

Optimizing Educational Workflows:

An Assessment of Staff Adoption of AI Technologies for Enhanced Efficiency at Humber College



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Description of the Research Project

The project, titled "Optimizing Educational Workflows: An Assessment of Staff Adoption of AI Technologies for Enhanced Efficiency at Humber College," was conducted to investigate how AI tools are being adopted and utilized by staff members at Humber College. With the rapid advancements in AI technology, it is crucial to understand how these tools can be integrated into administrative workflows to enhance efficiency, support staff in their roles, and ultimately improve student outcomes. This research aimed to gather insights into the current state of AI adoption, the perceptions and trust levels among staff, and the impact of AI on their daily tasks.

To achieve these goals, data were collected through a comprehensive survey distributed across various departments within the institution, coupled with two focus groups designed to gather in-depth qualitative insights. The findings from this study will inform strategies for integrating AI tools effectively and addressing any challenges or concerns related to their use.

Acknowledgements

This research was supported by the Scholarship on Teaching and Learning (SoTL) at Humber College through the Seed Research & Innovation Fund. We gratefully acknowledge their financial support, which made this project possible. We also thank all the staff members who participated in the survey and focus groups, contributing valuable insights to this study.

Survey Highlights

- **Number of Respondents:** 211 staff members participated in the survey between April 23 - May 15, 2024.
- **Role Distribution:** Participants included support staff, managers, directors, leadership, associate deans, and other roles.
- **Key Measures:** The survey measured AI awareness, adoption rates, perceptions and trust, effectiveness and efficiency, and the impact on value-driven tasks.

Focus Group Highlights

- **Number of Participants:** 17 staff members participated in two focus group discussions held on June 18 and June 20, 2024.
- **Diversity:** Participants represented a mix of roles and seniority levels, providing a diverse view of the staff's interaction with AI tools.

Executive Summary

Humber College is at a pivotal point in its AI integration journey. Our research, combining survey data from 211 staff members, focus group discussions, and ANOVA analysis, reveals both enthusiasm for AI adoption and significant challenges to overcome.

Individuals drove the initial wave of generative AI adoption, discovering personal and professional use cases with these innovative tools, racing ahead of both legacy enterprise software and the capacity of organizations and departments to manage these new tools. Now the question is: how can organizations, such as Humber College, mesh these technologies with the existing software and hardware stack, even as software providers themselves begin to integrate generative AI into their applications? Companies such as Microsoft and Google, OpenAI and Anthropic, loosed upon the world frontier AI models, with little to no guidance about how users can deploy them in their professional and personal lives. Unlike software releases prior to the release of ChatGPT (v. 3.5) in late 2022, generative AI tools do not come with a manual from the companies that created them, and emergent online communities arose organically to share tips, tricks, and, most importantly, use cases: of the latter, many were not envisioned by the builders of these frontier models. Early adopters, at Humber and elsewhere, started (and continue) to push the boundaries of generative AI at work, tinkering and testing applications to enhance productivity, employing these tools as “a cognitive prosthesis,” to quote Matt Beane, professor of AI, robotics, and automation at UC-Santa Barbara. This change has the potential to enhance the quality of work and foster a professional environment conducive to skill development and career advancement. Thus, to enhance output and quality, and to get in front of skills inequality, a comprehensive but flexible generative AI strategy is strongly recommended. Such a strategy, well-executed, furthers the core objective of the College: student success.

To enrich the report's insights, we have strategically chosen a framework for structuring the document: **knowing, doing, and perceiving**. Abstracted from the survey questions, this framework is designed to offer a robust understanding of the staff's sentiments towards generative AI, as well as their usage patterns, challenges faced, and areas for potential improvement.

A brief explanation of each category and rationale for its selection:

Knowing: This refers to the knowledge base and understanding staff members have regarding generative AI technologies. It includes general awareness of the capabilities, limitations, underlying principles, and potential advancements of these tools. Gauging awareness levels among staff helps in identifying knowledge gaps and the need for skills training or learning and development. It ensures that staff can critically evaluate these technologies and contribute to informed decision-making processes regarding their adoption and use.

Doing: This category encompasses the practical applications and uses of generative AI tools by the Humber staff in their workflow. Understanding the current utilization of generative AI helps identify the breadth and depth of its integration into the college's operations. This information is crucial for assessing the practical value, identifying best practices, and suggesting areas of further experimentation. By documenting actual use cases, we can also foster knowledge sharing and innovation within the institution.

Perceiving: This framework captures the attitudes, beliefs, and feelings of the staff towards generative AI. It includes perceptions of the benefits, risks, ethical considerations, and overall impact of these tools on their work, the institution, and broader society. Understanding perceptions is key to addressing concerns, managing expectations, and fostering a positive environment for technological adoption. Perceptions influence how willingly staff will engage with AI tools and can highlight areas of resistance or enthusiasm. Addressing negative perceptions and reinforcing positive ones can facilitate smoother transitions and more effective implementations of Humber's AI initiatives.

By systematically examining these dimensions, this research aims to equip Humber leaders with a detailed understanding of the intricacies surrounding staff adoption of AI, with the goal of providing insights to assist in developing targeted strategies to drive the beneficial use of generative AI, ensure adequate training and support, and address any concerns or misconceptions among staff.

Key Findings

The key findings below offer a concise and focused overview of Humber staff's perspectives on the adoption of AI at the College. This summary highlights the core insights and trends derived from the survey and focus group data, encapsulating the collective views and experiences of the staff.

Generative AI Is Transforming Workflows: The report highlights that a substantial proportion of staff (51%) are already using AI tools for work-related tasks. This indicates that AI is not just a theoretical concept but is actively being integrated into daily work practices. The most common uses include data analysis, content creation, and administrative tasks. This finding underscores the transformative potential of AI in reshaping job roles and tasks, which can be both exciting and unsettling for employees.

Concern About Finding Role-Specific Use Cases: A recurring theme from the survey and focus group data is the persistent concern among staff about identifying role-specific use cases for AI tools. Many respondents expressed uncertainty about how AI can be applied effectively within the unique contexts of their individual roles.

Enthusiasm for AI's Potential Benefits, But Adoption is Uneven: Many staff members report improved efficiency and work quality due to AI use, but others describe challenges with AI integration. This uneven adoption pattern is a common challenge in organizational change, as some employees embrace new technologies more readily than others.

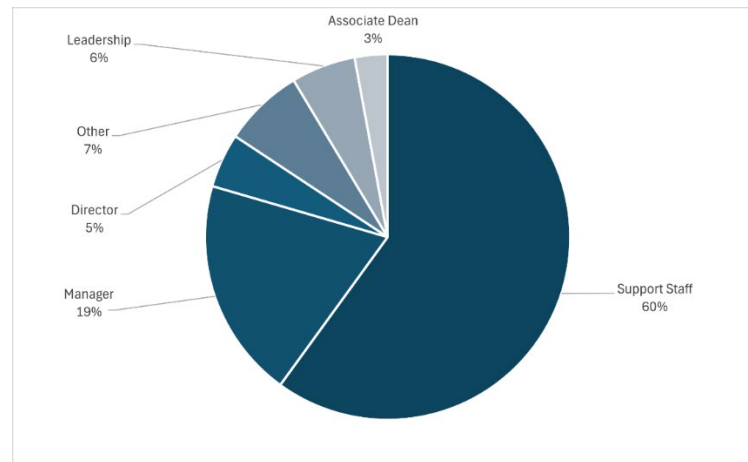
Disparity Between Perceived Potential and Actual Impact of AI Tools on Student Interaction Quality: The survey revealed a disparity between the perceived potential impact of AI tools and actual improvements in student interaction quality. While 91.54% of staff believe AI tools can enhance resource allocation toward improving the student experience, only 30.44% noted an actual improvement in their interactions with students. The majority, 68.12%, reported no change, and 1.45% saw a decline.

Need for Comprehensive Training and Support: There is strong interest in and demand for training and education on AI tools. At the same time, many staff members feel ill-equipped to use it effectively and are uncertain about its applications to their specific roles. There is also a moderate level of comfort working with AI, and a relatively low trust in AI for decision-making. The report emphasizes the importance of a structured, multi-modal learning approach to cater to diverse learning preferences and ensure that staff can effectively use AI tools. This upskilling is seen as crucial for maximizing the benefits of AI and ensuring a smooth transition to more widespread use.

Concerns about Job Security and Ethical Issues: A significant portion of staff (45%) is concerned about AI replacing their jobs, and there are broader concerns about data privacy, ethical considerations, and the reliability of AI outputs. These concerns suggest the need for transparent policies and guidelines on AI use, as well as reassurance and clear communication to alleviate fears and build a supportive environment for responsible AI integration.

The data presented throughout the report is derived from the Spring 2024 survey, plus two focus groups, of Humber College staff, excluding faculty members due to the survey's focus on staff workflow. This resulted in a dataset of 211 College employee responses, broken out by percentages in the chart below.

