Product Management Strategies For Ai Integration In American Higher Education

Shashank Lohani, College of Engineering, Northeastern University, Boston

Abstract

The adoption of Artificial Intelligence (AI) in American Higher Education is becoming more and more viewed as a strategic direction to improving learning outcomes and endeavors of institutions. However, the actualisation of AI technologies call for proper management of products so as to avoid unsuccessful deployment. This article aims to examine the function of product management with reference to the implementation of AI in the context of higher education considering the main problem and specifics of working with it for the educational institution. The research focuses on the identification of the current global practices in the implementation of AI, practices of developing AI products, management of such solutions in higher education institutions and the identification of general practices and trends in the context of AI in general. Based on the examples of AI projects in education this article defines key lessons on how to approach AI projects: · Communication with the stakeholders · Systems' development in accordance with the agile methodologies and iterative approach. The identified challenges point to the need to integrate AI products to the overall institutional objectives, create cross-sector ties between academic and administrative divisions and consider the issues of AI solutions' scalability and future-proofing. By applying the strategy set by Icomp, the product managers and educational leaders of higher education institutions will find guidance in integrating AI into their institutions. Several of the approaches presented in this article are intended to help address main challenges, unlock AI's potential, and foster innovation in learning environment.

Keywords: *AI in Higher Education, Product Management in AI, AI Integration Strategies, Stakeholder Engagement in Education, Agile Methodologies in AI Projects*

1. Introduction

AI deployment in the American higher learning institutions has attracted much consideration over the last decade given the reform drives to enhance how institutions deliver education. Machine Learning, Natural Language Processing, and data analysis systems have demonstrated much potential to change the functioning of universities and colleges in terms of administration, student and learning processes. However, implementing of AI in higher learning institutions comes with some challenges. Schools face the following challenges when trying to adopt AI solutions: School is a large system organization organization; they have a small budget which can easily be depleted; and, education systems are at different levels of technology adoption.

With this article, the author wants to identify how product management strategies can be utilised to address these issues and enable the successful implementation of AI into the tertiary education sector. Specifically, the article addresses the question: In what way and manner can Product Management Frameworks and Strategies be implemented so as to support the efficient utilization of AI Technologies in academic Institutions? Based on the findings of the case studies and relevant literature and successful AI adoption the article provides prescriptive strategies for leaders and product managers in the field of education.

The first section synthesises the current state of Artificial Intelligence in higher learning institutions and discusses the advantages and disadvantages. Subsequent to that, the article explores the role of strategic product management for AI integration with major points turning to products, engaging stakeholders, securing resources, and continuing a cycle of product development. Finally, the article offers some actionable recommendations that educational organisations can follow to effectively leverage the AI solutions, in order to guarantee future organisational development.

2. Literature Review

Over the years, AI has found its way into the American higher learning system, and different institutions have tested how it can be applied to transform , academic as well as administrative operations. This section recaps the basic concepts, issues, and recommended practices as presented in current literature of AI Implementation with a special reference to product management approach.

1. Recent Development in AI in Higher Education

Recent research also shows that various applications of AI tool are being implemented across some aspects of learning, teaching, learning support services, and campus administrative management in higher learning institutions. Intelligent systems have been adopted in opportunities related to correcting the curriculum content according to the level of students' learning, the efficiency of the administrative functions, and the decision-making processes of the faculty members. For instance, AI applications are helping in learning management system in the present paradigm of higher education and chatbots, and virtual assistants are available 24/7 to support the students.

Table 1: ai applications in higher education

AI Application	Area of Impact	Example
Personalized Learning	Student Engagement	Adaptive learning platforms (e.g., Coursera)
Administrative Automation	Efficiency in Operations	AI chatbots for student inquiries
Grading and Assessment	Academic Integrity & Feedback	Automated grading systems (e.g., Turnitin)
Research and Data Analysis	Research Productivity	AI tools for data mining and research

2. Product Management in AI Integration

AI integration in higher learning institutions needs solid product management fundamentals to be effective. As pointed out in the study by Bauer et al., (2021), the task of product management in integrating AI requires a consideration of technology and education in institutions. Scholars note that for AI products, their effectiveness, as well as compliance with the objectives of institutions of higher learning, must be guaranteed by product managers. It also involves creating a framework for a product roadmap aligning with feedback from key stakeholders such as the faculty, administrators, the students and IT personnel in the switch to AI; and realizing solutions that are scalable for different institutions.

