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Factors influencing AIOps adoption at a selected higher education institution in South Africa

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Abstract

Artificial Intelligence has experienced notable progress and gained increasing prominence across diverse domains. One prominent development is the integration of AI into Information Technology Operations, commonly known as AIOps. Using the selected university as a case we explored how AIOps is being adopted in higher education institutions. The study aimed to understand the factors that drive or hinder the adoption of AIOps considering the growing importance of data-driven decision making and operational efficiency in universities. Using convenience sampling ten staff members were interviewed, including IT administrators and decision-makers. Thematic analysis was used for data analysis. The emerged themes were benefits of AIOps adoption, current levels of willingness to embrace AIOps, its application within scanning and monitoring networks, main barriers and drivers influencing adoption, and readiness of HEIs for AIOps integration. The insights gained from this investigation are valuable for education institutions that are considering implementing AIOps into their frameworks. The study contributes to enhancing IT service operational effectiveness in South African universities.

Keywords: AIOps, Efficiency, IT Operations, Implementation, Decision-making, higher education institution, South Africa

Introduction

In recent years, Artificial Intelligence for IT Operations (AIOps) is establishing itself as a transformative technology, promising to revolutionise how Information Technology (IT) departments manage and optimise their daily operations Cheng et al. (2023). Sabharwal and Bhardwaj (2022) point out that AIOps integrate machine learning, big data analytics, and other advanced AI techniques to streamline and improve facets of IT operations including monitoring, incident resolution and performance optimisation. As organisations strive to keep up with the ever-evolving digital landscape, the adoption of AIOps has become a critical imperative for maintaining efficiency, agility, and competitiveness. This study's aim is to explore factors that influence acceptance and willingness by IT department personnel to adopt AIOps in their daily operations. Understanding these elements is critical for a successful and seamless adoption of AIOps in IT departments. Treveil et al. (2020), discovered that shedding light on the drivers and barriers that affect the adoption of AIOps, organisations can make informed decisions to foster a positive and receptive environment for AIOps implementation. Higher Education Institutions can improve IT operations adaptability by using insights based on data and statistical analysis to optimise decision-making with AI (Luan et al., 2020). This study seeks to make a contribution to the present debate regarding the adoption of AI in higher education institutions. It can offer insightful information that can be put to use in educational institutions to help with the creation of strategies, the design of policies, and the implementation of operational practices for AI adoption.

Significance of the Study

This research holds significant implications for higher education institutions and other organisations aiming to implement AIOps successfully. Sakasa and Mawela (2022) contend that by understanding the factors influencing AIOps adoption, institutions can tailor their strategies to foster a positive and supportive environment, ensuring a seamless integration of AIOps into daily work processes. Moreover, the findings of this study will contribute to the growing body of knowledge on AIOps adoption, offering insights into the broader implications of AI-driven technologies in IT operations. The significance of this study lies in its potential to contribute to the academic community, higher education institutions, IT departments, and the broader business landscape in the following ways:

- a. **Enhancing Organisational Efficiency** - Higher education institutions face numerous IT challenges, including managing vast datasets, maintaining networks, and handling various applications (Luo, Meng & Cai, 2018). By identifying barriers and drivers affecting AIOps adoption, this research can aid institutions in optimising their IT operations, reducing downtime, improving system performance, and ultimately enhancing organisational efficiency.
- b. **Informing IT Department Strategies** - Understanding the willingness of IT department personnel to embrace AIOps and the factors influencing their readiness will help IT leaders and decision-makers in devising targeted strategies to overcome resistance and promote a culture of technological innovation. This study's findings can guide IT departments in developing training programs, implementing change management initiatives, and fostering a collaborative environment to ease the integration of AIOps.
- c. **Facilitating Informed Decision-Making** - The insights gained from this research will enable higher education administrators and management teams to make informed decisions regarding the adoption of AIOps. By understanding the potential barriers and drivers, decision-makers can accurately assess the risks and benefits of AIOps implementation, ensuring that the adoption aligns with the institution's broader strategic objectives.
- d. **Paving the Way for AI-Driven Transformations** – Ahmed, Singh, Doherty, Ramlan, Harkin and Coyle (2022) assert that AI-driven technologies are rapidly reshaping various industries, including higher education. By investigating the adoption of AIOps in this specific context, this study can serve as a blueprint for other institutions looking to leverage AI technologies to optimise their IT operations and improve overall institutional performance.
- e. **Contributing to IT Workforce Development** - As AIOps integration requires a certain level of technical expertise, workforce development can propel professional growth and advancement of IT department personnel. By identifying the necessary skills and competencies, the research can support targeted training initiatives, ultimately benefiting the IT workforce at the institution and promoting career growth.