Distribution of Roles Based on Experience Level

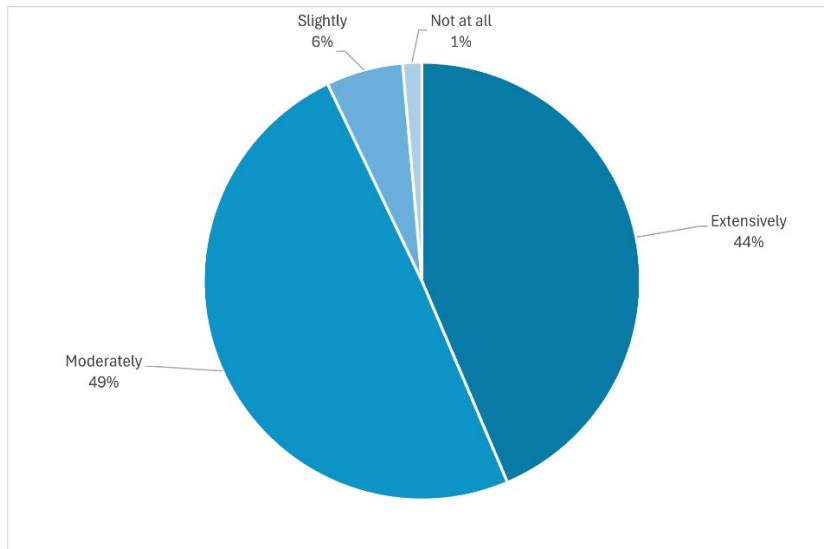


Statistically significant differences regarding AI among roles at Humber College were only observed in three survey questions. A detailed exploration of these differences is provided in the "Areas of Difference" section later in this report. Responses to the three questions highlighting substantive differences are presented as percentages by role. Due to the absence of statistical significance in the remaining questions, responses for those questions are aggregated across roles.

1. Knowing: AI Familiarity and Learning

1.1 Technical Knowledge

Extent of Technical Engagement in Staff Roles



The survey reveals that 43.60% of respondents regularly work with and understand technical tools extensively, while 49.29% occasionally work with them. This means that 92.89% of staff have at least moderate to extensive engagement with technical tools.

The high level of technical engagement among staff suggests a strong foundation for adopting AI tools. Most staff are already familiar with technology, potentially making the transition to AI tools smoother.

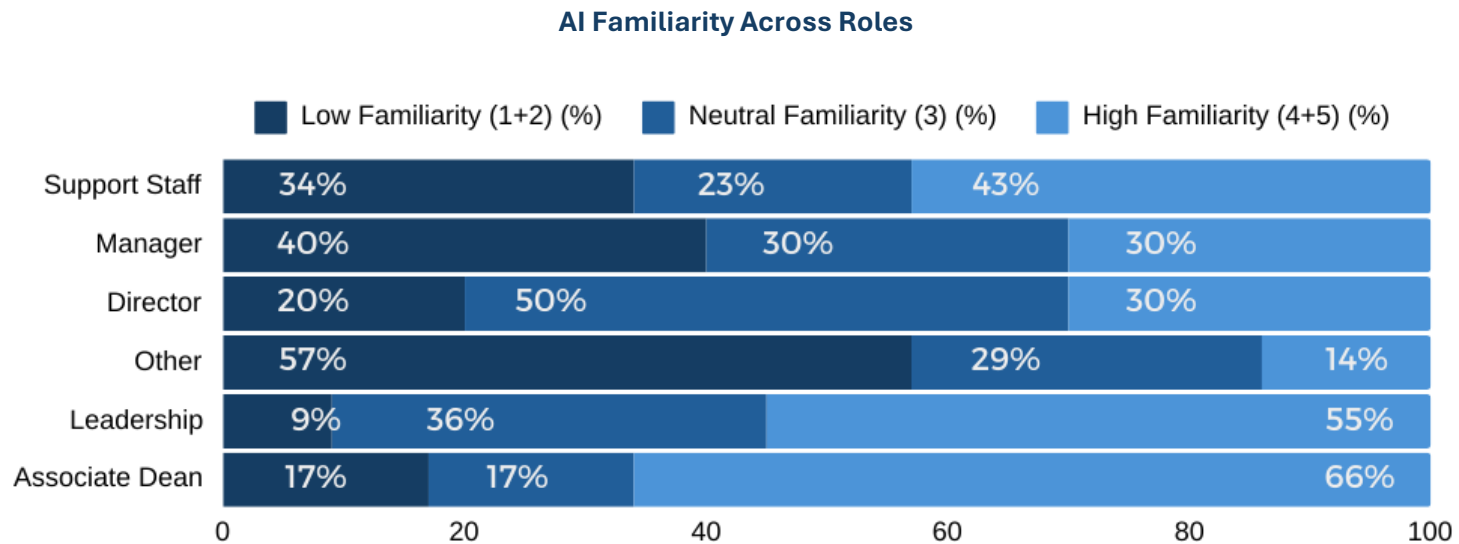
1.2 General AI Familiarity

- Overall, staff report a mean (and moderate) familiarity score of 3.11/5 with AI concepts.
- There are notable differences in AI familiarity across different experience levels within the college, explored later in the report (“Areas of Difference” section).

Significant differences in familiarity with AI concepts across roles: We conducted an ANOVA analysis to determine the differences in AI concept familiarity across various roles. The results showed significant differences (F-value: 2.601, p-value: 0.025) in familiarity levels among the roles.

The chart below simplifies the analysis by combining the lower and higher familiarity levels. It highlights distinct patterns in AI familiarity across different roles, revealing opportunities for targeted interventions.

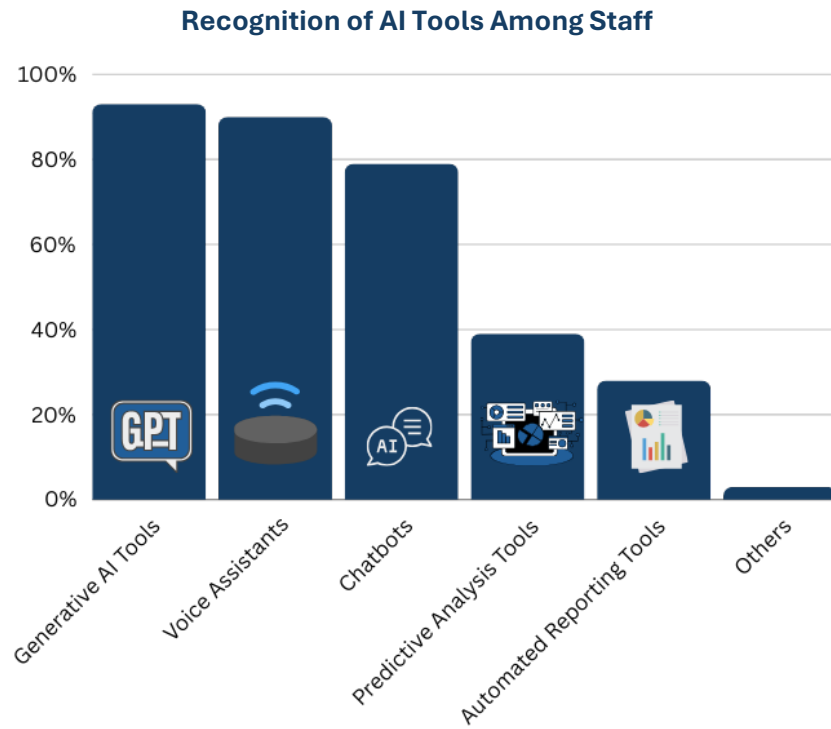
- **Support Staff:** A balanced familiarity with 44% being highly familiar, but 33% showing low familiarity.
- **Managers:** Predominantly have low familiarity (40%), with only 30% highly familiar.
- **Directors:** A unique distribution with 50% neutral, suggesting moderate engagement with AI concepts.
- **Other Roles:** High percentage of low familiarity (57%), indicating a significant need for foundational AI training.
- **Leadership:** Strong familiarity with AI concepts, with 55% in the high familiarity category.
- **Associate Deans:** The highest familiarity, with 66% highly familiar with AI concepts.



These differences are corroborated by focus group discussions, where the theme "Varying Levels of AI Comfort and Adoption" was mentioned approximately 25 times. For instance, one participant noted: "I'm pretty comfortable with it, but we're using it for a bit just for some personal stuff. I mean, there's some more things that we're kind of we've got a couple projects that we're kind of trying to integrate the AI into, to, to see if it can kind of help us, with some certain aspects." This contrasts with another participant who expressed less certainty: "I think it's hard to see like a high level of benefits or challenges without more of a formal integration and like, policy to speak to it."

Strategic Implications: The disparity in AI familiarity across the organization suggests a need for targeted training programs. Higher familiarity in some groups could be leveraged to champion AI initiatives, while focused efforts are needed to boost confidence and skills in others. The anecdotal evidence from Humber staff, ranging from comfortable integration to uncertainty about benefits, indicates a mixed landscape of AI adoption. At Humber and elsewhere, organizational policies and guidelines around AI usage at work are mostly absent, as no framework of best practices has emerged across the Canadian post-secondary sector. This ambiguous condition means that some employees will be reluctant to try generative AI. Broad but clear and consistent guidelines will be needed in the near future, especially as everyday applications in the Microsoft Office suite continue to integrate AI.