Several studies pointed out the importance of the Agile product management, especially in terms of AI implementation. Agile approaches are inherently flexible and can be altered based on the genuine responses to the current education and developing requirements which will allow consistent enhancement of the products.

Table 2: key product management strategies for ai in higher education

Strategy	Description	Example of Use
Stakeholder Engagement	Involve faculty, staff, and students in decision-making	Regular feedback loops from users
Agile Methodology	Implementing iterative development cycles	Frequent product updates and refinements
Resource Allocation	Allocate sufficient resources for AI projects	Budgeting for AI infrastructure

3. Promising Pre Cases of AI actives and Real-time Us

A number of institutions of learning have applied artificial intelligence in their systems in higher learning. For instance, Stanford University recently launched an Artificial Intelligence tutoring system, which reformats the learning content depending on the best performance of a learner, and it boosted the performance of the students. Likewise, through the AI chatbot called Jill Watson, students, faculty, and staffs of Georgia Tech can attend to administrative issues – thus minimizing the burden of jobs for professors and staffs.

These cases illustrate a strategic means of managing the product, and underline the necessity of a change in AI products' orientation to institutional objectives, stimulation of collaboration between related divisions as well as their flexibility over the course.

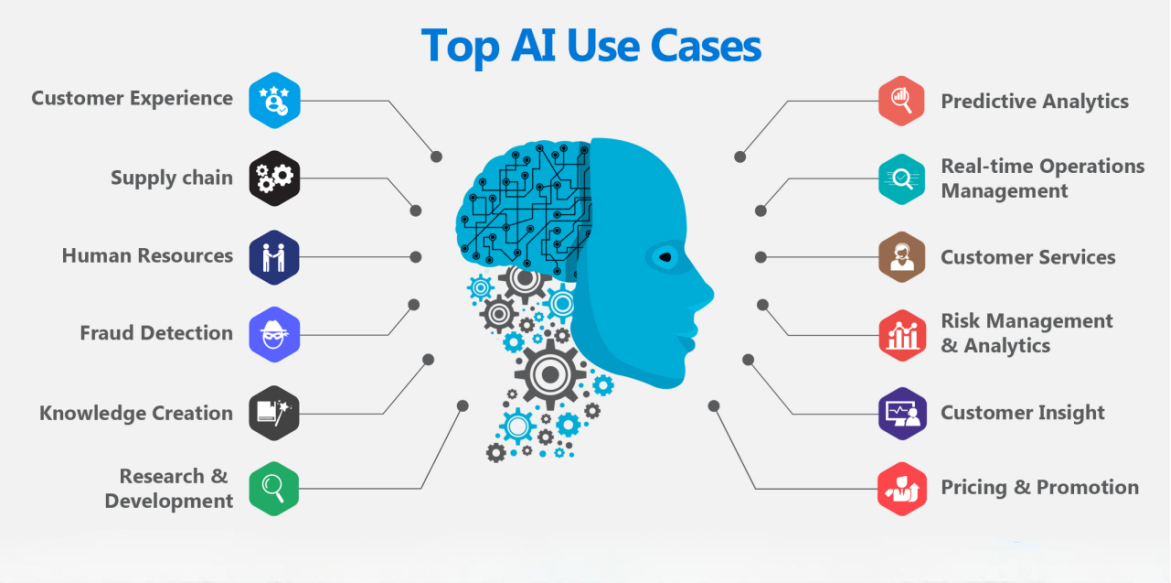


Figure 1: Promising Pre Cases of AI actices and Real-time Us

Source: https://www.linkedin.com/pulse/10-use-cases-artificial-intelligence-salim-laskar

3. Methodology

This article uses both quantitative and qualitative methods to examine the use of the product management framework in the AI integration in American higher learning institutions. Data collection and analysis methods include the analysis of qualitative case studies, an evaluation of the existing literature and higher education professional insights collected in a survey. The following note the processes followed in the collection and analysis of data as follows:

3.1. Literature Review

Based on this need, a survey of the literature was first conducted to establish understanding of current trends and practices concerning AI application in higher learning institutions. This was based on peer reviewed articles, research papers and reports from scholarly databases, educational journals, and well documented case studies involving the integration of AI in learning systems.

