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'It's such a blackbox function': Norwegian academic librarians' ambivalent perceptions towards AI use in academic libraries and academia

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Abstract

Introduction. In this study we report on the perceptions of Norwegian academic librarians towards the emergent role of AI in academic libraries, both in service delivery and library operations.

Method. A qualitative study was conducted through semi-structured interviews with eight academic librarians at two Norwegian universities.

Analysis. The interview transcriptions were inductively analysed and coded using F4analyse.

Results. Most participants had positive experiences with AI in various tasks and acknowledged its influence on teaching information literacy. However, they expressed scepticism towards AI due to transparency and data security concerns. The lack of guidelines led to uncertainty in their roles, and practices varied across universities regarding AI applications for students.

Conclusion: The study reveals academic librarians' perceptions of AI as a double-edged sword, offering benefits but also presenting challenges, particularly related to ethical issues. Frustration was expressed over the lack of unified AI implementation guidelines, causing uncertainty among librarians and students. These underscore the need for clear AI guidelines and enhancement of librarians' AI competence.

Introduction

Artificial Intelligence (AI) tools have significantly impacted library services and operations over the years and should be considered in all of them (Cox, 2024; Kautonen and Gasparini, 2024). In our empirical research, we aimed to explore librarians' perceptions of how AI has impacted their daily work and their reflections on this subject.

Librarians have always been interested in adopting new technology and thereby enhancing their own technical skills and information literacy, both to streamline their own tasks, but also to guide students (Kautonen and Gasparini, 2024). While AI can replace or simplify tasks like cataloguing and metadata production (Cox, 2024), librarians' roles remain essential due to the evolving information landscape (Cox and Maduzar, 2024). Due to their long-standing use of descriptive AI or machine learning for improving metadata (Cox, 2024), libraries were reasonably prepared for the introduction of generative AI, such as Chat GPT.

Academic librarians need to be proactive involved in AI strategy development and understand how AI impacts research and education to offer relevant services to patrons (Gasparini and Kautonen, 2022: Kautonene and Gasparini, 2024; Lo, 2023). However, perceptions towards AI use varies. It could be seen as either a beneficial tool or a potential threat (Gasparini and Kautonen, 2022). Cataloguing and classification are core tasks of librarianship and often mentioned as examples of routine tasks which could be supported or even replaced by AI (Andersdotter, 2023; Ishengoma, 2024; Thornes and Mangerøy, 2024). When new technology has replaced routine tasks, and in many cases, also supplanted human labour it is not surprising that some people are anxious about, or even actively opposed, to for example, what the revolution of AI represents (Gasparini and Kautonen. 2022; Kautonen and Gasparini, 2024; Grote et al. 2024).

Lack of competence and knowledge but also lack of guidelines could be the possible reasons for the mentioned uncertainty. The uncertainty has led to a demand for regulations and institutional guidelines (Grote et al. 2024; Ishengoma, 2024; Lo, 2023). However, regulations and guidelines are demanding because of the complexity and difference in AI tools (Kautonen and Gasparini, 2024). Librarians' ability to adopt new technology is also influenced by the culture of experimentation and '*constraining institutional infrastructure*' (Ishengoma, 2024, p. 1066).

Both internationally (Lo, 2023) and nationally, strategies have been proposed and published in relation to AI use. Norway's higher education advisory body, Universities Norway [UHR] (2024), stated in its 2024-2028 strategy that it would '*contribute to the responsible use of artificial intelligence and other transformative technology*'. However, guidelines for the use and implementation of AI applications vary among Norwegian universities and academic libraries. For instance, Sikt AI-chat, a national system similar to Chat GPT, is approved for use by both students and staff in some universities, whereas in others, it is approved only for staff. Another example is Keenious, an application for effective academic information searching and recommendation (Johansen and Borlund, 2022; Kautonen and Gasparini, 2024), used by many academic libraries in Norway. However, some libraries haven not included it in their software portfolio.