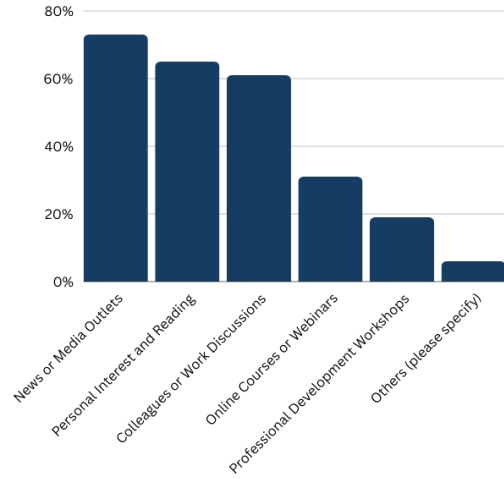
1.3 Tool Recognition



Strategic Implications: The widespread recognition of generative AI tools suggests that staff are prepared for their integration. However, the lower familiarity with predictive analysis tools highlights an opportunity to introduce these impactful technologies across the organization. To maximize the value of AI, it is essential to proactively present it in scenarios where it can be most beneficial, rather than relying solely on user-initiated experiences. While generative AI offers extensive value beyond specific solutions, its integration into workflows may be most effective when tailored to particular situations initially.

1.4 Diffusion of AI Tool Knowledge and Extended Learning Preferences

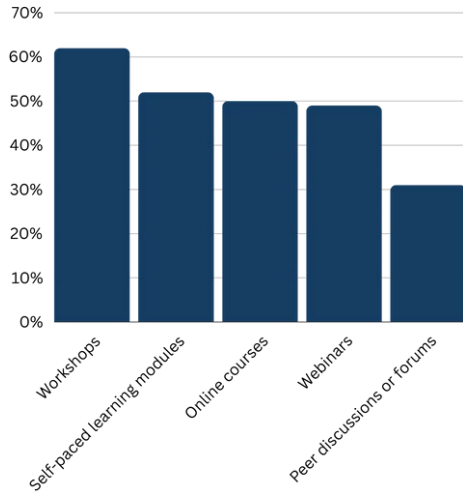
Reported Sources of AI Learning



The data reveals a disparity between the current sources of AI learning and the preferred methods for acquiring AI knowledge.

While staff members currently rely heavily on self-directed and informal sources (news/media outlets and personal interest), their preferred learning methods lean towards more structured, interactive, and supportive environments (workshops, online courses, and self-paced learning modules).

Preferred Learning Methods

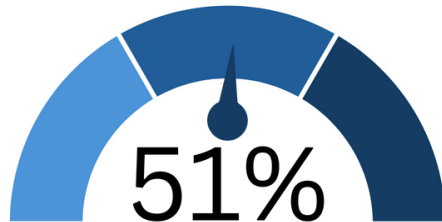


Strategic Implications: The preference for workshops and online courses provides a clear direction for structuring AI training programs. Developing a multi-modal learning approach will cater to diverse learning preferences and maximize adoption rates. And it is vital to regularly assess the effectiveness of training programs and learning resources through surveys, feedback sessions, and usage metrics. Humber decision-makers can use this data to continuously improve the learning experience and ensure that AI knowledge is effectively disseminated across the College. Additionally, it is worthwhile to surface conversations about reallocated resources, mostly of time, to train IT support to answer questions, troubleshoot issues, and provide guidance on best practices.

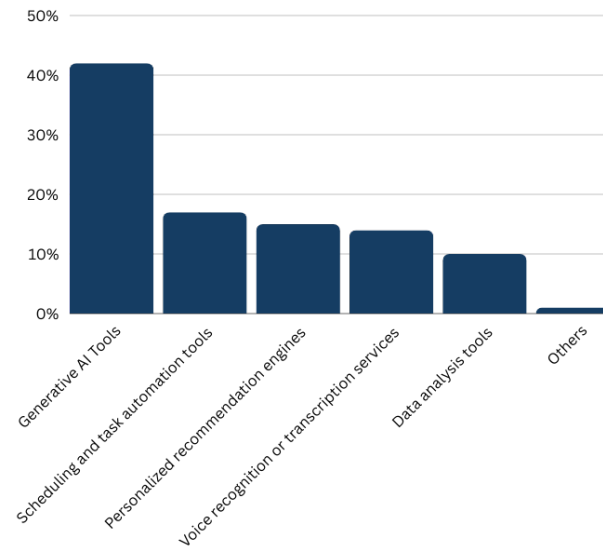
2. Doing: Current AI Usage and Impact

2.1 Current Use of Tools

51% of staff currently use AI for work-related tasks

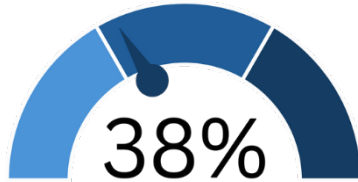


Types of AI Tools Used by Staff in Their Professional Roles



Strategic Implications: With 51% of staff already using AI tools for work-related tasks, Humber College has a strong foundation for further AI integration. This current rate of adoption, particularly of generative AI, indicates the potential to streamline operations, enhance productivity, and improve efficiency across various roles. However, there is a significant opportunity to introduce new AI tools beyond generative AI, such as predictive analysis and scheduling automation, which are currently underutilized. By leveraging existing familiarity while promoting these additional tools, the institution can maximize AI's impact on value-driven tasks and strategic objectives, ensuring a more effective and comprehensive implementation.

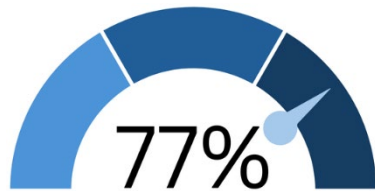
2.2 Frequency and Duration



Report reduced task completion time since adopting AI tools.

The reduction in task completion time is a tangible indicator of the efficiency gains AI tools can offer.

2.3 Workflow Transformation



Of staff reported improved work quality since adopting AI tools

This aligns with the focus group theme "Impact on Workflow and Efficiency" (mentioned ~40 times). One participant shared, "I just build a bunch of graphs and reports that it would have taken me weeks to learn if I would have taken courses or gone into some sort of training," illustrating the potential for AI to enhance productivity and learning.

2.4 Transformed Tasks / Tasks managed more efficiently using AI:

- Administrative tasks (43.5% of AI users)
- Data analysis and reporting (47.3% of AI users)
- Content creation and formatting (51.1% of AI users)

Approximately half of surveyed staffers have incorporated AI tools into their workflow, and none of the over 100 respondents who answered this question reported a decline in work quality. Instead, they noted either sustained or improved quality.

Strategic Implications: The concentration of AI use in administrative, data analysis, and content creation tasks provides a roadmap for initial AI expansion efforts. These areas could serve as proof-of-concept projects to demonstrate AI's value and encourage wider adoption. While perhaps more operational, establishing a library of generative AI use cases at Humber might be a wise investment. It can serve as a catalyst for innovation, accelerating AI adoption by providing staff with real-world examples, inspiration, and practical guidance. The library will not only streamline the learning process but also mitigate risks, foster collaboration, and demonstrate tangible ROI, ultimately ensuring AI is leveraged effectively to achieve the college's mission and goals. Just as online communities like X (formerly Twitter) and LinkedIn have fostered the exchange of AI use cases or Stack Overflow has accelerated coding knowledge through shared code snippets, this library could streamline the learning process and promote cross-pollination of ideas.

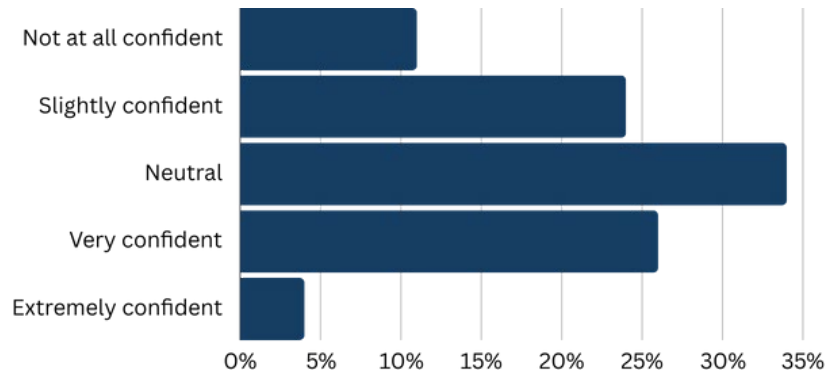
3. Perceiving: Sentiments, Benefits, and Challenges

3.1 Sentiment

- Staff show moderate comfort levels working alongside AI tools (mean score of 3.13 out of 5)
- Trust in AI for decision-making is relatively low (mean score of 2.54 out of 5)
- 77% consider it important or very important to understand how AI tools reach their conclusions

Strategic Implications: While it is acknowledged that due diligence should be exercised when working with AI output, we need to provide guidance on how to verify AI output efficiently so low trust does not become a barrier to adoption. Implementing transparent AI systems and educating staff on efficient verification methods can help build trust and encourage more comprehensive AI integration.