3.2. Case Study Analysis

Several cases were chosen to review key approaches in AI implementation in American higher learning institutions. The ones selected were based on institutions that had already brought AI into some operational applications in areas of learning delivery, administrative management, and student services. And as selected cases should demonstrate, these objectives are achievable with the help of AI and can be successfully implemented both at a large scale and in terms of primarily educationally oriented projects. Tangible details like the percentage of users, issues and difficulties involved, and implications on the learning achievements were obtained from these cases.

Table 3: case studies of successful ai integration in higher education

Institution	AI Application	Outcome
Stanford University	AI-powered tutoring system	Increased student engagement and performance
Georgia Tech	AI chatbot (Jill Watson)	Reduced administrative workload
University of Arizona	Personalized learning platform	Improved learning outcomes

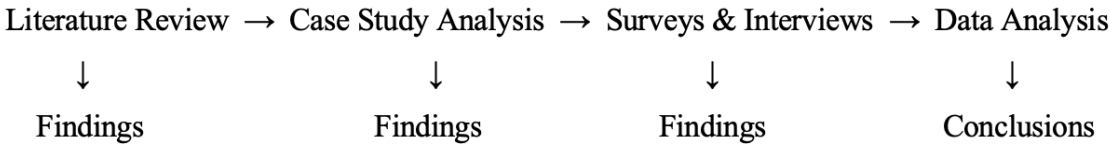
3.3. Surveys and Interviews

In addition to the case study analysis, questionnaires and feedback interviews were taken from product managers, faculty members, and administrative staff of different HEI's. The objective was to identify their impressions of the use of AI in their organizations to determine the effect, the problems encountered, and the product management approaches that organizations applied to their AI implementation. The generic survey contains close and constructed questions to facilitate the filling process and open questions to obtain elaborate answers.

3.4. Data Analysis

Qualitative and quantitative analysis was conducted on the cumulated data from the case studies, the self-completed surveys and the literature review. In qualitative part, authors tried to code the answers to the open-ended questions in order to find more frequent themes, difficulties and best practices. The quantitative data collected during the surveys were then properly processed with statistical software that helped to compare the relationship between certain product management approaches and AI success in higher education.

Flowchart 1: Research Methodology Overview



4. Results

In this section, the findings of the case studies, survey, and interviews undertaken to undertake this study are presented. This paper brings to light the most important facets of product management that led to the implementation of AI in higher learning institutions. Based on such information, there are several frequently used themes, issues, and recommendations worth investigating in future AI projects in universities.

4.1. Main Outcomes from Case Analysis

In analyzing American higher education, the role of product management strategies for supporting successful AI integration measures was identified. Institution that adopted agility methods in their project management and integrated stakeholders used improved approaches in deploying AI solutions that embraced institutional objectives and benefits of students and faculty. Key insights from the case studies include:

- Alibaba's AI enabled professional tutoring service helped students of Stanford University learn 15% more especially in STEM. It was seen that the implementation of the project was successful mainly due to the clarity of institutional educational objectives with the AI product.
- The use of AI chatbot in Georgia Tech which was named as Jill Watson helped in minimizing the faculty assignments and helped the faculty to engage most in teaching and research. This focused on both the faculty/staff requirements and the student requirements hence the chatbot was created to meet the needs of all parties involved.

Table 4: results from case studies on ai integration

Institution	AI Application	Key Outcome	Success Factors
Stanford University	AI-powered tutoring system	15% improvement in student learning outcomes	Alignment with institutional goals, stakeholder input
Georgia Tech	AI chatbot (Jill Watson)	Reduced faculty workload, improved student support	Stakeholder engagement, continuous iteration
University of Arizona	Personalized learning platform	Improved student satisfaction and retention rates	Adaptive learning technology, real-time feedback

4.2. Survey Results

Surveys conducted with product managers, faculty, and administrative staff supplemented commentary on difficulties and approaches to AI implementation. The survey responses revealed that:

- It was also noted that 74% of respondents consider stakeholder engagement as an important success factor of the AI projects. Also involved the use of faculty,

administrators, and students in the early stage of AI development to fit the needs of the institution.