The Library Committee UHR (2023) states in its latest action plan that university libraries should

> *Promote work with skill, knowledge, and competence goals related to source criticism, artificial intelligence, algorithms, and other technological developments that are relevant for information, source, and data handling.*

Kautonen and Gasparini (2024, p. 1) assert that university libraries should publish guidelines for the '*responsible practice for the use of* AI'. Nevertheless, while some university libraries have incorporated AI into their strategic plans, others have not.

Literature review

Numerous studies have investigated academic librarians' perceptions of AI integration in libraries worldwide. Studies conducted in Africa show the eagerness of academic librarians to adopt AI technologies tempered by concerns about job security, privacy, data security and funding (cf. Ajani et al., 2022). Similar trends are observed in Asia, with AI tools in use in some libraries and librarians viewing AI as an opportunity, but concerns about funding, technological skills, and data privacy remain (Ali et al., 2020; Ali et al., 2024; De Leon et al., 2024; Harisanty et al., 2024; Huang, 2024).

Andersdotter's (2023) mixed-method study on AI training in Swedish libraries found enhanced understanding of AI among participants. The study highlighted a dual challenge for librarians: considering AI applications in library operations and incorporating AI skills and knowledge into the information literacy training they provide to users.

Thornes and Mangerøy (2024) surveyed Norwegian librarians in 2023 (233 respondents) and 2024 (193 respondents) about their AI attitudes. A large majority (82-85 per cent) saw AI as a useful tool. Yet, about a third feared AI might take over tasks, slightly less in 2024. While two-thirds wanted more AI knowledge, only half had been offered relevant courses.

In a survey by Grote et al. (2024), most participants were familiar with AI and recognised its benefits, but 88 per cent identified ethical challenges and 60 per cent perceived a lack of resources for training as a challenge. The researchers recommended librarians take an active role in AI introduction and highlighted the importance of library management in providing staff with AI training opportunities.

Cox and Mazumdar (2024, p. 334) identify five different areas of AI use in libraries: 1) library back-end processes characterised as '*routine and clerical tasks*' (such as programming, sorting returned books), 2) services such as systematic reviews and reference queries, 3) creation of communities of data scientists, 4) data and AI literacy (recommendation tools, translation grammar etc.), 5) user management (statistics). They also state that, '*librarians will continue to have a very important role, especially given AI's dependence on data*' (Cox and Mazumdar, 2024. p. 330).

In summary, there is a global trend towards adopting AI in libraries. However, concerns regarding job security, privacy, data security and the need for AI-related skills and training remain. To effectively use AI and maintain valuable services, academic librarians must understand and address these challenges.

The literature on AI use in academic libraries is developing, however, there is a dominance of survey-based research methods, with limited qualitative or mixed-methods studies. Findings based on participants attending workshops and learning circles and having a special interest in AI may be biased (cf. Grote et al., 2024; Andersdotter, 2023). Besides this, perceptions of Norwegian librarians towards AI use in libraries, academic writing and the future of the library profession have not been thoroughly investigated. Thus, aligning with Cox's (2023) call for empirical studies on AI in libraries, particularly outside the UK, we aim to explore the attitudes of Norwegian academic librarians towards AI use in library services, academia and their own roles. The study has the following overarching questions:

- RQ 1: How do academic librarians perceive the potentials/challenges of integrating AI into library services?
- RQ2: What are the consequences of using AI in academic libraries on the roles and responsibilities of academic librarians?

Theoretical perspectives

The Technology acceptance model (TAM), which has had several extensions (TAM2 and TAM3) provides a good framework to understand the attitudes of users towards new technologies such as AI tools. TAM (Davis, 1989) posited that perceived ease of use (PEOU) and perceived usefulness (PU) influence users' attitudes and intentions towards accepting and using technology. TAM 2 (Venkatesh and Davis, 2000) extended TAM and added factors that affect perceived usefulness, including subjective norms (i.e. the perceived social pressure to engage in a behaviour), image (the influence of using technology on one's status in a social system), job relevance (the applicability of the target technology to the job/task), output quality (perceived quality of technology in performing a task), experience (with a technology), and result demonstrability (correctness of the outcome of the technology/system). TAM3 (Venkatesh and Bala, 2008) further extended the model by adding predictors of perceived ease of use by variables such as computer self-efficacy, computer anxiety, perceived enjoyment and objective usability.