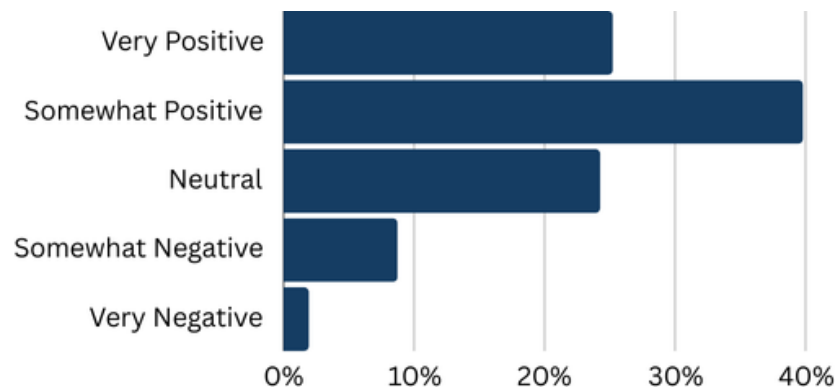
Staff Confidence in Understanding AI Tools in the Context of Their Professional Roles



There are varying levels of confidence in understanding the potential uses of AI tools among staff members. Grouping the responses, we find that 35% of staff are either not at all confident or slightly confident, 34% are neutral, and 31% are either very confident or extremely confident.

This distribution shows that a **significant portion of staff have low to moderate confidence** in their understanding of the potential uses of AI tools in the context of their professional roles.

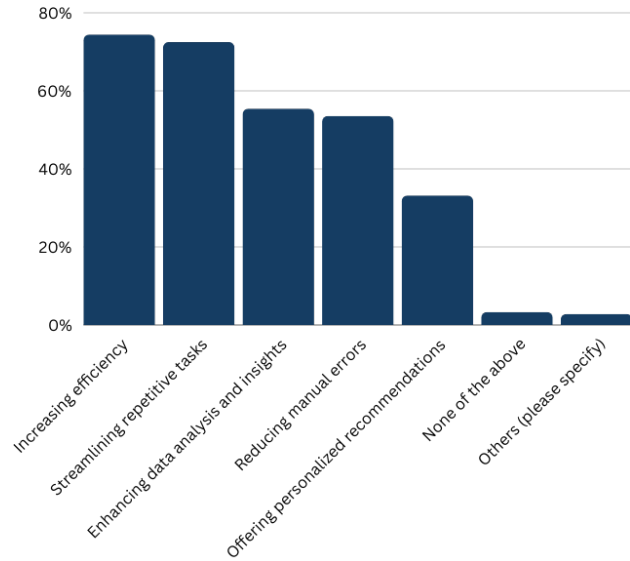
Staff Sentiment on AI Integration in Professional Settings



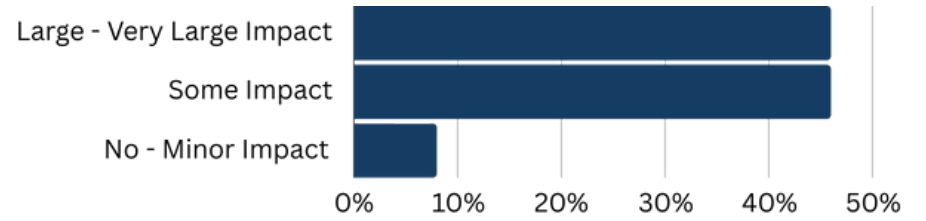
A significant portion of the staff have a positive outlook on the integration and use of AI tools in their professional settings. Combining the "very positive" and "somewhat positive" responses, **65% of the staff view AI integration favorably**. This positive sentiment is crucial for the adoption and effective implementation of AI tools, as it indicates a readiness and willingness among the majority of staff to embrace these technologies.

3.2 Benefits

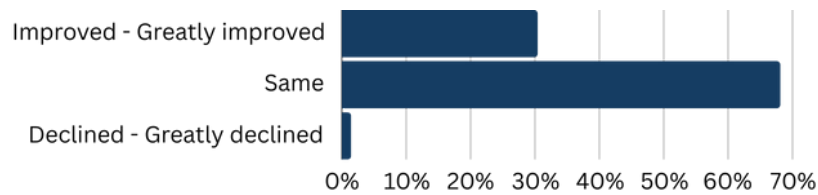
Perceived Potential Benefits of Using AI Tools in Professional Roles



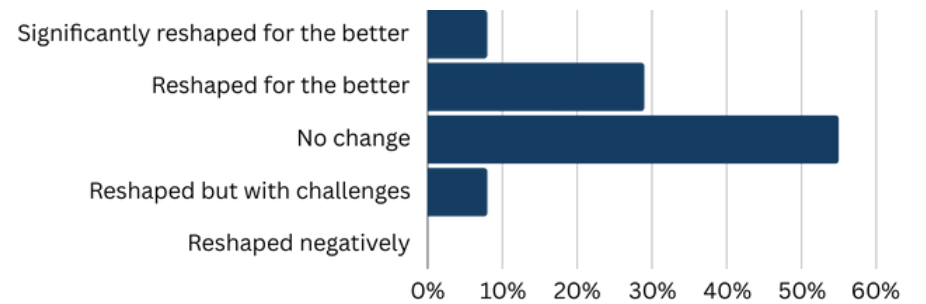
Perceived Potential Impact of AI Tools on Staff Resource Allocation and Enhancing Student Experience



Changes in Student Interaction Quality Post-AI Integration



Impact of AI Tool Adoption on Enhancing Student Experience



Strategic Implications: Despite the high perceived potential impact, the actual reported improvements in student interaction quality post-AI integration are more modest. Only 30.44% of respondents noted an improvement in the quality of their interactions with students after integrating AI tools, while the majority (68.12%) reported no change, and a small percentage (1.45%) noted a decline.

The disparity between the high perceived potential of AI tools to enhance resource allocation and the relatively modest reported improvements in student interaction quality highlights several important points:

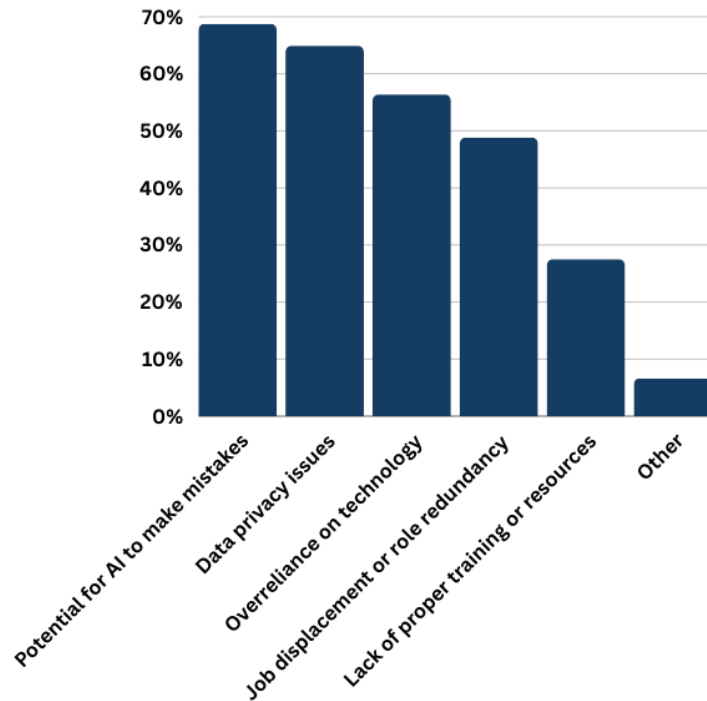
Expectations vs. Reality: There appears to be a gap between the expectations of AI's potential benefits and the actual outcomes experienced by staff. This could be due to several factors, including the maturity of the AI tools, the extent of their integration, or the effectiveness of their use.

Focus on Practical Use Cases: The optimism about AI's potential could be better harnessed by focusing on identifying and promoting practical, role-specific use cases where AI can make a tangible difference. This could help bridge the gap between perceived potential and actual impact.

Addressing Concerns and Misconceptions: The disparity also underscores the importance of addressing any concerns or misconceptions about AI tools. Ensuring that staff have a clear understanding of how AI can be used effectively in their specific roles will be crucial in achieving the anticipated benefits.

3.3 Concerns:

Concerns Regarding AI Integration Among Staff



These concerns are echoed in the focus group discussions, with "Ethical Concerns and Data Privacy" emerging as a major theme (mentioned ~30 times). One participant expressed, "I don't know if I have enough information to, like, properly assess," highlighting the need for clear guidelines on responsible AI use. In addition to the widely recognized ethical concerns such as IP infringement and bias, some survey participants highlight a lesser-known consequence: the deterioration of skills. One support staffer said that generative AI "takes away from having to think," while another support staffer fears that it "reduc[es] critical thinking."

Strategic Implications: While efficiency benefits are recognized, concerns about data privacy and overreliance on technology need to be addressed. Developing robust data governance policies and emphasizing AI as a tool to augment rather than replace human skills will be crucial for successful AI integration.