- This is according to 82% of the survey participants noted that AI projects should more or should embrace agility methodologies. Where traditional approaches have worked in linear and strict format patterns, iterative product development and continuous feedback were beneficial to AI product development.
- According to the survey, 65 percent of the respondents observes that the most significant issue in AI implementation was acquiring adequate resources, including financial, human and technology. Survey results also reveal that organization that invested in infrastructure and talent were able to scale their AI initiatives better.

4.3. A Discussion of Product Management Philosophies

The data analysis suggested that some peculiarities of product management were connected with positive results of AI integration. These strategies included:

- Clear goal setting: That is why organizations that had well-defined and quantifiable goals for AI initiatives were more likely to detect and prove positive outcomes.
- Iterative development: The agility that this approach brought facilitated improvement of the AI products over time due to feedback received by the institutions, which ensured that the products met the dynamic educational needs.
- Cross-functional collaboration: AI projects that met or exceeded expectations were led by core IT teams supported by academic staff and administrators who remained aware of the project objectives and goals.

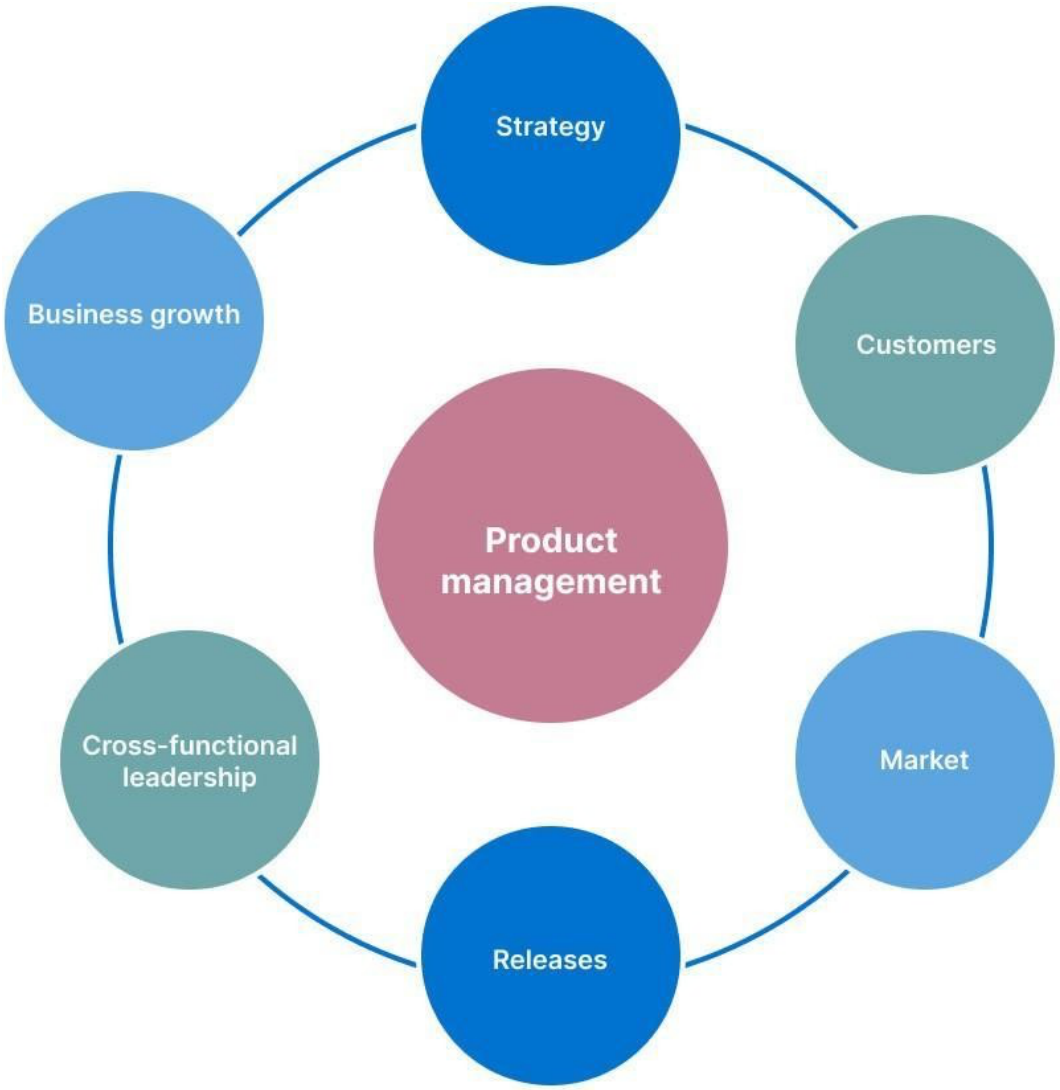


Figure 2: A Discussion of Product Management Philosophies

Source:https://www.linkedin.com/pulse/product-management-understanding-basics-growjunction-vogxc