Literature review

Recently, there has been a significant uptick in awareness about the utilisation of AI in higher education institutions due to AI's capability of bringing about fundamental shifts in the way decisions are made (Ngan et al., 2019). The aim of this literature review is to compile and evaluate the most important findings from a wide variety of scholarly sources that investigate the complex and varied impact that AI has on enhancing the IT operations in different organisational settings. These sources cover a wide range of topics. According to Sabharwal and Bhardwaj (2022) the fundamental purpose of Artificial Intelligence for IT operations is

to maximise availability of services. Claridge (2023) contend that this is done by combining the artificial intelligence capabilities with the extensive datasets generated by IT Operations practices the to deliver actionable insights. Dang, Lin, and Huang (2019) conclude that AIOps pertains to the facilitation of software and service engineers in the proficient and successful development and management of online services and applications on a large scale, utilising AI and machine learning (ML) methodologies. AIOps has the potential to enhance the level of service and client satisfaction, increase engineering productivity and reduce costs. As depicted in figure 1 below, Artificial intelligence capabilities may be exploited to improve operational efficiency in a broad range of situations and contexts.

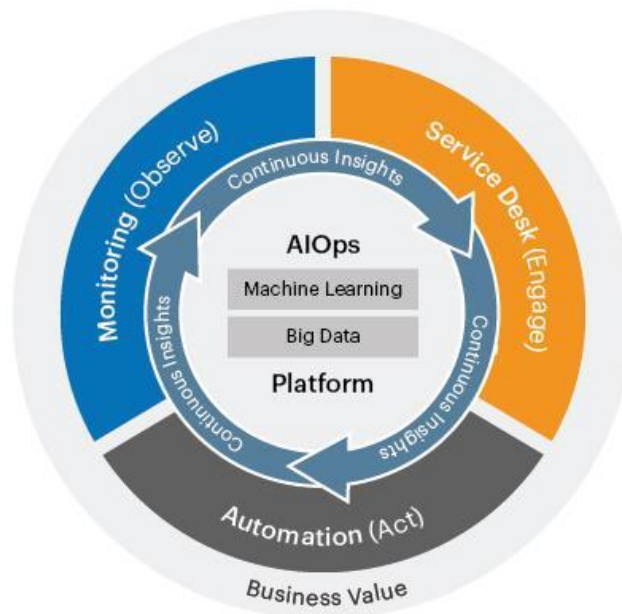


Figure 1: Artificial Intelligence for IT Operations (Claridge, 2023)

Ibrahim, Abdullah and Bahari (2023) identify that during this period of tremendous digital revolution, modern software has undergone fast development. Cloud computing, Software-as-a-Service (SaaS) and other technologies are just a few examples of the new infrastructure, methodologies, and design patterns that have been created to improve software development. Yang, Lixuan, and Rossi (2021) contend that new difficulties have arisen in managing and controlling the infrastructure of such cutting-edge software. For instance, when businesses switch from using conventional software to software as a service (SaaS), they must ensure that all their subscription-based customers have constant, unrestricted access to the program. In addition to creating and testing their products, SaaS businesses must also take on the additional responsibilities of service administration and operations. In contrast, the conventional method of developing software keeps the various stages of the product's lifespan separate and distinct.

This research seeks to use the research questions to assess the existing level of willingness among IT department personnel to integrate AIOps into their daily operations. Zhaoxue, et al. (2021) assert that a survey on the technical architecture of IT systems is being altered by digital transformation, which is driven by advancements in machine learning, networked technology and next-generation communication, amongst others. The introduction of these advancements necessitates additional criteria for both performance and reliability. The conventional approaches to development and maintenance, which rely on human intervention, are facing significant challenges and must transition towards the utilisation of Artificial Intelligence for AIOps. Levin et al. (2019) stipulate that the utilisation of AIOps holds significant potential in mitigating the intricate nature of systems and services related to IT. AIOps augment IT operations with

big data, predictive modelling, and other advanced data analysis techniques by providing proactive, practical and dynamic insights. By conducting a comprehensive analysis, the objective was to quantify and understand the current attitudes and readiness of IT personnel towards AIOps adoption, allowing for a better understanding of the starting point for further strategies and interventions.