3.4 Challenges in Use and Use Cases

- 45% of staff worry about AI replacing their job

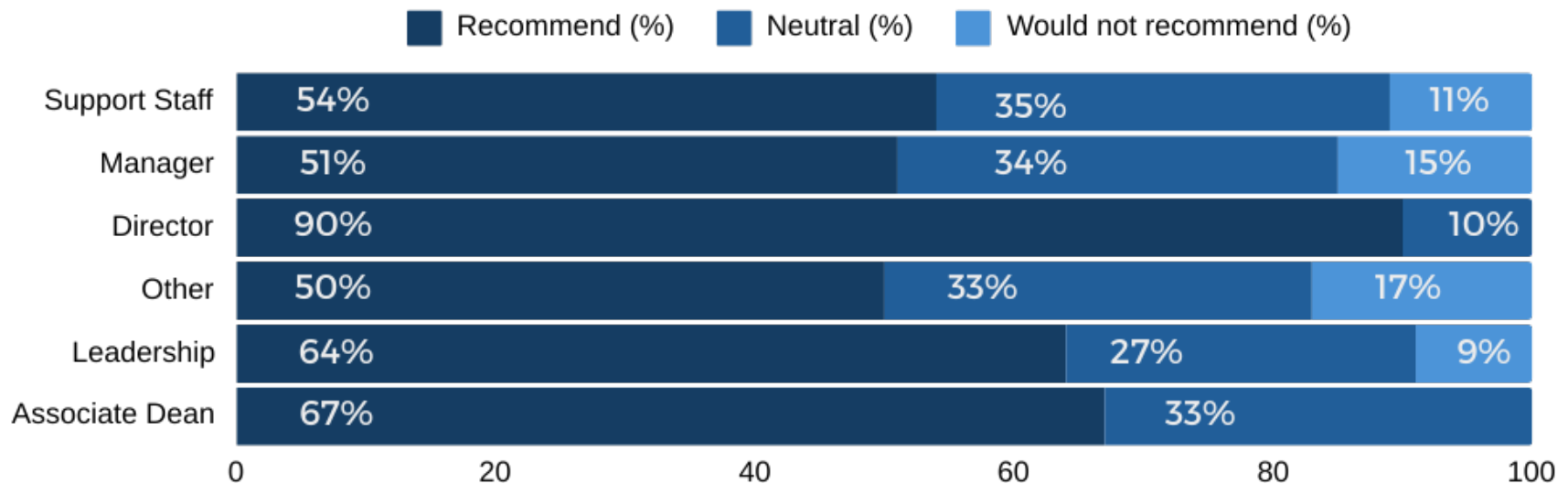
In the focus groups, the theme "AI's Impact on Job Roles and Security" was mentioned ~20 times. While there were concerns about job displacement, many participants also saw AI as an opportunity for career growth. As one participant noted, "I think for me personally, I'd say that any I use, it's just a tool. Yeah, it's going to be something that gives me a baseline that I again have to look into the references, the resources, everything else behind it." Additionally, a Dean identified one of the perennial friction points in meshing new tools with existing technology: "Time - Current role is too busy for exploring new tech + tools." Early adopters, driven by personal interest and curiosity, experiment with AI tool use at work outside of normal hours or during slack periods. However, that entails being influenced by characteristics and behaviors that cannot be mandated by a human resources job description.

Strategic Implications: The high percentage of staff considering quitting presents a retention risk. Clearly communicating how AI will enhance rather than threaten jobs, and providing pathways for staff to upskill in AI, could help mitigate this risk and turn AI into a retention tool. The Dean's comment about time and staff feedback highlighting a lack of direction for tool integration underscore the need for a strategic plan that tackles the substantial constraints and structural barriers to effective generative AI use.

3.5 Recommendation

ANOVA analysis shows significant differences in the likelihood of recommending AI tools to peers across experience levels ($F = 3.278, p = 0.012$). This indicates varying levels of satisfaction or perceived value of AI tools among different staff groups.

Recommendations for AI Tool Adoption by Role



- 72% of staff believe AI will have a significant impact on enabling them to allocate more resources toward enhancing student experience

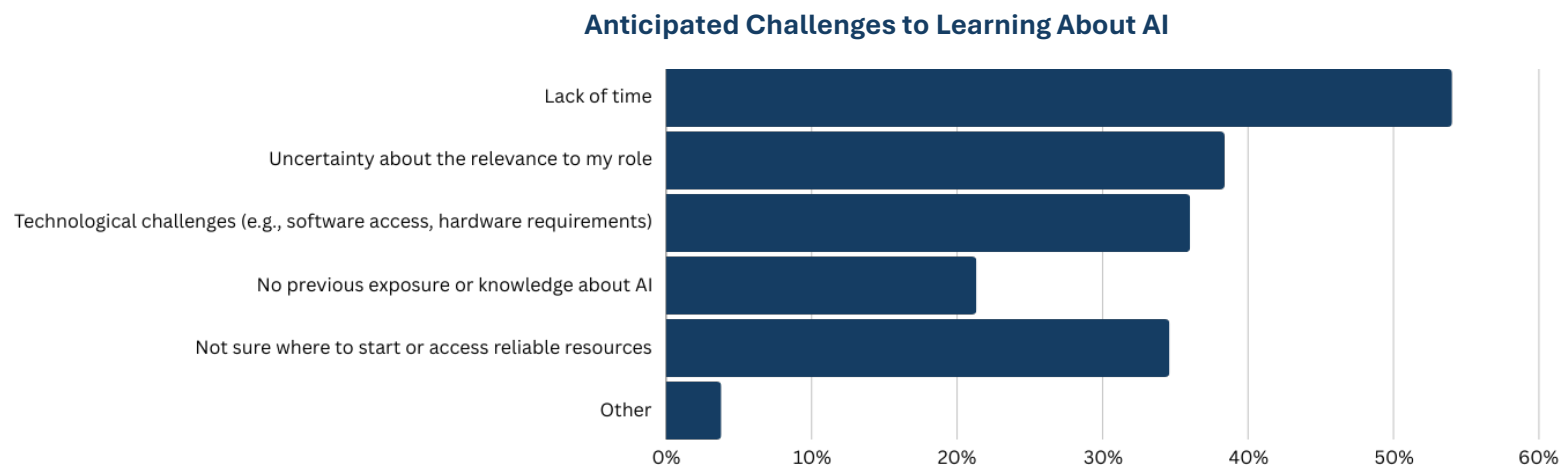
Strategic Implications: The strong belief in AI's potential to enhance student experience provides a compelling narrative for AI adoption. Aligning AI initiatives with student success metrics could help gain buy-in from stakeholders across the institution.

3.6 Tasks That Could Be Transformed Tasks staff believe could be managed more efficiently with AI:

- Administrative tasks (69.6%)
- Data analysis and reporting (59.3%)
- Content creation and formatting (54.1%)

Strategic Implications: The identified tasks provide a clear starting point for AI implementation. Prioritizing these high-impact areas for AI integration could yield quick wins, demonstrating AI's value and building momentum for broader adoption. Referencing automation tools specifically, an Associate Director notes that they “appreciate the work it saves our staff.”

3.7 Expected Challenges in Learning

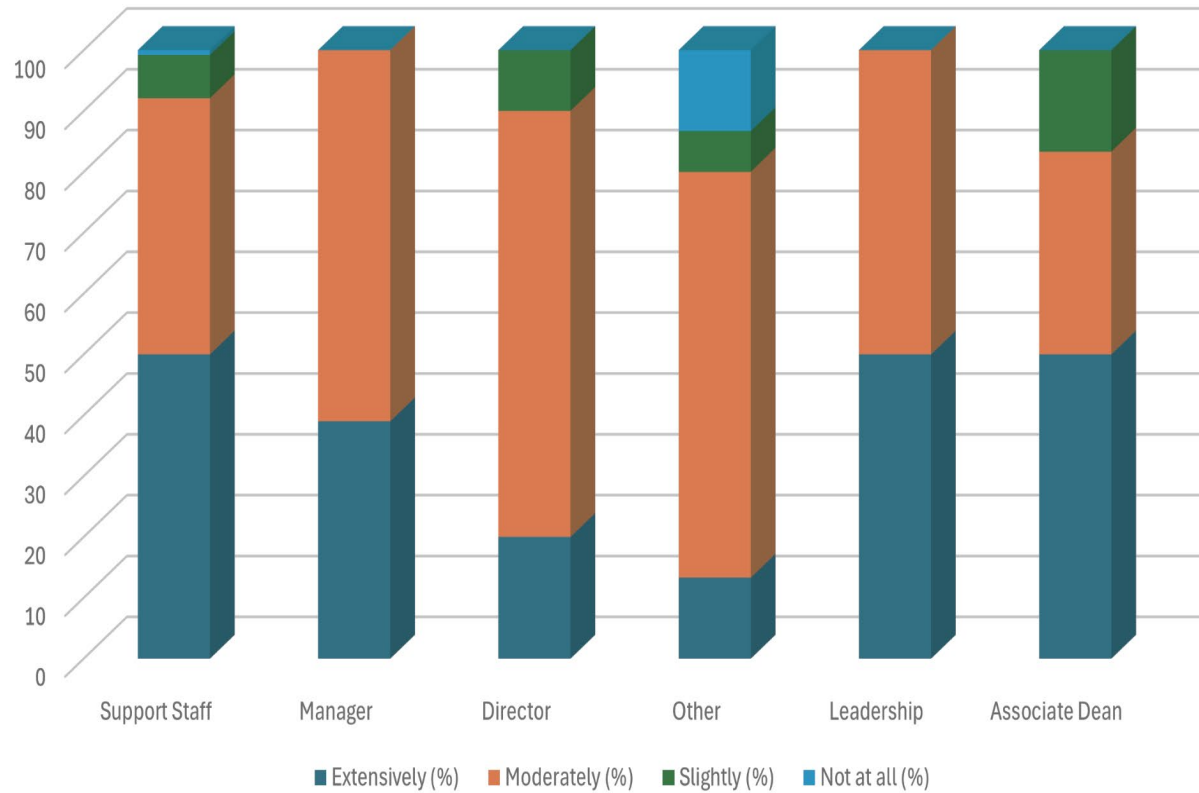


Strategic Implications: Time constraints and uncertainty about AI's relevance are key barriers to learning. Implementing "learning in the flow of work" strategies and clearly demonstrating AI's relevance to each role could help overcome these challenges and accelerate AI skill development.