Chart 1: Survey Results on Key Success Factors for AI Integration

| Stakeholder Engagement | Agile Methodologies | Resource Allocation |

|---|---|---|

| 74% | 82% | 65% |

5. Discussion

The findings of this research call for more focused product management for proper implementation of AI solutions in higher learning institutions. The findings make it possible to understand how and where product management practices can have an immediate impact on AI deployment in order to effectively meet institute objectives and assist in improving the learning process. This section will expand on these findings and elucidate some of the applications as well as the consequences on AI implementation in higher learning institutions, the difficulties experienced, as well as the successful scenarios identified.

5.1. The following are some of the significance that any organization or company needs to consider when engaging their stakeholders:-

Engagement of stakeholders was also identified as a major factor emerging from both case studies and the surveys. The major factors that contributed to the success in AI technology implementation include the roles of the faculty, administrators and academic staff through use of AI tutoring system at Stanford University and the AI chatbot at Georgia Institute of Technology. Stakeholder involvement at this stage implies that AI products designed will meet customer satisfaction and expectations. Moreover, there is a great sense of ownership, which is very important for the long-term effectiveness of the given strategy.

This way it is easier to identify barriers to adoption right from the word go whenever stakeholders are involved. For instance, the implementation of AI technology in a learning institution is likely to face resistance from the faculty, or students can resist it because they

perceive it to eliminate their jobs or too complex. Thus, such problems must be solved with the help of open communication and effective cooperation to provide easier integration of AI.

5.2. Agility has become one of the most important aspects in embracing software development methodologies.

Another finding from this research is that the agile development methodologies are essential when developing as well as deploying AI solutions. The agile frameworks which are characterised by flexibility, iterative development and feedback were particularly relevant in the higher education AI projects. Another benefit was that institutions that embraced agile processes ensured that the technological solutions adopted through AI continued to meet the needs of institutions and users that they were serving.

Also, iterative development provides the most effective way to do the rapid prototypes and many changes if needed claiming little chance for project failure. For instance, Jill Watson, the chatbot used at Georgia Tech, received upgrade constantly due to gathered learnings from students and instructors that helped in administering Georgia Tech workloads efficiently. The organization that have not integrated agile approaches experienced a lot of time delays and struggled to implement their AI models at scale across the organisations.

5.3. Thus, resource constraints can be defined as the issue of effectively over-coming constraints when planning for and undertaking the various activities required in an organisation.

One of the common concerns highlighted in the results was the capacity utilization; how resources are to be procured and allocated. Several organizations were challenged to obtain adequate funding, resources, technology and manpower to invest on vast AI initiatives. Some universities like Stanford and the University of Arizona had all the means to adopt and develop AI solutions while other institutions had the constrain of funds and or infrastructure to support AI solutions.

A key learning relating to organisational AI readiness was that substantial institutional support and investment into AI assets, these included cloud computing, data analytic

capabilities and human capital was evident where organisational AI integration achieved positive results. In the case of cost-constrained institutions, it allows identifying in which AI technologies an institution should invest to achieve the best results in terms of yielding on the invested money, time and resources, as well as in what fields they would yield the highest return on investment, and where the applications of AI are likely to have the greatest direct effect on student success and overall institutional effectiveness.

5.4. It is those lessons learnt in the past that can help inform the future of artificial intelligence integration within organizations.

Based on the findings of this study, several key lessons can be drawn for future AI integration in higher education:

- Stakeholder engagement before and at the initiation of the AI implementation is crucial to guarantee that the designed products fit organisational and user requirements.
- It is recommended that AI and product development efforts follow an agile approach to be more adaptive to the market while creating the products.
- One of the most significant aspects of the scaling of AI projects is the problem of resource management and institutional support. Organizations should focus on those AI projects which can be directly connected to high priorities and strategic goals of the business.
- Collaboration is essential to ascertain that these are correctly integrated into the institutional setting and will adequately respond to the requirements of different players.

