SE7215 Research Methods

ASSESSMENT 2: LITERATURE REVIEW

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Ethical interests of integrating Artificial Intelligence into Project Management: A review of related approaches

Introduction

Numerous advantages for businesses can be derived from the incorporation of artificial intelligence into project management processes (Fridgeirsson et al., 2021). By automating particular procedures or tasks, artificial intelligence can assist, enhance productivity and give project managers (Fridgeirsson et al., 2021) more time to focus on other crucial duties. Artificial intelligence can also increase accuracy and predictability by evaluating data and offering insights or forecasts that people might not immediately understand (Fridgeirsson et al., 2021; Mun et al., 2020). The ability to quickly evaluate and interpret massive amounts of data (Keen, 1978) can be further improved using artificial intelligence which can also speed up decision-making processes (Davenport, 2018). According to Davenport (2018), this is apparent as companies moved their focus towards artificially intelligent systems to exploit their strengths.

Then, using sophisticated software for project management also brings up significant ethical issues (Sandvig et al., 2016) that need to be thoroughly thought through (Vollmer et al., 2020). One of these concerns is justice (Sandvig et al., 2016), if artificial intelligence systems are not created and educated in a cautious and responsible manner, they may be prone to bias (Challen et al., 2019). Additionally, there is a chance that these technologies will be employed in ways that weaken the importance of human supervision and judgement (Ntoutsi et al., 2020), which could have negative effects on specific professions like medicine (Challen et al., 2019; Sandvig et al., 2016), finance (Davis et al., 2013), or public infrastructure (Fridgeirsson et al., 2021). Furthermore, inclusion practices for artificial intelligence technology are clouded since frequent users are smaller companies and their proficiency is questionable (Mun et al., 2020). Because of this, project managers need to carefully assess the moral ramifications of incorporating artificial intelligence (Fridgeirsson et al., 2021) into their management pipeline, and make sure that any artificial intelligence systems are created and applied in a responsible and open manner (Challen et al., 2019; Hendriks & Vriens, 1999; Liebowitz, 2001; Sandvig et al., 2016). Therefore, more analytical acquisition strategies are required to help avoid issues derived from artificially intelligent systems (Mun et al., 2020). These hybrid systems of computational and learning algorithms are at an early stage of development (Gil et al., 2021) but already present themselves in the field of project management (Fridgeirsson et al., 2021).

Bias and accountability

The risk of bias should be considered when employing artificial intelligence in project management settings for decision-making (Challen et al., 2019; Ntoutsi et al., 2020). The data that is used to train artificial intelligence systems determines how impartial they can be; if the data is biased, the artificial intelligence system will also be prejudiced (Challen et al., 2019; Ntoutsi et al., 2020; Sandvig et al., 2016). This might have huge repercussions, especially if the artificial intelligence system is used to make decisions that have a big impact on people's lives (Vollmer et al., 2020). For instance, if the data used to train an artificial intelligence system to assess the risk of a project failing is biased, the artificial intelligence system may produce skewed risk estimates. As a result, projects could be accepted or refused in accordance with criteria other than their real risk level (Fridgeirsson et al., 2021; Gil et al., 2021).

Making sure that the data used to train artificial intelligence systems is as diverse and representative as possible can help to reduce the

danger of bias (Mehrabi et al., 2021). This can ensure that the artificial intelligence system bases its judgements on a variety of viewpoints and experiences (Challen et al., 2019; Mehrabi et al., 2021; Sandvig et al., 2016). It's crucial to have systems in place that allow people to evaluate and, if necessary, override artificial intelligence choices (Mehrabi et al., 2021; Yapo & Weiss, 2018). This can help to ensure that artificial intelligence is used in an ethical and responsible manner (Yapo & Weiss, 2018) in project management situations.