Areas of Significant Difference

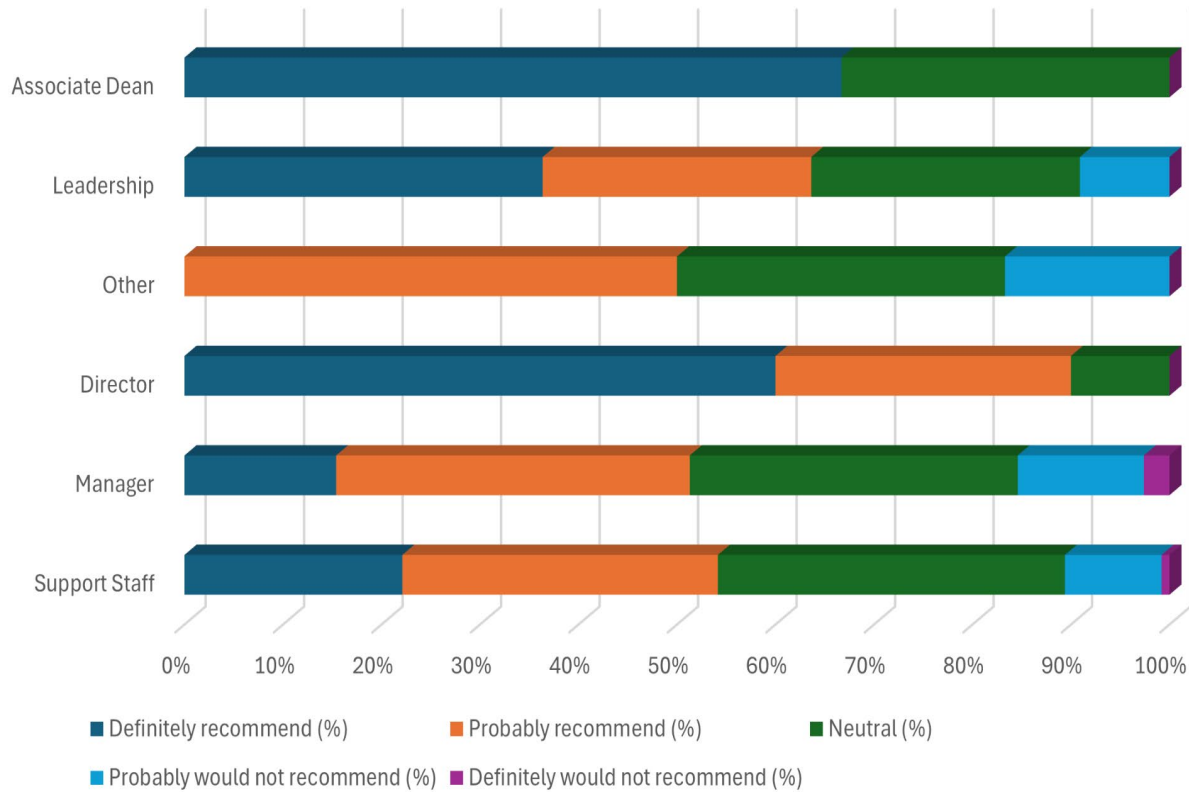
In our analysis of various roles within the College (excluding faculty), we found a high degree of consistency across most measures. While some minor differences in perception were observed, the data indicates a generally shared understanding of the potential opportunities and obstacles presented by generative AI tools among Humber staff. However, three distinct areas emerged where significant differences in usage patterns were identified: technical tool use by role, familiarity with AI concepts, and their likelihood of recommending generative AI to colleagues. These findings highlight the nuanced ways in which employees across different roles are leveraging generative AI and may indicate opportunities for tailored training or support to maximize the value of these tools for specific job functions.

Technical Tool Use by Role



The engagement with technical tools is generally high across roles, particularly among support staff, leadership, and associate deans. However, directors and managers mostly engage "Moderately," suggesting that training and example applications of AI tools should focus on tasks that do not require high levels of technical knowledge for these groups. This approach could enhance their efficiency and familiarity with AI applications without overwhelming them with complex technical details.

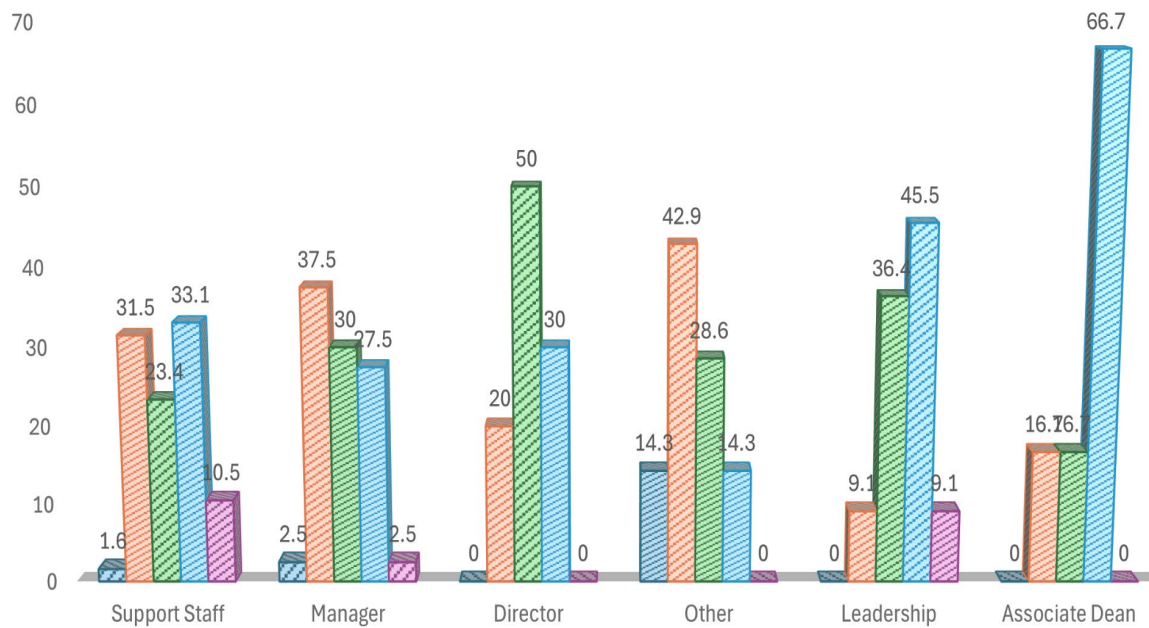
Recommend AI to Colleague in Similar Role



Directors and associate deans are strong proponents of AI tool adoption, indicating leadership's recognition of AI's potential benefits. However, the significant neutrality among support staff and managers suggests they might need more information or evidence of AI tools' effectiveness to nudge them toward adoption.

FAMILIARITY WITH AI CONCEPTS

1 - Not familiar at all (%) 2 - Slightly familiar (%) 3 - Neutral (%) 4 - Very familiar (%) 5 - Extremely familiar (%)



This diverse range of familiarity levels suggests a need for targeted AI training programs. While many in leadership and support roles are comfortable with AI, managers and directors could benefit from additional education to enhance their AI competencies, ensuring more consistent knowledge across all levels at Humber.

Survey Commentary

At the end of the survey, participants were given an opportunity to offer more extensive comments or feedback on artificial intelligence in the workplace and beyond. Analyzing the responses to this open-ended question is valuable because it represents an investment of time and effort from the participants. As previous questions mostly used point-and-click radio buttons, this "high cost" question required respondents to voluntarily offer more detailed opinions about AI use at work. Each additional click and every moment spent typing represents a conscious decision by the participant to contribute more deeply to the discussion. This level of engagement suggests that the responses are likely to be more thoughtful, nuanced, and reflective of the participants' true concerns and attitudes.

Approximately 50 participants completed this question, with responses ranging from a sentence to several hundred words. These five themes surfaced most often:

1. Efficiency and Productivity

Many comments highlight AI's potential to improve efficiency and productivity in the workplace. Staff members recognize that AI can help with routine tasks, streamline workflows, and save time. One enthusiastic example: "Extensive training in using AI tools is absolutely needed and welcome at the workplace."

While staff see the benefits, there's also an underlying concern about job security. Some worry that increased efficiency might lead to job losses. A comment from one staffer hints at that ambivalence: "It looks to be the way forward, but I am worried about job security and also accuracy." This "on the one hand, but on the other" attitude appears to be modal, based on the comments for this question. Organizations implementing AI should focus on how it can augment human work rather than replace it, and communicate this clearly to staff.

One staffer offers an optimistic accelerationist view: "AI is the future and should be incorporated and not 'frowned upon' in Support Staff roles across the college."