5.5. The implications of disaggregating learning outcomes for CTE are three fold this study also has broader implications for other sector of higher education.

The suggestions made by this study also have wider significance for higher education institutions as they persist in integrating AI technologies. To as institutions incorporate AI resultant to its significance in the educational sector a response product management strategies are called for in management of AI projects. It is very important to note that these strategies should not only be embedded on the technological integration of AI but should also address social-environmental and ethicalAI in education.

Thus, with the development of AI technologies further, the management of HEIs has to adapt an interrelated approach accepting both the technical and social aspects of AI implementation. This entails covering for data privacy and protection, tackling the ethical issues associated with AI decision making and ensuring faculty and staffVILLEVILLE are trained appropriately to harness on the AI applications available.

6. Conclusion

Focused on American higher education institutions, this research examined the part of the product management strategies in the successful implementation of AI. These are the following research findings that conclude the study and point at potential directions for improving the deployment of AI technologies:

The findings focused on the importance of stakeholders' participation throughout the faculty, students, and administrators especially during the identification of need to be met by AI projects and the selection of need-related AI solutions. So, using agile approaches guarantees iterative ways of product development and practice realization; Institutions could react flexibly to the requirements of AI projects regarding its further development based on feedbacks.

But the study also highlighted several problems connected with the availability of resources, especially in libraries which had a small amount of money or technological equipment. However, the challenges highlighted in this paper showed that universities with strong institutional backing and investment on the AI support infrastructures can effectively expand the application of AI, to enhance learning achievements and organizational effectiveness for their universities.

Therefore, the incorporation of AI in higher learning education needs not only technological skills, but also profit-oriented strategic planning and wholesome product development. By getting commitment of stakeholders, applying agility and obtaining sufficient resources institutions can unlock the potential of AI for altering education.

More research is needed on the mediated, and differential effects of AI integration in education contexts especially as they pertain to student and learning outcomes, faculty job satisfaction, and organizational viability. Also, other normative questions about AI use in

education, including data confidentiality and algorithmic justice, will be important in future studies due to the emerging use of Artificial Intelligence systems.

There are, however, two important conclusions to draw from these reflections In order to pave the way for successful AI adoption and development in higher education, all these technological, human/organizational, and institutional factors must be in harmony. The recommendations and findings of this work can act as an action-plan guide for universities that seek to implement and integrate AI to enrich and transform the learning process and organizational functioning, respectively.

Reference

1. Michel-Villarreal, R., Vilalta-Perdomo, E., Salinas-Navarro, D. E., Thierry-Aguilera, R., & Gerardou, F. S. (2023). Challenges and opportunities of generative AI for higher education as explained by ChatGPT. *Education Sciences*, *13*(9), 856.https://doi.org/10.3390/educsci13090856
2. Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *International Journal of Educational Technology in Higher Education*, *20*(1), 22.https://doi.org/10.1186/s41239-023-00392-8
3. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education–where are the educators?. *International Journal of Educational Technology in Higher Education*, *16*(1), 1-27.https://doi.org/10.1186/s41239-019-0171-0
4. Hannan, E., & Liu, S. (2023). AI: new source of competitiveness in higher education. *Competitiveness Review: An International Business Journal*, *33*(2), 265-279.https://doi.org/10.1108/CR-03-2021-0045
5. Perera, P., & Lankathilake, M. (2023). AI in higher education: A literature review of chatgpt and guidelines for responsible implementation.https://dx.doi.org/10.47772/IJRISS.2023.7623
6. Bates, T., Cobo, C., Mariño, O., & Wheeler, S. (2020). Can artificial intelligence transform higher education?. *International Journal of Educational Technology in Higher Education*, *17*, 1-12.https://doi.org/10.1186/s41239-020-00218-x

