RESEARCH PROPOSAL

Raya-Neda Borisova, Max Meiners, Wojchiech Stachowiak, Neil Ross Daniel and Gin Li

Abstract

Amidst technological progression, various sectors are harnessing Data and AI, notably the media domain, which has been significantly impacted. This project seeks to evaluate the integration of Data and AI within the curriculum of Breda University of Applied Sciences (BUas) in the media program, questioning the extent and efficacy of this integration. Adopting both qualitative and quantitative approaches, the study aims to assess the awareness, acceptance, and perceived influence of these technologies at BUas to make curriculum adaptations. Initial literature indicates a blurring line between AI-generated and human-created content, revealing advancements in AI capabilities. Furthermore, the media production and marketing realms have both seen marked effects of AI. This research is poised to offer a detailed perspective on integrating AI tools seamlessly into the BUas media curriculum, ensuring students are equipped for the evolving industry landscape.

Keywords: Data Integration, Breda University, AI in Media, Curriculum Adaptation, Technological Progression

1 INTRODUCTION

In a time with rapid technological advancements, various industries have integrated Data and Artificial Intelligence to enhance operations and drive innovation. From finance to healthcare, manufacturing to marketing, these new technologies are fundamental parts of modern business strategies. They allow companies to analyze large amounts of data, automate tasks, personalize services, and make informed decisions. By doing so, they increase efficiency and competitiveness in today's rapidly evolving digital landscape. The media domain, where innovations in data-driven technologies, has revolutionized content creation, production, marketing. Recognizing these changes is key to understanding how Data and AI are influencing the job market.

As BUas seeks to provide cutting-edge education to its students, it is crucial to determine the extent to which these advancements are integrated into the curriculum and how prepared students and staff are to navigate this evolving field.

This project aims to address these questions through a mixed-method study. By using both qualitative and quantitative research methods, we aim to gain an understanding on the knowledge levels, acceptance, and perceived impact of the media domain at BUas. This will inform us about the current state and will also help in making curriculum adjustments.

1.1 Research Question

To define the objectives clearly, we agreed on summarizing the problem with multiple research questions while keeping the main theme of the study in mind:

How can the AI knowledge and tools be implemented into the BUas Media program?

To make this problem more specific, a mix of more detailed research questions was developed to help with understanding the situation:

1. How can artificial intelligence be effectively integrated into media production and distribution processes to enhance content creation?
2. To what extent can AI be implemented into the marketing sub-domain of the media program at BUas?
3. What are the perceptions and attitudes of faculty members in the media domain at BUas towards integrating Data and AI concepts into the curriculum?
4. How do you perceive the impact of AI on creativity, efficiency, and content quality in the field of media production?

5. What are media lecturers' key attitudes and perceptions regarding the adoption and impact of Artificial Intelligence (AI) in content creation within the media industry?

On top of that, multiple quantitative questions were developed to grasp the situation in more detail.

1. To what extent do media professionals perceive AI as a tool that enhances their productivity and creativity?
2. What is the difference between lecturers, 1st and 2nd-year students, and 3rd and 4th-year students in the impact of using AI tools on the quality of content produced in media production and distribution processes?
3. What factors significantly predict the perceived impact of AI on the quality of content produced in media studies programs?
4. What is the status of attitudes, knowledge, use, and acceptance of AI among the marketing/media program students and staff?
5. How do staff and students compare on metrics from the previous question?
6. Does knowledge of AI impact acceptance of AI?
7. What is the current level of awareness and familiarity among media students vs. lecturers at BUas regarding Data and AI technologies?
8. To what extent do media students perceive the influence of Data and AI on the future job landscape within the media industry?
9. Does the age of the person and experience the person has with AI, impact the level of acceptance of AI?
10. How effective are AI tools in enhancing media production efficiency for assignments and real-world applications?
11. What is the impact of using AI in the field of media production efficiency compared to not using AI?
12. How will AI assistance in media production influence the speed of content creation in the future?
13. On a scale of 1 (low) to 5 (high), how would BUas Media program students (=creative business students) rate their current knowledge levels regarding Artificial Intelligence (AI tools)?
14. To what extent do lecturers feel adequately trained and prepared to teach AI-related content in the Media program?
15. What percentage of the lecturers anticipate that AI integration will significantly improve BUas media program graduates' employability in the media industry?

2 Literature Study

2.1 Content

The comparison between AI-generated and human-created content highlights several key distinctions.