2. Need for Training and Education

<p>Numerous comments emphasize the importance of proper training and education on AI tools. Staff members express a desire to learn more about AI and how to use it effectively in their roles. One staffer has identified a skills gap and wants to reduce it: <i>“From my perspective, it’s important to focus more on people who are not tech savvy and don’t understand AI and what it can do...which is me. I don’t understand what it can do or how it can help me in my day to day job. I’m also concerned about the quality of information generated from AI. I’m open to learning, but I would need a lot of guidance.”</i></p> <p>As with previous technologies, there’s a clear gap between those who are comfortable with AI and those who feel left behind. We see that sentiment in an apprehensive comment from one participant: <i>“I think about our own skills, and pray we don’t lose sight of our own skills.”</i> When the College approves a formal plan for implementing AI, there would be a high ROI on a comprehensive AI literacy program to ensure all staff members can effectively and confidently use these tools.</p>	<p>This comment, rich in social science wisdom, provides a nuanced understanding of the cultural frictions that often accompany technological advancements: <i>“I think that organizations that would like to leverage AI need to invest the time it takes to train their staff with the skills and knowledge to use it effectively. As we saw and still see with the addition of tools like Teams, many staff who are not tech savvy are still confused and slowing down the rest of the team. While it would be ideal for staff to be curious about AI and invest their own time in learning about these tools, we know that it not realistic. Increasing that competency together at the early adoption phase is critical for the long-term success of integrating these tools and for enjoying the benefits of increased productivity.”</i></p>
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3. Privacy and Data Security Concerns

<p>Several participants expressed concern about privacy and data security when using AI tools. Staff members are worried about how data is stored, accessed, and used by AI systems.</p> <p>These concerns highlight the need for clear governance on AI use, data handling, and privacy protection. Transparency about how AI systems operate and what safeguards are in place could help alleviate some of these worries.</p>	<p>A participant identifies an under-discussed point: <i>“There is a lot of potential, but employees need to have a foundational knowledge of how and when the tools work, guidance on appropriate usage, and an appreciation that use of AI does not alleviate personal accountability for the output, and that there are risks with using AI from a privacy and data security perspective.”</i></p>
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4. Accuracy and Reliability of AI Output

Many staff members question the accuracy and reliability of AI-generated content. There's skepticism about the quality of information produced by AI and concerns about potential errors or misinformation.

This theme underscores the importance of maintaining human oversight and critical thinking when using AI tools. The best practice is to encourage staff to view AI as an assistant or co-pilot rather than a replacement for human judgment and provide guidelines for verifying AI-generated information.

AI Centaurs* are everywhere: *“AI is still new to higher education. When reviewing the results generated by Copilot, I often look at the sources that it used to generate the information which helps me determine its veracity.”*

* Term coined by University of Pennsylvania’s Ethan Mollick: “Centaur work has a clear line between person and machine, like the clear line between the human torso and horse body of the mythical centaur. Centaurs have a strategic division of labor, switching between AI and human tasks, allocating responsibilities based on the strengths and capabilities of each entity.”

5. Ethical Considerations and Societal Impact

Several comments touch on broader ethical considerations and the societal impact of AI. These include concerns about AI's impact on creativity, the exploitation of workers in AI development, and the environmental costs of AI infrastructure.

One participant discusses a persistent, knotty ethical issue: *“As a creative, I have a hard time justifying AI in design work—especially in terms of image generation—but*

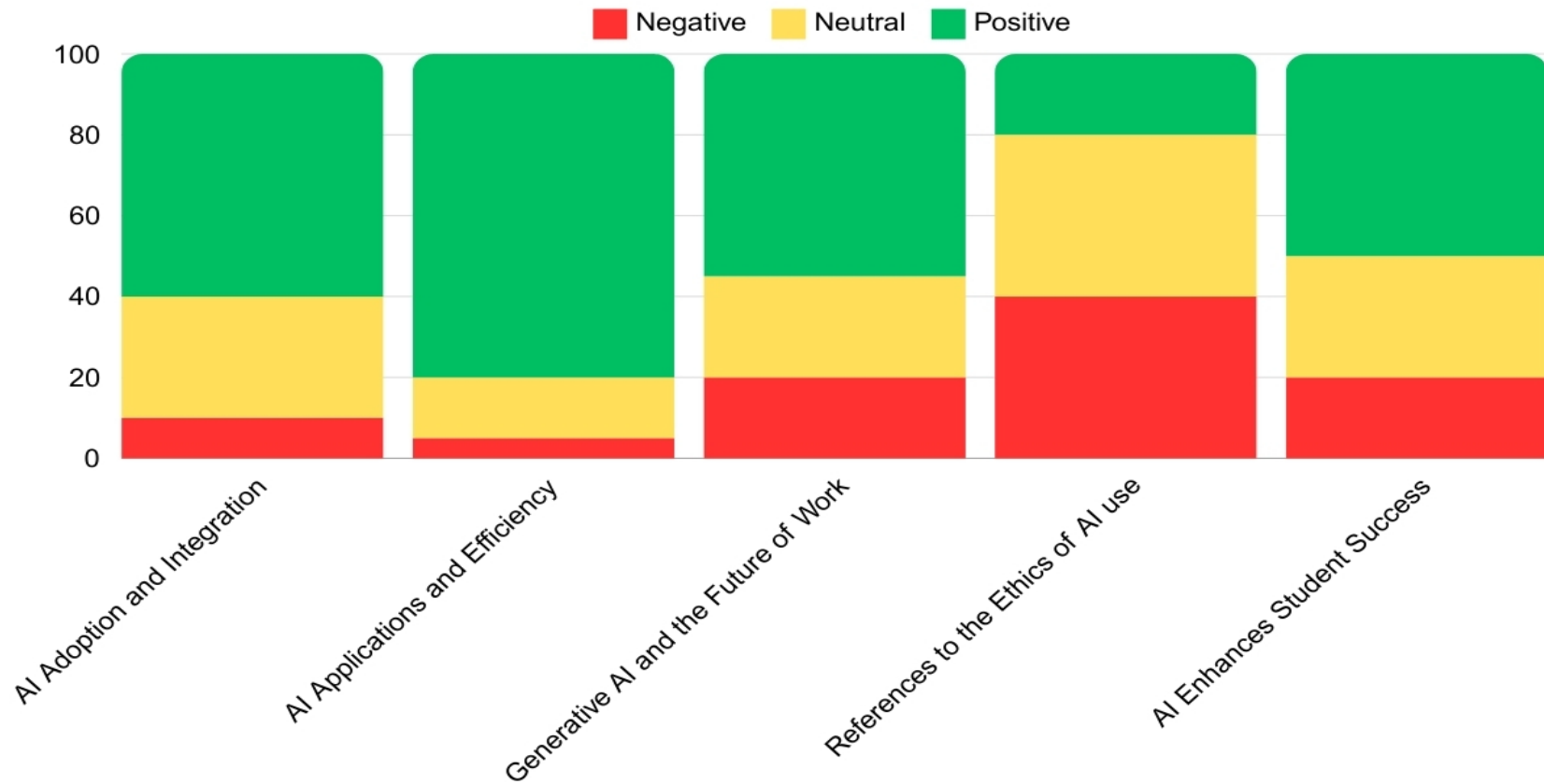
These comments reflect a deeper understanding of AI's far-reaching implications beyond just workplace efficiency. Institutions might consider creating forums for ongoing discussions about the ethical use of AI and its broader societal impacts, fostering a culture of responsible AI adoption.

by extension all creative and intellectual labour. It's very divisive for creators. Think about it: content is generated by using other people's work without their knowledge or permission."

These themes highlight both the enthusiasm and apprehension surrounding AI adoption in the workplace. They suggest a need for balanced, thoughtful implementation of AI tools, accompanied by comprehensive training, clear policies, and ongoing dialogue about the role of AI in the institution.

Focus Groups – Sentiment Analysis

The focus groups explored staff views, hopes, and worries, about the use of AI generally and in the workplace specifically. Participants discussed various aspects, such as the impact on productivity, ethical considerations, and the future of work. The accompanying chart presents a sentiment analysis of the group's responses, categorized into positive, neutral, and negative sentiments. Their insights offer an expanded understanding of the diverse opinions and feelings toward AI integration at Humber College.



Challenges and Opportunities

While the technological integration of these tools represents a possible barrier, it is ultimately an operational one. The strategic challenge is greater, has more moving parts, because it is cultural. In deciding how to move forward, Humber leaders should consider the following cultural challenges:

Resistance to Change: Established routines and workflows can make staff and faculty hesitant to embrace new tools. There can be a fear of the unknown, concerns about job security, or simply a preference for familiar methods. Routine is hard to change (for good reason!), and norms are sticky.

Perceived Threat to Expertise: Some staff may feel that AI tools devalue their knowledge and skills, leading to a reluctance to adopt them.

Lack of Understanding: Many may not fully understand what AI is, how it works, or its potential benefits, which can breed skepticism and hesitancy.

Trust and Ethical Concerns: Questions about data privacy, the accuracy of AI-generated content, and the potential for misuse can lead to distrust and resistance. Like anything worthwhile, trust is much harder to build than destroy.

What we can do now, for free:

Learn by doing: There's no substitute for hands-on experience with AI tools. Start small: draft emails, analyze data, create visual aids for presentations, et al. The key is to start now and iterate rapidly.