A recent review of literature on the usage of this model in library and information science highlights '*several policy implications for improving technology use within libraries*' (Ishengoma, 2024, p. 1067) and especially takes into consideration emotions, politics and social aspects. Complex institutions like libraries need clear policies but also a culture of experimentation to ensure adaption to new technology (Ishengoma, 2024, p. 1067). The TAM has to little extent been used to investigate artificial intelligence adoption in libraries (cf. Ishengoma, 2024). Additionally, ethical aspects are not included directly in TAM.

Methodology

To deeply understand librarians' experiences and perceptions of using AI in library services, this study used a qualitative research design and semi-structured interviews with a descriptive phenomenology approach (Bryman, 2021; Sundler et al., 2019). The data was collected as part of the larger international NIAGARA research project (https://niagaragrant.com/), involving partners from Norway, Poland, Tanzania and Zambia.

From the researchers' network, eight librarians at two Norwegian university libraries accepted to participate. Interviews were facilitated by the authors during September 2024, conducted in Norwegian, in person and via Zoom and varying from 36 to 75 minutes. The interviews were transcribed and translated into English using a safe system developed by University of Oslo titled AUTOTEKST (https://autotekst.uio.no/en). The transcriptions were checked with the audio files and anonymised by the authors. Inspired by Braun and Clarke (2006) the anonymous transcripts were coded inductively by one of the researchers in F4analyse desktop version 3.4.5 (https://www.audiotranskription.de/en/). The coding resulted in more overarching themes such as potential, challenges and students' and librarians' use of AI. The thematic codes were then discussed and decided afterwards by both researchers.

The interview guide included six overarching questions focused on the digital competencies of academic librarians. For the purposes of this study, we specifically analysed responses to open-ended questions about librarians' attitudes towards the use of AI in library services and academia.

The study comprised eight participants, three men and five women, aged 32 to 61. Most held a degree in library and information science, with varying professional experience. To ensure anonymity, participants are referred to as P1-P8 and universities as U1 and U2. Age, gender and education are not factors in the analysis. Ethical approvals were obtained from the Norwegian Agency for Shared Services in Education and Research (Reference number: 151925).

Results

All participants were engaged in knowledge management and customer service roles within their libraries, with common tasks related to information literacy activities and direct patron interaction. Many were also involved in content management, including web and e-resource management, collection development, archives, reading lists and research data. Notably, two participants mentioned having tasks related to AI in their libraries.

We will look into which potential or challenges librarians perceive and how they think AI will impact librarians' roles and tasks in the future.

Potentials of AI use

The participants acknowledged the potential of AI in various fields such as streamlining and simplifying routine tasks like programming (e.g. using AI for XML code), making documents, speeches etc. Two of the participants mentioned the time saving aspects for example when creating instructional videos or covering (reading) more academic literature.

Participants mentioned other potential AI represents, such as aiding in writing processes like summarisations, abstract generation, spelling, grammar, translating Norwegian keywords into Swedish (P8) or language translations, like P5 who used ChatPDF.com for German document translations. This also helped him analyse text and gave him the opportunity to discuss articles: '*I think that using AI tools helps me to get faster into what I am interested in*' (P5). P7 was responsible for the library's social media accounts and uses AI to '*ask if you can help me make this text funnier*' and then rewrite it further. Another participant mentioned how the AI tool Scribe saved time by simplifying the creation of instructional material.

Some participants highlighted the importance of the legal and correct use of AI, and they suggested that it could be beneficial when used appropriately in the right subject areas like medicine. P4 highlighted AI's ability to find patterns in large data sets, like MR images, because AI '*can go through so much in a short time than a human can*'.