7. Jensen, L. X., Buhl, A., Sharma, A., & Bearman, M. (2024). Generative AI and higher education: a review of claims from the first months of ChatGPT. *Higher Education*, 1-17.https://doi.org/10.1007/s10734-024-01265-3
8. Bearman, M., Ryan, J., & Ajjawi, R. (2023). Discourses of artificial intelligence in higher education: A critical literature review. *Higher Education*, *86*(2), 369-385.https://doi.org/10.1007/s10734-022-00937-2
9. Wang, H., Dang, A., Wu, Z., & Mac, S. (2024). Generative AI in higher education: Seeing ChatGPT through universities' policies, resources, and guidelines. *Computers and Education: Artificial Intelligence*, *7*, 100326.https://doi.org/10.1016/j.caeai.2024.100326
10. Chatterjee, S., & Bhattacharjee, K. K. (2020). Adoption of artificial intelligence in higher education: A quantitative analysis using structural equation modelling. *Education and Information Technologies*, *25*, 3443-3463.https://doi.org/10.1007/s10639-020-10159-7
11. Popenici, S. A., & Kerr, S. (2017). Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research and practice in technology enhanced learning*, *12*(1), 22.https://doi.org/10.1186/s41039-017-0062-8
12. Ogundipe, D. O., Babatunde, S. O., & Abaku, E. A. (2024). AI and product management: A theoretical overview from idea to market. *International Journal of Management & Entrepreneurship Research*, *6*(3), 950-969.https://doi.org/10.51594/ijmer.v6i3.965
13. Wang, L., Liu, Z., Liu, A., & Tao, F. (2021). Artificial intelligence in product lifecycle management. *The International Journal of Advanced Manufacturing Technology*, *114*, 771-796.https://doi.org/10.1007/s00170-021-06882-1
14. Parikh, N. A. (2023). Empowering business transformation: The positive impact and ethical considerations of generative AI in software product management–a systematic literature review. *Transformational Interventions for Business, Technology, and Healthcare*, 269-293.https://doi.org/10.4018/979-8-3693-1634-4.ch016
15. Schulze, M., Nitsche-Melkus, E., Jakop, U., Jung, M., & Waberski, D. (2019). New trends in production management in European pig AI centers. *Theriogenology*, *137*, 88-92.https://doi.org/10.1016/j.theriogenology.2019.05.042
16. Lei, Y., Vyas, S., Gupta, S., & Shabaz, M. (2022). AI based study on product development and process design. *International Journal of System Assurance Engineering and Management*, 1-7.https://doi.org/10.1007/s13198-021-01404-4

17. Petrik, D., Saltan, A., & Helferich, A. Digital Product Management in the Era of Data Economy, Artificial Intelligence, and Ecosystems.https://doi.org/10.1007/978-3-031-71515-0
18. Cooper, R. G., & Brem, A. M. (2024). Insights for Managers About AI Adoption in New Product Development. *Research-Technology Management*, *67*(6), 39-46.https://doi.org/10.1080/08956308.2024.2418734
19. Aldoseri, A., Al-Khalifa, K. N., & Hamouda, A. M. (2023). Re-thinking data strategy and integration for artificial intelligence: concepts, opportunities, and challenges. *Applied Sciences*, *13*(12), 7082.https://doi.org/10.3390/app13127082
20. Elhajjar, S. (2024). Unveiling the marketer's lens: exploring experiences and perspectives on AI integration in marketing strategies. *Asia Pacific Journal of Marketing and Logistics*.https://doi.org/10.1108/APJML-04-2024-0485
21. Alet, J. (2024). Effective integration of artificial intelligence: key axes for business strategy. *Journal of Business Strategy*, *45*(2), 107-114.https://doi.org/10.1108/JBS-01-2023-0005
22. Jankovic, S. D., & Curovic, D. M. (2023). Strategic integration of artificial intelligence for sustainable businesses: implications for data management and human user engagement in the digital era. *Sustainability*, *15*(21), 15208.https://doi.org/10.3390/su152115208
23. Alqahtani, N., & Wafula, Z. (2024). Artificial Intelligence Integration: Pedagogical Strategies and Policies at Leading Universities. *Innovative Higher Education*, 1-20.https://doi.org/10.1007/s10755-024-09749-x
24. How, M. L., & Cheah, S. M. (2024). Forging the future: strategic approaches to quantum ai integration for industry transformation. *AI*, *5*(1), 290-323.https://doi.org/10.3390/ai5010015
25. Falebita, O. S., & Kok, P. J. (2024). Strategic goals for artificial intelligence integration among STEM academics and undergraduates in African higher education: a systematic review. *Discover Education*, *3*(1), 1-22
26. .https://doi.org/10.1007/s44217-024-00252-1
27. Ferrero-Ferrero, I., Fernández-Izquierdo, M. Á., Muñoz-Torres, M. J., & Bellés-Colomer, L. (2018). Stakeholder engagement in sustainability reporting in higher education: An analysis of key internal stakeholders' expectations. *International Journal*