This study attempts to address this gap in the existing body of scholarly research.

AIOps and Automation

With the help of AIOps, automation is reaching new heights, allowing businesses to simplify their processes with less human intervention. AIOps systems can analyse massive volumes of data and derive useful insights by using through the utilisation of artificial intelligence and machine learning. Automating mundane processes like incident management, system provisioning, and change management is possible with AIOps platforms, a recent Gartner analysis found (Gartner, 2023). Because of AIOps automation's proactive and intelligent nature, IT departments can put more effort into driving innovation and increasing value to the company.

AIOps and Incident Management

Another advantage of AIOps adoption is real-time insights into incident data, enabling quicker decision-making during crises (Cheng et al., 2023). The system powered by AI constantly keeps track of and analyses reports on IT incidents. It detects patterns and trends in time enabling the IT department to respond to emerging issues. This helps minimise the impact on services and stakeholders. The AI driven system also prioritises incidents based on severity ensuring that significant problems are addressed by the incident response team quickly as possible. Moreover, AI powered incident management enhances decision making capabilities as it can identify trends and patterns that may not be easily visible, through reporting. By examining data, the AI system provides predictive insights allowing the service desk to proactively handle potential incidents and prevent service disruptions (Usman et al., 2021).

According to Frackiewicz (2023), AIOps is revolutionizing service desk activities by augmenting human capabilities with AI-driven automation and self-service options. Intelligent chatbots and virtual assistants powered by AIOps can understand natural language queries, provide instant resolutions, and even escalate complex issues to human agents when necessary. The incorporation of AIOps into service desk operations has shown significant improvements in customer satisfaction and service delivery. AIOps helps organisations achieve faster response times, increased self-service adoption, and a more seamless support experience for end-users.

Barriers to AIOps Adoption

The adoption of Artificial Intelligence for IT Operations (AIOps) in Higher Education Institutions (HEIs) in developing countries faces several barriers. Technical challenges include poor data quality and availability, complex compatibility and integration issues with diverse IT systems, and significant resource constraints that strain institutional budgets (Madni et al., 2022; Ade-Ibijola & Okonkwo 2023; Muhabbat et al., 2023). Organizational and cultural barriers involve resistance to change among staff accustomed to traditional methods and the need for comprehensive training programs to equip staff with the necessary technical skills (Bucea-Manea-Țoniș et al., 2022; Yusuf et al., 2022). Ethical challenges such as transparency, accountability, and algorithmic fairness also need careful management (Ocholla & Ocholla 2020; Muhabbat et al., 2023). Addressing these barriers requires a holistic approach, including improving data systems, strategic planning, resource management, effective change management, and establishing an ethical framework for responsible AI use.

Shang (2021) emphasise that even though there is the potential for tremendous benefits to be gained from AI, it is of the utmost significance that ethical considerations be taken into account. Scholars in the academic world place a large amount of stress on the necessity of effectively addressing problems associated with biased algorithms, honesty, and data privacy.

Methodology

The study adopted a qualitative research approach, characterised by an exploratory design. Since the study was exploratory in nature it did not involve creating hypotheses. Instead, the researcher used a set of research questions to investigate factors that influence the adoption of AIOps in a selected higher education institution in South Africa.

A guide for semi-structured interviews was developed by incorporating insights from a comprehensive review of relevant literature and including additional focused questions (see Appendix A). These interviews took place between June 1 and June 29, 2023, and followed a semi-structured format. Using convenience sampling, ten participants were approached from the IT department of the university under study to participate in these interviews. Participants granted consent for audio-recording during the semi-structured interviews, which were carried out online. The recorded conversations underwent verbatim transcription before being subjected to a comprehensive thematic analysis.