Participants saw the potential in the tool, but also acknowledged the challenges, a dilemma several of the informants touched upon.

Challenges of AI use

All participants expressed various concerns regarding the use of AI, such as its lack of transparency, ability to be verified, trustworthiness, absence of institutional or national guidelines for its use, commercial nature, variations in different disciplines, lack of understanding on how to use AI, copyright and intellectual issues, high power consumption and the personification of AI.

Many participants had significant trust issues with AI and voiced concerns about its dependability, citing situations where AI produced inaccurate or non-existent information. P6, who was a student in addition to being an academic librarian, mentioned that she avoided using AI as a student due to these trust issues, stating, '*And it's also a bit because it's such a Blackbox function, and then I don't trust it*'. P2 justified this scepticism and explained the reason, '*you know they can hallucinate*'. She had experienced some students requesting non-existing books and indicated that this is possibly because they use AI tools for information searching instead of library search systems.

The participants indicated that sources AI uses to generate text can greatly differ in reliability and may include biased content from news media or social media. P2 pointed out that the lack of transparency and documentation about the sources used by AI tools could lead to difficulties in verifying the information. P4 also expressed worries:

> *Since we don't know where AI gets information from, or how they are trained, we could end up in a situation where AI is trained on AI. And that you get this type of circular effect where*

> *the content of what is presented becomes more and more watered down and less and less precise.*

Due to AI tools' training on historical data, P4 worried about the potential for bias in AI tools. '*It can be about gender. It could be about age … socio-economic status. It may be about interest groups that do not have good intentions.*'

Potential copyright issues associated with the use of AI tools was mentioned as a concern by some, where users might accidentally contribute to '*building up [AI-] databases with texts and files that you are not allowed to distribute*' (P1). AI tools like Keenious, Raayan, Covidence and Sikt AI-chat are examples of commercial and non-commercial applications used by several participants**.** Cost was perceived as a barrier to testing applications for librarians and evaluating useful tools for students. However, P5 mentioned, '*I use a bit of my own money to learn*'.

Personification of AI tools by asking '*Can you please give me this and that*' (P8), was identified as a potential risk and could create an illusion of a deeper relationship with the tool, impacting how users interpret and rely on the AI's outputs.

Request for institutional or national guidelines

The lack of clear guidelines for AI use in academic settings, both from national, institutional and the library's perspectives, but also from teacher to teacher was mentioned as a challenge. P1 expressed frustration at this deficiency but also shared concerns that librarians could not avoid discussing AI when interacting with students:

> *We have no clear guidelines, or we throw them over to the Citation Compass* [a national guideline for academic writing and citing]. *We throw them over to professional, subject teachers, and there is no one who really takes hold of this here* [at the library]. *But we must say something about it. We can't avoid it.*

Access to commercial AI tools varies between universities, partly because of the costs or lack of trust, such as a subscription to Keenious or Sikt AI-chat. Because lack of access to approved AI tools for students can lead them to use less reliable alternatives where the quality of input data is unknown, some participants argued that the university was best served by offering applications or products where the librarians know the data quality to a greater extent. At U1 the participants pointed out the discrepancies: although tools like Sikt AI-chat were accessible to students and staff not all of them knew about this access. This was perceived by one informant as frustrating because '*it means that students use other AI tools instead of the one that is safe*' (P3). At U2, Keenious and Sikt AI-chat were available for both students and staff.

The participants highlighted the challenge of developing comprehensive AI guidelines due to the variations across different subject areas, for example, in more technically oriented subjects, where having a deep understanding of AI tools is central and teaching good prompts or simplifying programming routines is necessary.

Many emphasised the need to provide good information and agreed-upon guidelines on using AI in academia, and in this way, the academicians could refer to when assigning and assessing student works involving AI. Some of the participants requested clear instructions from the teachers '*so that the students know what they are allowed to* [do with AI tools]. *Firstly, if they are allowed to use it, and secondly, how they are possibly allowed to use it*' (P3).

