & Dell'Era, C. (2021). Enlightening the dynamic capabilities of design thinking in fostering digital transformation. <i>Industrial Marketing Management</i>, 97, 59-70. <p><u>Further readings:</u></p> <ul style="list-style-type: none"> • Teece, D. J. (2023). The evolution of the dynamic capabilities framework. In <i>Artificiality and sustainability in entrepreneurship</i> (pp. 113-129). Springer, Cham.
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Session 5	November, 24th 2025 (h 14-18), G. Secundo
<i>Topic</i>	<i>Artificial Intelligence and the impact on Entrepreneurial Ecosystem</i>
<i>Assignments</i>	<p><u>Readings:</u></p> <ul style="list-style-type: none"> • Khan, S., Mehmood, S., & Khan, S. U. (2025). Navigating innovation in the age of AI: how generative AI and innovation influence organizational performance in the manufacturing sector. <i>Journal of Manufacturing Technology Management</i>, 36(3), 597-620. • Roundy, P. T., & Asllani, A. (2024). Understanding AI innovation contexts: a review and content analysis of artificial intelligence and entrepreneurial ecosystems research. <i>Industrial Management & Data Systems</i>, 124(7), 2333-2363. • Hannigan, T. R., Briggs, A. R., Valadao, R., Seidel, M. D. L., & Jennings, P. D. (2022). A new tool for policymakers: Mapping cultural possibilities in an emerging AI entrepreneurial ecosystem. <i>Research Policy</i>, 51(9), 104315. • Barile, D., Secundo, G., & Del Vecchio, P. (2025). An artificial intelligence-based innovation ecosystem enabling open innovation and sustainable growth: evidence from a case study. <i>Innovation</i>, 1-23. • Cimino, A., Troise, C., Corvello, V., & Bresciani, S. (2025). Artificial intelligence and dynamic capabilities: how startups can thrive in entrepreneurial ecosystems amid disruptive change. <i>International Entrepreneurship and Management Journal</i>, 21(1), 97. • Roundy, P. T. (2022). Artificial intelligence and entrepreneurial ecosystems: understanding the implications of algorithmic decision-making for startup communities. <i>Journal of Ethics in Entrepreneurship and Technology</i>, 2(1), 23-38.



Session 6	December, TBD .h 2025 G. Secundo (h 9 – 13)
<i>Topic</i>	<i>Draft proposal of research assignment</i>
Assignments	<p><u>Prepare your research proposal to develop your final paper about an idea coherent with the topic of the module. Please highlight:</u></p> <ul style="list-style-type: none">● Why your research question is relevant● Which session does your research proposal refer to● What method are you going to apply● What your work plan is● What is your submission strategy <p>Be ready with a power point presentation. Presentations will last for about 25-30 minutes + Q&As</p>