Below are the research questions that served as the foundation guide for this study:

1. *What is the current level of willingness among IT department personnel to embrace AIOps in their daily operations?*
2. *What are the main barriers and drivers that impact IT department personnel's willingness to adopt AIOps?*
3. *What strategies can be implemented to enhance IT department personnel's readiness for integrating AIOps into their daily operations?*

Study Setting

In this case study we explore the possibilities of AIOps, in IT service management within the IT department of a university. As IT systems become more complex and incidents multiply relying on reporting and analysis has become both time consuming and prone to errors. This poses challenges for the IT decision-makers in making decisions allocating resources effectively and delivering a user experience. To tackle these issues head on and maximise the potential of their IT operations the university suggests adopting an AI-enabled system that promises to revolutionise service management boost efficiency and align with university goals. Ahmed et al. (2022) points out that the integration of AIOps into service management brings a multitude of advantages, such as up to date information, increased precision, proactive problem solving and heightened stakeholder contentment. By automating reporting and analysis tasks IT managers can dedicate their attention to responsibilities, like identifying patterns in incidents, devising measures and optimising resource allocation to enhance incident response (Hua, 2021).

Furthermore, AIOps has the ability to offer insights through the analysis of incidents. This enables the IT team to predict and address issues before they become problems resulting in a notable decrease, in service interruptions and downtime. The university's envisioned adoption of AIOps is geared towards enhancing the effectiveness of its IT service management. It is hoped that it will empower IT staff with data-driven decision-making abilities while fostering a dependable IT infrastructure for all stakeholders involved. The university's IT department encounters difficulties when it comes to creating reports for service management

manually, which involves both data entry and analysis. The incident manager spends significant time compiling data from various sources, leading to delays in incident resolution and decision-making. To address these inefficiencies, the organisation proposes the adoption of an AI-based system known as AIOps to automate reporting and streamline processes. The AIOps solution would allow the IT personnel to focus on strategic tasks such as analysing incident trends and identifying opportunities for process improvement.

By adopting AIOps for service management reporting, the department expects to reap numerous benefits. Firstly, the AI system will save valuable time by automating the generation of reports, freeing up staff to concentrate on more critical tasks like developing incident response strategies and coordinating with other departments during crises. Secondly, AI-powered reporting ensures improved accuracy, eliminating human errors in data analysis and interpretation, which previously caused inaccuracies in incident reports and hindered effective decision-making.

AIOps uses artificial intelligence and big data analytics to revolutionise automation, monitoring, and service desk tasks. It reduces the amount of time the network is out, boosts uptime, and makes customers happier. It allows IT departments to devote more time to long-term projects by relieving them of mundane daily activities. AIOps is a watchful friend that keeps an eye on systems and alerts you to problems before they become critical. The case university can establish a strategic advantage and fuel their development and success by adopting AIOps.

The study adopted an exploratory approach with the objective of exploring the underlying factors that contribute to the adoption of AIOps. However, this study builds upon the underlying ideas derived from the literature review, intending to make a significant contribution to the existing body of knowledge. The following section presents the study's findings.

Findings

The data used for the findings was gathered through interviews with IT personnel. Afterwards, the recorded discussions were transcribed, then analysed thematically. The resulting themes were carefully examined in accordance with the study's aim of exploring factors that influence acceptance and willingness by IT department personnel to adopt AIOps in their daily operations at a higher education institution in South Africa. This thematic analysis method was selected because of its flexibility, which allowed the researcher to adapt and address emerging ideas during the data collection process.

The overall process involved five steps which are:

1. Preparing the data.
2. Carefully reading through it.
3. Categorising and coding the data,
4. Filtering and rearranging it
5. Revising the categorisation and coding.

By following this method a thorough interpretation, understanding and explanation of the data gathered for this study were achieved. Thematic analysis proves valuable in comprehending research participants' explanations of events based on their behaviours and experiences. The researcher went over the data looking for patterns and trends as well as any ideas that may emerge that might help corroborate the variables in accordance with the research aims. The percentages represent the proportion of participants. The themes identified from the collected data are discussed below.

Theme 1: Benefits of AIOps adoption

AIOps adoption in higher education institutions has emerged as a transformative approach to enhance IT operations' efficiency and effectiveness. The general feeling amongst participants about AIOps was largely positive, with a belief that it offers advantages especially when implemented efficiently. In fact, a substantial majority of respondents eighty percent (80%) expressed their belief that implementing AIOps will bring benefits. This percentage represents the proportion of participants who indicated a positive outlook on AIOps during the interviews.