This ambiguity may deter students from asking questions or seeking clarification. Some participants also highlighted the potential risks with university-approved AI tools like Sikt AI-chat, which might send ambiguous signals to students:

> *I personally feel that the students are a bit misled, it can also get them banned* [from school or study]. *I think it's very dangerous. I'm very careful. I would never recommend anyone to use it, simply because it is difficult to know which use will be taken* (P6).

P3 expressed concern about students becoming '*intellectually lazy*' due to reliance on AI and worry that students might let AI do the work they should be doing themselves. This could lead to lack of critical thinking and reflection, losing context, failing to see connections with other subjects and losing developmental traits. They noted that the use of AI tools can tempt students to take '*shortcuts*' and could potentially compromise their learning process. However, P5, who was very engaged in testing and using and supervising in AI and other digital tools, saw the benefits of using AI tools and was '*not afraid to say that students might benefit from using that type of tool. Just as it's okay to have a dictionary sometimes*'.

Some of the participants highlighted the importance of information literacy to use AI effectively, and they emphasised the role of critical thinking and source criticism, like P3: '*You have to think critically all the time. For AI, as I said, can make up things*'. Two librarians pointed out that the ability to ask intelligent questions or prompts is crucial for utilising AI in a meaningful way. The librarians also highlighted the responsibility of educational institutions to ensure that students acquire the necessary competencies. When guiding, some librarians referred to the rules of the Citation Compass, such as '*students cannot present AI-generated text as their own*' (P6) and encouraged students to show their work both pre- and post-AI use. They also anticipated a larger need to ask students whether they had used AI in their work or assignment and then guide them on critical thinking related to the origin, motive and result of AI outputs. The participants speculated that AI could offer new services and learning opportunities, although they also stressed the importance of ensuring learning has taken place.

AI and the librarian profession

The majority of the interviewed librarians believe that AI can assist librarians, teachers, researchers and students to improve their work and tasks. They noted that academic librarians might feel the need to learn about AI faster than others due to the expectation that they are knowledgeable about it, can answer related questions and teach how to use it.

At both university libraries they had arranged workshops to ensure competency development, discuss '*how they should convey it to the students*' (P7), gain knowledge of which AI tools were available to them and test different AI tools. Although Sikt AI-chat is approved by the universities, one of the participants uncovered that surprisingly many colleagues did not know the tool. Like P2 who noted a significant knowledge gap and feeling of being '*overwhelmed*' when it comes to understanding and using AI.

The interviews uncovered that the library management at the two universities had different approaches to the role libraries should play in AI-related courses for students and staff. Although the library of U1 had working groups, P3 referred to his management's view: '*It should be up to others [at the university]. We don't have the resources to hold AI courses for students*'. P3 then added their own opinion about this: '*That's a bit strange. We take a much smaller role than other higher education institutions in this country*. This participant observed that university libraries and academic librarians often don't spearhead this domain due to resource constraints.

Ambivalent views towards AI

Some participants had a positive approach to AI and others were more sceptical; however, both groups were able to see the potentials, challenges and limitations.

P5 acknowledged the concerns about AI but believed that many people are worried without having deeply explored it.

> *I don't understand the scepticism, you can be sceptical for two reasons. One is if you get into it and understand what AI is, then you can naturally have a concern. But I think many people are worried without having delved deeply into it. Because I personally believe that I can use AI in ways productively for my own part.*

The participant noted that AI, despite its limitations, can be productive given its dependency on input for useful output. They acknowledged technology's vulnerabilities but also its potential opportunities. They advocated for embracing all technologies as part of learning, emphasising the need to maximise advantages rather than focusing on disadvantages.

Another participant, expressed a more negative view, equating the use of AI in their studies to cheating. However, when it came to streamlining her own tasks, she had a more positive view on AI.