In terms of quality, AI consistently produces high-quality content, leading to increased customer satisfaction. However, humans excel in creating content of higher quality and with more nuanced aspects. Both AI and humans can generate relevant and personalized content, but humans have an edge in understanding consumer desires and passions, resulting in better personalization. Humans also can create content for a broader target audience, while AI excels at tailoring content based on specific data (De Cremer et al., 2023). Regarding personalized content, if AI can accurately identify human factors, it can generate content that is equally personalized and relevant. However, it struggles to achieve this without human input, particularly in understanding passions and desires. AI's impact on customer perception and experience is mixed. Due to the abundance of AI-generated content, people may become fatigued with excessive exposure. Additionally, there is a lack of trust in AI, as it is often associated with robots and can scare people. Content presented as human-generated is perceived as more reliable and authentic, while AI-generated content may be viewed as bait. In terms of knowledge acquisition and automation, AI, powered by advanced natural language processing and machine learning, has significantly improved information handling, leading to accelerated gaining of knowledge. This has translated to improved efficiency and productivity gains in businesses (Haleem et al., 2022). In content creation, AI has reached a level of proficiency where it can produce content that rivals human creativity. This poses a challenge in discerning between AI-generated and

human-authored works. To address this, the industry may need to adopt innovative strategies in marketing and producing high-quality content (De Cremer et al., 2023).

Overall, the distinction between AI-generated and human-created content is becoming increasingly blurred, highlighting the progress in AI technology. Despite minor differences, there is a noticeable trend towards AI-generated content closely mirroring its human counterparts.

2.2 Production

The application and optimization of AI algorithms in multimedia and media production have become pivotal in recent times, steering significant research and developments in this domain. A critical examination of current methodologies reveals certain limitations, particularly in the context of layout and resource allocation during multimedia production, as outlined in a recent study (Nan et al., 2023). This paper noted that despite AI's potential, there are prevailing issues with design rationality and efficiency in resource allocation. It proposes a structured approach to content distribution and design in multimedia production, utilizing AI algorithms and engines to enhance the pre-processing stages of production, potentially leading to more accurate and efficient design processes compared to traditional methods.

2.3 Marketing

The marketing industry benefited heavily from the introduction of Artificial Intelligence (AI). It allows one to have more personal contact with the customer, identify needs, and analyze unbelievable amounts of data (Haleem et al., 2022). The use of AI was already rather broad. In 2012, Target discovered that their client was pregnant before she was able to tell her family, and four years later, 55 percent of chief marketing. Officers stated in a report that "Artificial Intelligence is expected to have a greater impact on marketing than social media" (Conick, 2017). Commonly used techniques include product recommendation, advertisement personalization, and Clustering clients to find similar patterns with the possible complete marketing automation on the horizon. AI can also help with price management or even marketing planning (Mariani et al., 2022); (Verma et al., 2021). However, Artificial Intelligence has its problems and disadvantages as well. Both advertising and media in general show a low level of acceptance in comparison with other industries. On top of that, many people do not understand what AI can and cannot do. This causes concerns about jobs and a worse attitude towards adopting AI into marketing (Vasiljeva et al., 2021). This causes questions regarding the preparation for the future job - education.

2.4 Summary

Drawing upon these insights, our research seeks to further explore these avenues within the context of media studies at Breda University of Applied Sciences (BUas). Our paper intends to build upon these foundational insights by focusing on the seamless integration of AI tools in the curriculum at BUas, potentially revolutionizing the approach to media studies at the university. The aimis to devise strategies that can facilitate a higher degree of innovation and efficiency in media production, fostering a new generation of professionals who are proficient in leveraging AI tools in media. Furthermore, our research will aspire to delve deeper into the nuances of AI algorithm implementation, extending beyond the prevalent focus on multimedia production to encompass a comprehensive approach that integrates theory and practice. By developing a tailored strategy for BUas, our paper promises to pave the way for a synergistic relationship between AI and media studies, nurturing a learning environment that is in tune with the contemporary advancements in the field.