The network specialist stated that “insights and predictions based on real-time network data can provide efficient network management and capacity prediction”.

The service desk manager echoed “IT department can benefit from streamlined operations through automated ticket resolution and increased user satisfaction”.

The adoption of AIOps aligns with the objectives of the case organisation. By improving the efficiency of incident management processes, it allows for allocation of resources within the IT department. Consequently, this leads to cost savings and an enhanced delivery of services throughout the university. The predictive insights offered by the AIOps system also contribute to the university's aim of being at the forefront in leveraging technology to improve service quality and enhance stakeholder experience.

Theme 2: Willingness to Embrace AIOps

The research findings suggest that the participants have a level of willingness to embrace AIOps. According to the interviews conducted among IT staff sixty percent (60%) of respondents expressed a positive attitude, towards adopting AIOps recognised its potential benefits. This percentage also represents the proportion of interviewed IT staff who showed a favourable disposition toward AIOps adoption.

The incident manager noted that “AIOps tools to automate tasks, monitor system performance, and detect anomalies, leading to expedited incident resolution and improved service levels”.

IT Staff agreed that incorporating AIOps could streamline incident management resulting in response times and better service quality. These respondents believed that AIOps would enable them to concentrate on tasks and decision making ultimately leading to increased job satisfaction.

The desktop support technician clarified “AIOps can predict equipment failures and optimise resource allocation for more efficient laboratory operations”. This was reiterated by the support desk supervisor “AIOps can optimise operations by automating tasks and providing data-driven insights for resource allocation, leading to improved decision-making.”

However, thirty percent (30%) of the participants demonstrated a level of uncertainty when it came to integrating AIOps. They voiced concerns, about the complexity of AI technologies and how they could potentially disrupt workflows. Moreover, there was a worry about the impact of AI powered automation on their job responsibilities, which led to feelings of job insecurity. An additional fifteen percent (15%) of respondents showed resistance towards embracing AIOps primarily due to their fear that it might completely replace jobs and diminish the personal touch, in IT service management.

Theme 3: AIOps for Scanning and Monitoring Networks

Scanning and monitoring networks are crucial for ensuring their health and safety. By using cutting-edge analytics and anomaly detection, AIOps revolutionises these processes (Yeruza, 2023). AIOps systems can analyse both current and past data to spot trends, anomalies, and forecast problems. With this method, IT departments can prevent slowdowns and safeguard against security breaches.

According to the operations support specialist "AIOps can bolster cybersecurity measures for by continuously monitoring network activities and detecting potential breaches".

The Process Improvement Strategist agreed, "the IT department can gain valuable insights from AIOps for designing efficient workflows".

Yeruza (2023) also found that AIOps-driven monitoring considerably decreased MTTR (Mean Time To Restore) and increased network availability. AIOps equips organisations with the ability to monitor their complex and dynamic IT environments. The AI system can automatically inform relevant stakeholders about ongoing incidents and provide updates on their resolution progress. This fosters transparency and effective communication between the IT department and the university community. For instance, the AIOps system has the capability to anticipate possible network disruptions by analysing past trends. It can then suggest proactive actions to minimise risks and ensure uninterrupted service delivery. Implementing AIOps also brings the promise of enhancing stakeholder satisfaction. With quicker response times, improved service quality and well-informed decision making, members of the university community will enjoy smoother IT services and reduced instances of downtime.

Theme 4: Main Barriers and Drivers Impacting Willingness to Adopt AIOps

The study made an attempt to identify and analyse the primary barriers and drivers that exert an impact on IT department personnel's inclination to adopt AIOps. By exploring both the obstacles that hinder AIOps adoption and the motivations that encourage it, the study aims to provide a holistic view of the factors influencing AIOps adoption within the case university's IT department. The research revealed factors that greatly influence the adoption of AIOps within the IT department. Forty percent (40%) of participants mentioned concerns about job security and possible resistance to change. Clearly, some employees are worried that AI powered automation could make their jobs obsolete potentially leading to layoffs. They also have reservations about acquiring skills and uncertainty about their future in the organisation. Additionally long-time employees who are used to processes are sceptical about the reliability and accuracy of AI technologies preferring decision making. Overcoming this resistance poses a hurdle for the organisations AIOps implementation.