The third participant suggested that academic librarians should remain neutral towards AI, neither strongly advocating for nor against it. They noticed two distinct groups within the university library, researchers and students: those with positive attitudes towards AI and those with negative ones. They emphasised that librarians' role should be to facilitate the testing and exploration of AI tools, rather than imposing strict rules on their use.

Despite reservations about AI tools, half of the participants were committed to teaching students their effective use and integrating AI into their instruction. This commitment varied between universities, with three librarians at U2 and only one at U1 teaching AI literacy, possibly reflecting the respective library managements' approach to AI or the lack of staff or relevant competencies.

They anticipated AI will impact on their roles and practices, become integrated into various tools and programs, and possibly will accelerate the information searches of users. At least two of the participants predicted an increased role for librarians in guiding users in source criticism due to the use of AI. '*We can guide them further in relation to critical thinking both in relation to origin, in relation to a possible motive and in relation to a result*' (P4).

The potential for AI integration into cataloguing services at the library was mentioned by one participant with some uncertainty on how it would work without seeing its integration into current cataloguing tools. The participants also predicted that AI could facilitate tasks such as registering research data in data archives like DataverseNO, purchasing books, creating and updating reading lists and suggesting literature, and performing systematic reviews.

They suggested that AI might automate various tasks but insisted that *human oversight* would still be necessary. '*I think that no matter how much you automate, in a way there must be some* "adults at home" *who can watch it*' (P6).

Despite these speculations, the participants acknowledged the difficulty of predicting how AI will develop and what impact it will have on their core areas. They emphasised the need to adapt to whatever changes AI may bring and '*to* "be on the ball" *and hang in there as best we can*' as P7 summarised it.

Discussion

Although the participants in our study were few, they were not a homogeneous group with a one-sided interest in the development and implementation of AI in the university library but represented a broad range of tasks and interests. Our study aimed at two key questions related to the integration of AI into university library services and academia. We discuss the reflections of the academic librarians in our study based on each question as follows.

Potentials and challenges of integrating AI into library services

Like the respondents in Thornes and Mangerøy (2024), most of the academic librarians in our study perceive AI as a useful tool, and a couple had a special responsibility for AI in the university library, but a few had also taken on this responsibility out of personal interest, as Grote et al. (2024) recommend.

As mentioned before, perceived usefulness (PU) and perceived ease of use (PEOU) are among the main factors influencing the adoption of new technologies (Davis, 1989). Specifically, the subjective norms can influence both of these factors (Venkatesh and Davis, 2000; Venkatesh and Bala, 2008). In the context of academic librarians and AI, subjective norms shape their willingness to engage with AI technology. Since academic librarians are expected to understand AI and provide credible advice to students and researchers, they may feel social pressure to adopt AI tools even in the absence of formal guidelines. However, the lack of clear policies and guidelines creates challenges and uncertainty, and these could consequently affect their confidence and motivation to integrate AI in their everyday work. If academic librarians believe AI can improve their ability to support students and researchers, they may perceive it as useful; however, without guidelines, they might struggle to understand how AI aligns with their professional responsibilities, and this could possibly decrease the perceived usefulness of AI for them. Although it seems that AI tools are often easy to use for participants in this study, without proper training or institutional support, AI adoption may seem complex.

The majority of academic librarians in this study are also more concerned with the challenges AI represents in academic libraries and academia than its advantages. Although one of the participants claimed that librarians were either positive or negative, it became clear that most librarians did not entirely align with the positive or entirely negative stance that Gasparini and Kautonen (2022) found. Instead, they positioned themselves on a spectrum where they identified both advantages and challenges posed by AI. Their main concern seems to be the ethical aspects AI raises.

In line with previous researchers (Ali et al., 2020; Ali et al., 2024; Cox and Mazumdar, 2024; De Leon et al., 2024; Grote et al., 2024; Harisanty et al., 2024; Huang, 2024; Thornes and Mangerøy, 2024), the librarians in our study referred to potentials of AI in doing normal routine tasks of librarians such as cataloguing, metadata, creating instructional videos, reading academic literature and assisting in language translation to improve efficiency and assist in the writing process.