The application of artificial intelligence in decision-making in project management contexts raises questions about accountability (Ahmad et al., 2020; Raji et al., 2020) in addition to the potential for bias. It may be challenging to pinpoint the culprit (Raji et al., 2020) if an artificial intelligence system takes a choice that has unfavourable effects (Doshi-Velez et al., 2017). This is crucial when it comes to project management because choices made there could have serious financial and legal repercussions (Doshi-Velez et al., 2017; Fridgeirsson et al., 2021). According to Saheb et al. (2022), it is crucial to make sure that there are established procedures for handling any unfavourable repercussions (Mozafari et al., 2021). In other words, similarly to common procedures, issues may result from artificial intelligence systems and in order to handle these issues ethical procedures could be applied (Saheb et al., 2022).

Knowledge transparency and privacy

The requirement for transparency (Liebowitz, 2001) when employing artificial intelligence in project management contexts is another ethical factor to consider (Davenport, 2018). Because artificial intelligence systems can be intricate and challenging to comprehend (Goodall, 2014), it is crucial that all parties involved in the decision-making process are kept in the loop (Liebowitz, 2001). Moreover, knowledge management with the help of artificial intelligence and artificially intelligent agents can help internal and external knowledge distribution (Liebowitz, 2001). This can promote the artificial intelligence system's credibility (Mozafari et al., 2021) and guarantee that it is used appropriately. Additionally, it's critical to make sure that all relevant parties are informed of artificial intelligence's limitations and that it is not utilised to replace human judgement and decision-making.

The application of artificial intelligence in decision-making within project management contexts raises concerns about data privacy (Wang et al., 2019), workplace integrity (Kim & Bodie, 2021) and security in addition to the ethical issues mentioned above (Tucker, 2018). Due to the fact that artificial intelligence systems rely on a lot of data to operate (Tucker, 2018), there is a chance that private or sensitive data may be accessed or used improperly (Mazurek & Małagocka, 2019; Ntoutsi et al., 2020; Wang et al., 2019). This is especially important when managing projects (Tucker, 2018) because various stakeholders and outside parties may share data (Liebowitz, 2001). Tucker (2018) argues that it's crucial to make sure that the right safeguards are in place to preserve data privacy and security. Therefore strong data protection rules (Voigt & Von dem Bussche, 2017) and secure data storage systems are beneficial in order to allay the above-mentioned worries (Shivayogi, 2013; Tucker, 2018).

Human labour and automation

The potential for the displacement of human labour (Ramaswamy & Joshi, 2009) must be taken into account when applying artificial intelligence in project management scenarios (Fridgeirsson et al., 2021). There is a chance that artificial intelligence systems will eventually replace human workers in some positions (Novakova, 2020). Furthermore, these systems can automate some operations and make decisions more quickly (Genkin et al., 2020). This is especially important in the context of project

management, where processes like data entry and analysis could be automated using artificial intelligence technologies (Auth et al., 2019; Paulsen et al., 2012). In order to address this problem, it is crucial to research further into how artificial intelligence may affect the labour market and to make sure that the right policies are in place to protect workers who may be replaced by artificial intelligence.

Ethical governance policies and procedures

Organizations can make use of a number of methods to guarantee that artificial intelligence in project management maintains a high level of ethics (Winfield & Jirotka, 2018). Employing ethical design frameworks can assist businesses (Morley et al., 2021) in making sure that artificial intelligence systems are developed responsibly and ethically (Mittelstadt, 2019). These frameworks can offer direction on matters discussed in previous sections in the decision-making processes of the artificial intelligence system.

By creating and putting into place frameworks for ethical governance, companies may make sure that they have a clear and consistent approach to the ethical use of artificial intelligence in project management (Mittelstadt, 2019; Morley et al., 2021; Winfield & Jirotka, 2018). Moreover, these frameworks can describe the values and principles that will govern the organization's use of artificial intelligence (Balmer et al., 2007) as well as the procedures and controls that will be put in place to make sure that artificial intelligence is applied ethically and responsibly (Hendriks & Vriens, 1999; Keen, 1978). Furthermore, via ethical impact analyses, businesses can identify and examine any potential ethical repercussions (Mozafari et al., 2021) that could result from the use of artificial intelligence in project management (Arnold, 1996; Mepham, 2000). Overall, these technologies can assist organisations (Keen, 1978; Liebowitz, 2001) in ensuring that they are employing artificial intelligence in the context of project management in a responsible (Mun et al., 2020) and ethical manner (Fridgeirsson et al., 2021; Vollmer et al., 2020).