On the hand there are drivers that motivate the adoption of AIOps, including increased efficiency and improved incident management capabilities. Sixty percent (60%) of participants mentioned their openness to embracing AIOps and are excited about leveraging insights from AI and real time data analysis.

"AIOps can leverage real-time data and predictive analytics to facilitate data-informed decision-making and enhance IT governance within our HEI" recounted the director of IT department.

IT Staff recognise that AI can provide an understanding of incident patterns and trends enabling them to respond effectively to critical situations.

The technical experts clarified “AIOps can predict system failures and optimise equipment maintenance schedules, enhancing equipment reliability” and “can utilise real-time data and predictive analytics for data-informed decision-making and improved IT governance”.

The potential for issue resolution and better resource optimisation through analytics powered by AI is an incentive for considering the integration of AIOps.

Theme 5: Strategies to Enhance Readiness for AIOps Integration

Most participants (70%) felt that their institution, the IT department and themselves are not entirely ready. This percentage represents the proportion of participants who expressed concerns about the preparedness and readiness for adopting AIOps. However, thirty percent (30%) were confident that they can easily learn and train themselves on AIOps if need be. To improve preparedness for the integration of AIOps the organisation needs to adopt an approach that addresses the obstacles identified and capitalises on the factors that drive success. This percentage represents the proportion of participants who expressed a positive attitude towards their ability to adapt to and learn AIOps technologies.

“One strategy is to invest in training programs that focus on AI and data analytics” said the process improvement strategist.

These training initiatives should cover all levels of IT personnel ranging from entry level employees to managers ensuring a grasp of AI technologies and their potential applications, in incident management. The aim of this training is not to dispel misconceptions and concerns surrounding AI but to equip employees with the necessary skills to collaborate effectively with AI systems. Furthermore, fostering a culture of innovation and openness to new technologies is crucial to encourage employees to be more receptive to AI-powered solutions. The organisation should encourage idea-sharing sessions, hackathons, and innovation workshops to stimulate interest and curiosity around AIOps. Transparency and effective communication are essential components of the AIOps adoption strategy. The organisation should proactively communicate its plans for AI integration, addressing concerns about job displacement and automation.

Cheng et al. (2023) highlight that AI will complement human capabilities and enhance efficiency rather than replace jobs, the organisation can alleviate fears and resistance. Involving employees in the decision-making process is another effective strategy to enhance readiness for AIOps integration. Seeking their input and feedback on potential AI use cases and projects will foster a sense of ownership and cooperation, leading to smoother adoption. Lastly, showcasing successful pilot projects or use cases of AIOps within the department is critical to building confidence and trust among stakeholders. Demonstrating tangible benefits, such as improved incident response times and enhanced service quality, will serve as a compelling rationale for wider AIOps adoption.

The case university's current willingness to embrace AIOps is influenced by a combination of barriers and drivers. By implementing the identified strategies, such as comprehensive training, fostering an innovative culture, and effective communication, the organisation can enhance its readiness for AIOps integration. Leveraging AI for incident management reporting holds the potential to streamline processes, improve efficiency, and ultimately support the organisation's goals in delivering reliable and efficient IT services to the university community.

Discussion

In the context of existing literature and interview responses, the findings from this study shed light on the current level of willingness to embrace AIOps in a higher education institution's IT department. The moderate level of willingness observed among participants aligns with previous research that highlights the mixed perceptions surrounding AI adoption. Scholars such as Rijal (2022) have emphasised the importance of addressing barriers and fostering a positive attitude towards AI technologies to ensure successful integration. The drivers for AIOps adoption identified in this study, such as improved efficiency and enhanced incident management capabilities, confirm existing literature that underscores the potential benefits of AI in streamlining IT operations. Shang (2021) highlights the importance of considering factors despite the benefits that AIOps offers. The implications of the study's results contribute to a deeper understanding of AIOps adoption in higher education institutions.