Explore the possibility space: Generative AI tools excel in areas users might not expect—and struggles at times with tasks that computers are designed for, such as basic math.

Recognize Staff: Supporting staff members who are championing AI adoption is essential for several reasons. It reinforces a culture of innovation and continuous learning, motivating others to explore and experiment with AI tools. Additionally, acknowledging these early adopters publicly can foster a sense of ownership and pride, further driving their engagement and contributions. Recognizing those leading the way not only celebrates individual achievements but also reinforces Humber's commitment to staying at the forefront of technological advancements.

Conclusion

The research project "Optimizing Educational Workflows: An Assessment of Staff Adoption of AI Technologies for Enhanced Efficiency at Humber College" has revealed significant insights into the current state and potential future of AI integration within the institution.

Summary of Findings

- Adoption and Usage:** With 51% of staff already using AI tools in their work-related tasks, there is a clear foundation for expanding AI integration. Generative AI tools are the most commonly used, indicating readiness for more advanced AI technologies.
- Training and Support:** There is a strong demand for comprehensive training programs. Staff members express a need for better understanding and more effective use of AI tools, highlighting the necessity of structured, multi-modal learning approaches.
- Efficiency and Productivity:** Many staff members have reported improvements in work quality and efficiency due to AI adoption. The focus should be on leveraging these tools to enhance productivity further, particularly in administrative, data analysis, and content creation tasks.
- Concerns and Challenges:** Key concerns include data privacy, ethical considerations, and the potential for job displacement. Addressing these issues with transparent policies and clear communication is essential for fostering a supportive environment for AI integration.
- AI Sentiment:** Staff members have mixed feelings about AI integration, with moderate levels of comfort and trust in AI tools. Addressing these sentiments through targeted communication and support can facilitate smoother transitions and more effective implementation.

Recommendations

- Expand AI Training Programs:** Develop and implement comprehensive AI training programs that cater to diverse learning preferences. This will ensure all staff members can effectively and confidently use AI tools.

- **Types of Training:**
 - **Workshops:** Interactive sessions focusing on practical use cases of AI tools.
 - **Online Courses:** Flexible learning modules covering AI basics, advanced functionalities, and ethical considerations.
 - **One-on-One Training:** Personalized sessions for staff needing additional support.
 - **Webinars:** Live and recorded sessions on AI trends, tool demonstrations, and Q&A.
 - **Self-Paced Learning Modules:** Resources allowing staff to learn at their own pace.
 - **Peer Discussions and Forums:** Platforms for staff to share experiences, challenges, and best practices.

 - **Subject Matter:**
 - **For Support Staff:** Basic AI concepts, use of generative AI for routine tasks, and data privacy.
 - **For Managers and Directors:** Strategic applications of AI, integration with existing systems, and managing AI-driven projects.
 - **For Leadership and Associate Deans:** High-level AI strategy, ethical considerations, and fostering an AI-positive culture.
 - **For IT Staff:** Technical aspects of AI tools, troubleshooting, and maintaining AI systems.
2. **Introduce New AI Tools:** Beyond generative AI, there is an opportunity to introduce predictive analysis and scheduling automation tools. Promoting these additional tools can maximize AI's impact on value-driven tasks and strategic objectives.
 3. **Develop Clear Policies and Guidelines:** Establish robust data governance policies and transparent guidelines on responsible AI use. This will address concerns about data privacy, ethical considerations, and the reliability of AI outputs.
 4. **Leverage Early Adopters:** Utilize the expertise of staff members who are already comfortable with AI to champion AI initiatives and provide peer support.
 5. **Create a Generative AI Use Case Library:** Develop a repository of AI use cases to accelerate AI adoption, provide practical guidance, and showcase real-world examples of AI's benefits.

6. **Address AI Sentiment:** Implement strategies to improve staff comfort and trust in AI tools. This includes transparent communication about AI capabilities and limitations and demonstrating successful use cases.

Appendix

Survey Respondents by Department

Department	Percentage
Advancement and Alumni	4.15%
Campus Services	4.66%
Capital Development and Facilities Management	1.55%
Centre for Human Rights, Equity and Diversity	0.00%
Centre for Innovative Learning	3.63%
Community Outreach and Workplace Development	3.11%
Continuous Professional Learning	1.04%
Education and Training Solutions	1.04%
Faculty of Applied Sciences and Technology	4.15%
Faculty of Health Sciences and Wellness	5.70%
Faculty of Liberal Arts & Sciences	3.63%
Faculty of Media and Creative Arts	5.18%
Faculty of Social and Community Services	2.59%
Financial Services and Planning	2.07%
Government Relations, Marketing and Communications	4.66%
IGNITE	2.07%
Information Technology Services	3.63%
Institutional Planning and Analysis	0.00%
International	3.11%
Libraries	5.18%
Longo Faculty of Business	4.15%
Office of Research and Innovation	3.11%

Office of the Associate VP, Academic	0.52%
Office of the Associate VP, Learner & Career Success and Dean of Students	0.00%
Office of the Chief Legal, Risk and Privacy Officer	1.04%
Office of the President and Board of Governors	0.00%
Office of the Principal, International Graduate School	0.00%
Office of the Principal, Lakeshore Campus	0.52%
Office of the Registrar	6.22%
Office of the Sr. VP, Academic	2.07%
Office of the VP, Administration and Chief Financial Officer	0.52%
Office of the VP, Human Resources and Organization Effectiveness	3.11%
Office of the Vice President, External Affairs and Professional Learning	0.00%
Office of the Vice President, Inclusion and Belonging	1.55%
Office of the Vice President, Students and Institutional Planning	0.00%
Public Safety and Emergency Management	2.07%
Student Success and Engagement	9.84%
University of Guelph-Humber	2.07%
Other	2.07%
Total	100%

Survey Questions

#	Question	Type
1	Consent: By checking this box, I confirm that I have read and understood the above information and agree to participate in the online survey for this study.	Checkbox
2	Please select which type of employee you are at Humber College:	Multiple Choice
3	Please select your role at Humber College:	Multiple Choice
4	Please select your department or faculty:	Multiple Choice
5	Please enter your experience level:	Multiple Choice
6	How much does your role involve working with or understanding technical tools, software, or systems?	Multiple Choice
7	On a scale of 1 to 5, how familiar are you with AI concepts?	Likert Scale

8	Which of the following AI tools or technologies have you heard of or recognize?	Multiple Choice
9	Where have you mostly learned or heard about AI tools and technologies?	Multiple Choice
10	How confident are you in understanding the potential uses of AI tools in the context of your professional role?	Likert Scale
11	How do you feel about the integration and use of AI tools in your professional setting?	Likert Scale
12	To what extent do you trust AI tools to make decisions that could directly affect your work tasks and responsibilities?	Likert Scale
13	Which of the following do you see as potential benefits of using AI tools in your role?	Multiple Choice
14	What concerns, if any, do you have about integrating AI tools into your workflow?	Multiple Choice
15	How comfortable would you feel working alongside AI tools that assist or enhance your job functions?	Likert Scale
16	How important is it for you to understand how an AI tool reaches its conclusions or recommendations?	Likert Scale
17	Do you currently use any AI tools as part of your job functions?	Multiple Choice
18	Which types of AI tools have you used in your role?	Multiple Choice
19	How often do you utilize AI tools in your daily workflow?	Multiple Choice
20	How long have you been using AI tools in your professional role?	Multiple Choice
21	If you have encountered challenges in adopting AI tools, what were they?	Multiple Choice
22	Would you recommend the adoption of AI tools to your peers in similar roles?	Likert Scale
23	Since adopting AI tools, have you noticed an improvement in the quality of your work?	Multiple Choice
24	How has the duration taken to complete tasks changed since integrating AI tools into your workflow?	Multiple Choice
25	How often do the AI tool suggestions or outputs align with what you need for your work?	Multiple Choice
26	Since adopting AI tools, how often have you encountered errors or inaccuracies in the tool's outputs or suggestions?	Multiple Choice
27	Since incorporating AI tools into your workflow, have you found more time available to focus on other tasks that directly impact the student experience?	Multiple Choice

28	How has the quality of your interaction with students changed after integrating AI tools in your workflow?	Multiple Choice
29	Approximately what percentage of your current workload comprises tasks such as repetitive tasks, data analysis, generating ideas, design, scheduling, instant responses to routine queries, or writing tasks?	Multiple Choice
30	How do you perceive the impact of AI tools on enabling staff to allocate more energy and resources toward enhancing the student experience in the future?	Likert Scale
31	Which of the following tasks have been managed more efficiently by using AI, allowing you to focus on value-driven tasks?	Multiple Choice
32	Which of the following tasks do you believe could be managed more efficiently by using AI, allowing you to focus on value-driven tasks?	Multiple Choice
33	Since adopting AI tools, have you been able to take on any additional roles or responsibilities that enhance the student experience? If so, please specify.	Open-ended
34	In your view, how has the adoption of AI tools reshaped your role in relation to contributing more towards enhancing the student experience?	Likert Scale
35	How interested are you in learning more about AI tools that can support your professional tasks?	Likert Scale
36	How would you prefer to learn about AI tools that can assist in your work?	Multiple Choice
37	What challenges, if any, do you anticipate when trying to learn about AI tools?	Multiple Choice