Ethical Process

There is an apparent lack of best practices to incorporate artificial intelligence into project management methodologies (Fridgeirsson et al., 2021; Vollmer et al., 2020). Furthermore, when incorporating artificial intelligence from an analytics position (Davenport, 2018), similar ethical procedures for analytical systems can be applied (Taddeo & Floridi, 2018). Therefore, during the inclusion of artificial intelligence towards some project management procedures, a number of moral methodologies could be used (Hendriks & Vriens, 1999; Liebowitz, 2001).

Choosing an ethical design approach for artificial intelligence systems is a crucial first step in incorporating artificial intelligence into project management procedures (Winfield & Jirotka, 2018). This may entail taking into account concerns like the potential for bias in the data used to train the artificial intelligence system (Mehrabi et al., 2021; Ntoutsi et al., 2020), the possibility of adverse effects on stakeholders (Balmer et al., 2007; Davenport, 2018; Genkin et al., 2020; Mun et al., 2020), and the requirement for accountability and transparency (Ahmad et al., 2020; Doshi-Velez et al., 2017; Raji et al., 2020) in the artificial intelligence system's decision-making processes.

Ethical impact analysis of utilising artificial intelligence in project management procedures might help to identify any potential ethical repercussions (Peters et al., 2020). This may entail taking into account the dangers and advantages of adopting artificial intelligence (Fridgeirsson et al., 2021; Taddeo & Floridi, 2018).

Additionally, according to Taddeo & Floridi (2018), ensuring that artificial intelligence systems are properly supervised is a crucial component of the incorporating manner of artificial intelligence into project management procedures (Mun et al., 2020). Further research on this topic can entail setting up procedures for overseeing the use of artificial intelligence and making sure technology is utilised ethically and responsibly with procedures for handling potential ethical repercussions.

Conclusion

This work provides an analysis of related approaches considering the ethical aspects of artificially intelligent systems integrated into project management methodologies. By reviewing ethical concerns, accountability and repercussions, human labour, information availability and its state, this work proposes multiple areas that are welcoming further research. In order to achieve ethical governance over artificially intelligent systems this work explores multiple policies and procedures.

It's critical to approach the incorporation of artificial intelligence into project management procedures with a strong focus on ethics and to take steps to ensure that artificial intelligence is used responsibly and advantageously (Mittelstadt, 2019; Peters et al., 2020; Ramaswamy & Joshi, 2009; Winfield & Jirotka, 2018).

In summary, the application of artificial intelligence in project management contexts involves a variety of ethical issues (Mittelstadt, 2019; Peters et al., 2020; Saheb et al., 2022), such as the possibility of bias (Mehrabi et al., 2021; Ntoutsi et al., 2020; Sandvig et al., 2016; Yapo & Weiss, 2018), accountability (Ahmad et al., 2020; Doshi-Velez et al., 2017; Raji et al., 2020), data privacy and security (Mazurek & Małagocka, 2019; Mun et al., 2020; Tucker, 2018; Voigt & Von dem Bussche, 2017), and the potential replacement of human workers (Genkin et al., 2020; Kim & Bodie, 2021; Novakova, 2020; Paulsen et al., 2012). To guarantee that artificial intelligence is utilised ethically and responsibly, it is crucial that these challenges be properly studied. In addition, the proper governance frameworks are put in place (Mepham, 2000; Peters et al., 2020; Raji et al., 2020; Saheb et al., 2022). The advantages of artificial intelligence (Taddeo & Floridi, 2018) are realised while reducing any potential drawbacks by addressing these worries (Davenport, 2018; Fridgeirsson et al., 2021; Mun et al., 2020).

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