3 METHODOLOGY

To obtain answers to the research questions, we decided to use a mix of qualitative and quantitative methods. For the qualitative part, a student focus group will be organized to collect more in-depth information. The meeting will be recorded so that all potential information can be gathered without the risk of missing vital details. For the quantitative research, we decided to use a questionnaire. The questions come from a previously used survey. Some questions are directly reused (Schepman and Rodway, 2020) while others come from questionnaires from different domains and need a change so that they fit the research conducted in this study (Eschert et al., 2022); (Sur et al., 2020); (Chen et al., 2022). Apart from collecting demographic data, information on use, knowledge, acceptance, and attitude towards Artificial Intelligence will be gathered. The survey uses previously designed questionnaires with some questions altered to match the specifics of the researched domain. The questionnaire consists of statements (like: "There are many beneficial applications of Artificial Intelligence") with which the questioned can disagree or agree on a scale from 1 to 5 (1 - completely disagree, 2 - somewhat disagree, 3 - neutral, 4 - somewhat agree, 5 - completely agree). The gathered results will then be analyzed using the R programming language to get insights into the level of willingness to adopt AI in the program, complexity

level, and intensity level of these changes. On top of that, a policy paper will be created to make suggestions regarding the best way to follow when changing the study program.

4 Predicted Outcomes

The research question arising from the problem statement and the literature gap is as follows: How can AI knowledge and tools be implemented into the BUas Media program within Breda University of Applied Science? The hypothesis on this question is that there will be a successful integration of Artificial Intelligence (AI) knowledge and tools into the BUas Media program, resulting in a positive correlation within the BUas media domain, between the variables: ”thoughts towards AI” and ”attitude to use AI”. In addition, it will lead to improved content creation, grading strategies, and overall effectiveness, leading to positive perceptions and attitudes among staff, students, and future media professionals.

5 Null Hypothesis

The research question arising from the problem statement and the literature gap is as follows: How can AI knowledge and tools be implemented into the BUas Media program within Breda University of Applied Science?

The null hypothesis states that there will not be any effect (neither positive nor negative) on the integration of AI knowledge and tools within the Media program. Alternatively, the hypothesis on this question is that there will be a successful integration of Artificial Intelligence (AI) knowledge and tools into the BUas Media program, resulting in a positive correlation within the BUas media domain, between the variables: ”thoughts towards AI” and ”attitude to use AI”. In addition, it will lead to improved content creation, grading strategies, and overall effectiveness, leading to positive perceptions and attitudes among staff, students, and future media professionals. Methods such as regression models in the programming language R are used to determine the effect.

REFERENCES

Chen, M., Zhang, B., Cai, Z., Seery, S., Gonzalez, M. J., Ali, N. M., Ren, R., Qiao, Y., Xue, P., and Jiang, Y. (2022). Acceptance of clinical artificial intelligence among physicians and medical students: A systematic review with cross-sectional survey. *Frontiers in Medicine*, 9:990604.

Conick, H. (2017). The past, present and future of ai in marketing. *Marketing News*, 51(1):26–35.

De Cremer, D., Bianzino, N. M., and Falk, B. (2023). How generative ai could disrupt creative work. *Harvard Business Review. https://hbr. org/2023/04/how-generative-ai-could-disrupt-creative-work AI And Machine Learning*.

Eschert, T., Schwendicke, F., Krois, J., Bohner, L., Vinayahalingam, S., and Hanisch, M. (2022). A survey on the use of artificial intelligence by clinicians in dentistry and oral and maxillofacial surgery. *Medicina*, 58(8):1059.

Haleem, A., Javaid, M., Qadri, M. A., Singh, R. P., and Suman, R. (2022). Artificial intelligence (ai) applications for marketing: A literature-based study. *International Journal of Intelligent Networks*.

Mariani, M. M., Perez-Vega, R., and Wirtz, J. (2022). Ai in marketing, consumer research and psychology: A systematic literature review and research agenda. *Psychology & Marketing*, 39(4):755–776.

Nan, G., Liang, J., Zhang, Z., and Yuan, Y. (2023). Application and development of ai algorithms and ai engines in the field of multimedia production and media. In *2023 World Conference on Communication & Computing (WCONF)*, pages 1–4. IEEE.

Schepman, A. and Rodway, P. (2020). Initial validation of the general attitudes towards artificial intelligence scale. *Computers in human behavior reports*, 1:100014.

Sur, J., Bose, S., Khan, F., Dewangan, D., Sawriya, E., and Roul, A. (2020). Knowledge, attitudes, and perceptions regarding the future of artificial intelligence in oral radiology in india: A survey. *Imaging Science in Dentistry*, 50(3):193.

Vasiljeva, T., Kreituss, I., and Lulle, I. (2021). Artificial intelligence: the attitude of the public and representatives of various industries. *Journal of Risk and Financial Management*, 14(8):339.

Verma, S., Sharma, R., Deb, S., and Maitra, D. (2021). Artificial intelligence in marketing: Systematic review and future research direction. *International Journal of Information Management Data Insights*, 1(1):100002.