Preliminary Research Design

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1 Introduction

In a time with rapid technological advancements, various industries have integrated Data and Artificial Intelligence. 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 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 for making curriculum adjustments.

2 Objectives

To achieve this goal, we would like to propose a couple objectives to complete.

1. Assess Awareness and Knowledge Levels:
    - Gauge the existing levels of awareness and understanding of Data & AI technologies among students and staff within the media programs at BUas.
    - To gauge the existing levels of awareness and understanding of Data

& AI technologies among students and staff within the media programs at BUas.

- To identify gaps in knowledge that may impede the effective integration of these technologies into the curriculum.

2. Explore Attitudes and Perceived impact:
    - Look into the attitudes and perceptions of students and staff towards the integration of Data and AI in the media domain.
    - Understand how these technologies are perceived in terms of their potential to change the future job landscape.
3. Formulate recommendations:
    - Propose curriculum adjustments that align with the evolving demands of the future job market influenced by Data and AI.

3 Research questions

Based on these objectives, we propose research questions that will help to measure and understand the mechanisms behind the answers.

RQ1: How does artificial intelligence affect jobs in media and how can it be implemented onto the study?

It is important to answer these questions as the industry will not be able to work properly without employees having the right tools. In media production, there are also several quantitative research questions that we aim to answer in our report. Such as:

RQ2: To what extent do media professionals perceive AI as a tool that enhances their productivity and creativity?

RQ3: How has the use of AI in media studies influenced student graduation rates and employment opportunities in the media sector?

RQ4: How has the implementation of AI in the media sector impacted the diversity of content produced?

RQ5: What is the level of awareness, understanding, use, and acceptance of AI among media staff and students?

RQ6: How do students and staff compare on these metrics?

RQ7: What are the possible predictors for the outcome variables of research question 6?

RQ8: What are the key barriers/ challenges faced by students and staff in acquiring and applying knowledge of Data and AI technologies in the media domain?

RQ9: Are you satisfied with the current availability of resources for applying and learning Data and AI technologies within the media program?

RQ10: What roles do students and staff believe AI ethics and responsible AI play in media production and consumption?

4 Literature review

4.1 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 have the ability to create content for a broader target audience, while AI excels at tailoring content based on specific data. 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 knowledge. This has translated to improved efficiency and productivity gains in businesses. 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.

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.

4.2 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 (IEEE, 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.

4.3 Marketing

The use of artificial intelligence (AI) in marketing is already broad. The industry is used to working with data for a long time now (Conick, 2016) and artificial intelligence, being the natural extension of data analysis, is going to become increasingly relevant. Moreover, this domain has been using tools based on AI for a while. Target discovered that their client was pregnant before she was able to tell her family in 2012. Four years later, 55% of chief marketing officers stated in a report that "artificial Intelligence is expected to have greater impact on marketing than social media "(Conick, 2016). Commonly used techniques include product recommendation, advertisements personalization, and clustering clients to find similar patterns with the possible complete marketing automation on the horizon. It can also help with price management or even marketing planning. (Mariani et al., 2021; Verma et al., 2021)

However, artificial intelligence has its problems and disadvantages as well. Both advertising and media in general show 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 worse attitude towards adopting AI into marketing. (Vasiljeva et al., 2021)

4.4 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 aim is 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 holistic 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.

5 Stakeholder analysis

5.1 Curriculum board

The Curriculum Advisory Board stands as a pivotal stakeholder in the success and effectiveness of this project. They are entrusted with overseeing the development and implementation of curriculum components.

As the final decision-makers on curriculum matters, their responsibility is to critically review and shape the curriculum, ensuring it is both academically robust and reflective of current societal developments.

5.2 Lecturers

The vision of how the study program would look like differs in a way that does not allow to integrate all ideas in the curriculum. However, some ideas are common. Critical thinking and using AI generated content as a quick draft or to personalize/improve it further are often mentioned.

5.3 Government

Even though the government is not directly engaged in this project, their presence is felt through the existing legal and regulatory frameworks that govern educational undertakings, It is paramount to operate within these established boundaries, demonstrating our adherence to both legal and quality standards.

5.4 Students

Due to our limited time frame, we are currently prioritizing engagement with higher-level stakeholders, recognizing the equal importance of students. At this stage, we have not been able to establish connections with students. However, in the project's future timeline, we anticipate actively connecting with students to gain a deeper and more valuable understanding. Strong indications point toward the likelihood of conducting such research in the near future.

6 Methods

This research will use a mixed-methods approach, incorporating both qualitative and quantitative methods. This approach will enable us to achieve a comprehensive understanding of the research question by combining the depth of qualitative insights with the extensive coverage of quantitative data. Qualitative data will be collected through meeting lecturers and students, while quantitative data will be gathered using a questionnaire.

7 Bibliography

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