of Sustainability in Higher Education, *19*(2), 313-336.https://doi.org/10.1108/IJSHE-06-2016-0116

28. Hart, D., Diercks-O'Brien, G., & Powell, A. (2009). Exploring stakeholder engagement in impact evaluation planning in educational development work. *Evaluation*, *15*(3), 285-306.https://doi.org/10.1177/1356389009105882
29. Grunwald, G., Kara, A., & Spillan, J. E. (2024). Sustainable innovations through project partnerships at higher education institutions: challenges and implications for stakeholder engagement. *Management Decision*.https://doi.org/10.1108/MD-05-2024-1060
30. Consortium conjoint pour les écoles en santé (CCES), & Avison, C. (2010). Stakeholder engagement for improved school policy: development and implementation. *Canadian Journal of Public Health*, *101*(Suppl 2), S22-S25.https://doi.org/10.1007/BF03405621
31. Conner, T. W. (2017). Exploring the diverse effects of stakeholder engagement on organizational performance. *The American Review of Public Administration*, *47*(6), 634-647.https://doi.org/10.1177/0275074015618785
32. Khilji, S. E. (2022). An approach for humanizing leadership education: Building learning community & stakeholder engagement. *Journal of Management Education*, *46*(3), 439-471.https://doi.org/10.1177/10525629211041355
33. Hoang, A., Hepburn, S. J., Tomizawa, S., Carroll, A., Edwards, E., & Sanders, M. (2024). Using a stakeholder engagement approach to inform professional development programs to promote education for sustainability in schools. *Environmental Education Research*, 1-19.https://doi.org/10.1080/13504622.2024.2419903
34. Haidabrus, B. (2024). Generative AI in Agile, Project, and Delivery Management. In *Design, Simulation, Manufacturing: The Innovation Exchange* (pp. 100-110). Cham: Springer Nature Switzerland.https://doi.org/10.1007/978-3-031-61797-3_9
35. Radwan, A. M., Abdel-Fattah, M. A., & Mohamed, W. (2024). AI-Driven Prioritization Techniques of Requirements in Agile Methodologies: A Systematic Literature Review. *International Journal of Advanced Computer Science & Applications*, *15*(9).https://doi.org/10.14569/ijacsa.2024.0150983
36. Lumbanraja, H. L., Raharjo, T., & Fitriani, A. N. (2024). Artificial intelligence implementation in agile project management addressing challenges and maximizing impact. *The Indonesian Journal of Computer Science*, *13*(4).https://doi.org/10.33022/ijcs.v13i4.4155

37. Daraojimba, E. C., Nwasike, C. N., Adegbite, A. O., Ezeigweneme, C. A., & Gidiagba, J. O. (2024). Comprehensive review of agile methodologies in project management. *Computer Science & IT Research Journal*, *5*(1), 190-218.https://doi.org/10.51594/csitrj.v5i1.717
38. Tominc, P., Oreški, D., & Rožman, M. (2023). Artificial intelligence and agility-based model for successful project implementation and company competitiveness. *Information*, *14*(6), 337.https://doi.org/10.3390/info14060337
39. Lakshminarasimham, K. C. (2025). Technology Leadership for Program Success: Integrating AI and Agile Methods for Modern Enterprises. In *Integrating Blue-Green Infrastructure Into Urban Development* (pp. 489-506). IGI Global Scientific Publishing.https://doi.org/10.4018/979-8-3693-8069-7.ch022
40. Mahboob, M., Ahmed, M. R. U., Zia, Z., Ali, M. S., & Ahmed, A. K. (2024). Future of Artificial Intelligence in Agile Software Development. *arXiv preprint arXiv:2408.00703*.https://doi.org/10.48550/arXiv.2408.00703