By recognising the barriers and drivers specific to the IT department, the institution can devise targeted strategies to promote AIOps readiness. The findings emphasise the significance of investing in employee training and fostering a culture of innovation to overcome resistance and maximise the potential of AIOps adoption. Additionally, the study highlights the need for transparent communication regarding AI implementation plans to address fears and concerns among staff effectively. Unexpected findings include the presence of varying degrees of willingness among participants, with some displaying strong resistance to AIOps adoption. Contradictions between data and existing theories may arise from contextual factors unique to the higher education institution studied. These unexpected findings underscore the importance of conducting institution-specific research when implementing AIOps, as the organisational culture and workforce dynamics can significantly influence adoption outcomes.

The respondents' recognition of benefits underscores the potential AIOps holds for transforming IT operations into a more efficient, proactive, and data-driven domain. However, it's important to note that successful adoption of AIOps requires careful planning, integration with existing workflows and ongoing monitoring to ensure that the promised benefits are fully realised.

Recommendations

The aim of the study was to explore factors that influence acceptance and willingness by IT department personnel to adopt AIOps in their daily operations. Based on the findings of the study, the following factors provide practical recommendations for enhancing AIOps adoption within the higher education institution's IT department:

- a. **Implement Comprehensive Employee Training** - Provide training programs that focus on AI and data analytics to upskill IT staff, making them more proficient in leveraging AI for incident management reporting.
- b. **Foster an Innovation-Oriented Culture** - Encourage idea-sharing sessions, workshops, and hackathons to foster a culture that embraces innovation and openness to new technologies
- c. **Transparent Communication** - Ensure effective communication regarding AI implementation plans, addressing concerns about job displacement and emphasising the complementary role of AI in enhancing efficiency.
- d. **Involve Employees in Decision-Making** - Seek input and feedback from IT staff on potential AI use cases and projects to build a sense of ownership and cooperation.
- e. **Showcase Successful Pilot Projects** - Demonstrate tangible benefits of AIOps through successful pilot projects, showcasing improved incident response times and enhanced service quality.

- f. **Informing AI Policy and Governance** - The adoption of AIOps raises ethical and governance considerations, including data privacy, security, and algorithmic transparency. This research can shed light on the challenges and concerns associated with AI adoption in higher education, informing the development of robust AI policies and governance frameworks.

Limitations

This study on the adoption of Artificial Intelligence for IT Operations in higher education institutions in South Africa presents some limitations. The study utilized convenience sampling and included only ten staff members from a single university, which may not provide a comprehensive representation of the broader population of higher education institutions. The research was conducted within one university, which may have unique characteristics and circumstances. As a result, the findings may not be applicable to other institutions with different contexts, resources and challenges. Additionally, while the study identified several important themes, it may not have captured all relevant factors influencing AIOps adoption. There could be other significant variables or nuanced aspects that were not explored due to the scope and design of the study. Despite these limitations, the study provides valuable insights into the factors influencing AIOps adoption in higher education institutions and contributes to the understanding of how AIOps can enhance IT service operational effectiveness in South African universities. Future research with larger, more diverse samples and extended scope can build on these findings to provide a more comprehensive understanding of AIOps adoption in higher education.

Conclusion

This research sought to identify the key factors that influence AIOps adoption in South African higher education institutions. In conclusion, the IT department of case institution shows a level of openness, towards adopting AIOps. Although there are challenges and opposition to overcome the potential advantages, such as enhanced efficiency and service management capabilities serve as reasons to explore integrating AIOps. By addressing the identified barriers and leveraging the drivers, the institution can enhance readiness for AIOps adoption and foster a culture that embraces AI technologies as supportive tools. The research questions were adequately addressed, providing valuable insights into the current state of AIOps readiness, barriers, and drivers. The findings offer practical guidance for the institution's IT department in developing effective strategies for AIOps integration. Suggestions for future research involve conducting longitudinal studies to assess the long-term impact of AIOps adoption on IT service management efficiency and employee job satisfaction. Additionally, comparative studies with other higher education institutions can provide a broader perspective on AIOps adoption trends in the education sector.

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Appendix A

Interviews questions used to obtain participants' opinions and perceptions about factors influencing AIOps adoption at a selected higher education institution in South Africa.

Interview Q1

How do you anticipate the adoption of AIOps will impact automation processes within IT department?

Interview Q2

Can you describe how AIOps can influence service desk operations?

Interview Q3

In your opinion, how will AIOps contribute to future incident management practices within the IT department?

Interview Q4

What do you foresee as potential barriers and facilitators influencing the adoption of AIOps in higher education institutions in South Africa?