Nevertheless, participants revealed challenges related to AI use such as major trust issues with AI-generated texts because AI produced inaccurate or non-existent information, and issues such as AI's blackbox function, plagiarism, biased information, etc. These concerns echoed the majority of librarians in Grote et al. (2024) and Ajani et al. (2022).

This is in accordance with the roles of image and source demonstrability in perceived usefulness in TAM2. Academic librarians are often imaged in academia as credible information agents or sources. Teaching information literacy is a central task for all librarians (Hicks and Lloyd, 2022) and source criticism is particularly relevant when using AI tools (Grote et al., 2024; Andersdotter, 2023). Since the AI tools mentioned in this study did not produce credible information and resulted in weak source demonstrability, this could negatively influence the academic librarians' trust and confidence in the mentioned AI tools. Besides this, the low quality of task performance by the mentioned AI tools could be among the main reasons for the scepticism of several academic librarians as earlier described. Although academic librarians have welcomed new technologies, they cannot risk their image by providing information or advocating for AI tools which are controversial or produce incorrect results.

Furthermore, we would argue that the source criticism skills of academic librarians are intrinsically tied to their education and outlined in professional ethical guidelines.

The academic librarians in our study reflected various views towards students' use of AI tools. Some participants teach students and researchers how to use AI tools in different ways, even encouraging students to use Sikt AI-chat as a discussion partner to improve their thesis. P5 also acknowledged the benefits of using AI tools, comparing it to using a dictionary. But there were also participants who would never guide students in the use of AI because of ethical issues.

P3 expressed concerns about students becoming reliant on AI, potentially leading to '*intellectual laziness*' and a compromised learning process by taking '*shortcuts*'. Participants indicated that it was the responsibility of the universities to ensure that students received both proper training like asking intelligent questions or '*prompts*' to use AI meaningfully and clear guidelines for correct usage.

Guidelines can reduce uncertainty (Gasparini and Kautonen, 2022; Kautonen and Gasparini, 2024; Grote et al., 2024). However, the lack of clear AI usage guidelines across institutions and among teachers and library management led to uncertainty among the participants. The absence of common guidelines resulted in librarians offering guidance and teaching based on their individual interest, knowledge and ethical boundaries.

The lack of national/institutional guidelines has led to different assessments of AI tool usage across the two investigated institutions and illustrates the complexity of establishing standard and inclusive guidelines (Lo, 2023). Despite University Norway (2024) and its Library Committee UHR (2023) emphasising AI in their strategies and action plans, it is surprising that university practices vary. Also unexpected is a study participant's report that library management did not promote librarians' proactive role as AI experts to facilitate knowledge creation and sharing, as recommended in numerous studies (Gasparini and Kautonen, 2022; Grote et al., 2024; Library Committee UHR, 2023; Universities Norway, 2024). Librarians should actively engage in policy discussions, but creating guidelines for effective research practices using AI-based tools lies with library management, not individual librarians (Gasparini and Kautonen, 2022; Grote et al. 2024; Kautonene and Gasparini, 2024; Library Committee UHR, 2023; Lo, 2023). AI competence cannot be '*left to others*,' which one participant perceived was their leader's attitude.

The cross-disciplinary variations of those guidelines are another source of concern for librarians when guiding students regarding AI use. These variations could be a main barrier in developing a standard, national guideline for AI use for all students.

Since AI technology is dynamic and is developing at a high speed, librarians need continuous competency development (Andersdotter, 2024; Grote et al., 2024; Kautonen and Gasparini, 2024). In line with Andersdotter (2023) and Cox (2024) librarians need knowledge in how to include AI literacy aspects in guidance and teaching but also be able to evaluate which AI tools might be relevant for library-specific tasks. Like half of the respondents in Thornes and Mangerøy's (2024) study, half of our participants engaged in workshops and conferences to both learn and facilitate knowledge sharing about AI. Even those without dedicated AI tasks or managerial support expressed a self-driven interest in learning more about AI tools for guidance and task streamlining.

The librarians anticipated a greater need to guide students in critical evaluation of AI outputs, particularly if AI was used in their work. They envisioned AI's potential for new services and learning opportunities, while emphasising the importance of validating actual learning outcomes.

Roles and responsibilities of academic librarians

Numerous studies highlight that librarians have uncertainties regarding the use of AI and what work tasks it can potentially replace (Gasparini and Kautonen, 2022; Kautonen and Gasparini, 2024; Grote et al., 2024). This uncertainty could be why some of our participants displayed a lack of enthusiasm for the technology, or a reluctance to instruct and tutor students on using AI tools.

It should be noted that our questions about the future influence of AI on the academic librarians' roles and tasks were relatively general, and we did not directly ask about the dangers of AI use for the profession and academic librarian role.

Based on the librarians' reflections about the significance of their *guiding* role in the AI era, in line with Cox and Mazumdar (2024), it can be interpreted that they do not see AI as a threat to their primary roles in academia. This contradicts the findings of previous studies on job insecurity in other contexts (Gasparini and Kautonen. 2022; Kautonen and Gasparini, 2024; Grote et al. 2024; Thornes and Mangerøy, 2024). The reflections of the academic librarians in our study showed the anticipated usage approaches of AI in academic libraries mentioned by Cox and Mazumdar (2024), that is, doing routine and clerical tasks, accelerating library services such as research data publishing, cataloguing and metadata production for research data.

Many participants in our study underscored the growing need for AI literacy for appropriate AI usage. This implies that information literacy, complemented by AI literacy, is crucial for both academic librarians and users to effectively leverage AI in today's technological landscape.

As mentioned above, teaching information literacy including guiding students in the ethical use of sources has represented a strong identity for librarians (Hicks and Lloyd, 2022), and experiencing that one is not sufficient, due to lack of competence, but also guidelines, can have a negative effect on professional identity. To counteract this, systematic upskilling is important (cf. Cox, 2023) and requested (Thornes and Mangerøy, 2024).

Furthermore, some librarians, particularly those proactively seeking AI knowledge and skills, did not report the lack of guidelines as a challenge, aligning with Gasparini and Kautonen's (2022) suggestions. The study also highlights the need for education on copyright and ethical data use with AI tools, as participants expressed concerns about potential copyright infringement and data security breaches.

Conclusion

Through the interviews, it became clear that librarians did not entirely align with the positive or entirely negative stance but rather positioned themselves on a continuum where they could see both the benefits and threats or challenges that AI represents. The lack of united guidelines and clear strategies for the introduction of AI was something several of the participants found frustrating. Some reported uncertainty in how much they could help students. Lack of agreed-upon guidelines could also result in frustration among students when something is permitted in one subject or university but not in another. Although it may be challenging to provide clear national guidelines due to the complexity of AI applications, there should probably be regulations on whether students have access to certain tools such as Sikt AI-chat. Access to commercial products like Keenious must, of course, be decided by each institution. Having a relatively high AI competence, achieved through acquired work tasks, but also driven by personal interest, seems to reduce scepticism towards AI. Therefore, we argue that strengthening librarians' AI competence should be a priority for the library management and should not be delegated to individual librarians. Why no one expressed that they were afraid of losing their jobs may say more about Norwegian working life than AI. Another issue raised during the interviews was the ethical dilemmas, which appeared to increase some participants' scepticism and negatively influence their willingness to adopt AI tools. However, this needs to be further investigated in the context of the technology acceptance model.

In this study, the invitation letters submitted to participants focused on various aspects of digital competencies, where AI was one of the six discussion points. However, the participants reflected actively on AI and its relation to academia and their everyday practices. Although the participants

in this study had a diverse range of responsibilities, the limited number of interviews could be considered during interpretation and applying the results in practice.

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