

Information literacy programs in libraries and their importance in developing digital information awareness trends for societies in the era of artificial intelligence and its challenges: public libraries in the United Arab Emirates as an example

Research – English
Summary

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Abstract

The current study comes within its theoretical framework to explain the nature of information culture, the international and Arab programs that represent it, and its importance in developing the knowledge society and enhancing its ability to create, innovate and make optimal use of the technological developments of the era. The study then introduces the technological developments of the era, the most prominent of which are artificial intelligence techniques and tools, and an explanation of The extent of the spread of the use of these tools among knowledge societies, and controlling the positive repercussions of this spread in order to generalize them, and the negative repercussions in order to avoid them, while preserving human creativity and thinking while dealing with these tools, through [identifying with artificial

intelligence tools, their uses, and classifications - getting to know On what is behind the tool, and the nature of its work: inputs, processes, outputs], while establishing controls and guidelines for the safe use of tools on various aspects: intellectual, scientific, social, and security, in an era in which the pace of technical changes and developments has accelerated, and thus the nature of the needs and requirements that Knowledge societies needs.

The study then addresses, within its practical framework, a field survey of public libraries in the United Arab Emirates, considering that this sector of libraries is the sector that addresses the general segment of society in all its aspects, with the aim of identifying the extent to which these libraries support the provision of programs to develop the levels of information literacy in their societies, in order to Controlling and strengthening the strengths, or identifying the weak points and addressing them, using the field study approach, and using the following data collection tools: observation, scientific questionnaire.

The study then ends with a proposal for an integrated training program for information literacy based on international standards, and taking into account the technical requirements of the era in our Arab world. It can be adopted at the level of all sectors of libraries and information institutions according to their levels and the nature of the society to which it is served, in order to form and build a contemporary generation capable of dealing with the technological developments of the era and its tools in a correct, intelligent, and conscious manner, thus benefiting its society and contributing to its development in a modern manner.

Keywords

Information culture, artificial intelligence, public libraries, United Arab Emirates

1. Methodological Introduction

1.1 Introduction

In the modern era, our societies face unprecedented challenges driven by the rapid proliferation of technologies, particularly artificial intelligence (AI). These advancements have introduced both opportunities and challenges that demand careful consideration to ensure that current and future generations engage with them effectively and positively. One significant challenge is the over-reliance on modern technologies to perform intellectual, cognitive, and analytical functions, which risks undermining the mental efforts essential for human creativity and critical thinking.

Amid these challenges, the importance of cultivating information literacy skills becomes clear. These skills empower individuals to interact with modern technologies thoughtfully, source and evaluate information critically, and make informed decisions. This study aims to explore the concept of information literacy, the international and Arab initiatives promoting it, and its pivotal role in fostering knowledge societies. Such societies are capable of innovation, creativity, and the optimal utilization of advanced technological tools.

The study delves into the latest technological developments, particularly AI tools, examining their growing adoption in knowledge societies. It seeks to identify and amplify their positive impacts while mitigating negative repercussions. By setting guidelines for the safe use of these tools across intellectual, scientific, social, and security domains, the study emphasizes preserving human creativity and independent thought in the face of rapid technological change.

To achieve its objectives, the study outlines the following:

- **Analysis of AI tools:** Their uses, classifications, and underlying mechanisms.
- **Guidelines and controls:** Recommendations for the safe and ethical use of AI tools tailored to the evolving needs of knowledge societies.

The practical framework of the study involves a field survey of public libraries in the United Arab Emirates. Public libraries were selected because they cater to diverse societal groups and are crucial for promoting information literacy. The survey evaluates the extent to which these libraries provide programs that enhance information literacy, aiming to identify strengths to support and

weaknesses to address. Data collection methods include observation and scientific questionnaires.

The study concludes by proposing an integrated training program for information literacy. This program is designed based on international standards while addressing the unique technical and societal requirements of the Arab world. It is envisioned to be adaptable across library sectors and target audiences, fostering a generation capable of navigating and benefiting from technological advancements intelligently and conscientiously.

2.1 Importance of the Study

This study addresses a critical topic: the necessity of information literacy in modern society. It highlights the responsibility of libraries and information institutions to implement information literacy programs that empower individuals to utilize contemporary information and technological resources effectively.

The study's significance lies in its dual focus:

1. **Theoretical contribution:** Clarifying the principles of information literacy and its role in developing a knowledge society.
2. **Practical application:** Providing actionable recommendations to enhance the role of public libraries as educational and cultural hubs in the AI era.

Public libraries face significant challenges in adapting their services to meet the demands of rapidly evolving technologies and modern learning requirements. This study seeks to address these challenges by developing programs that align with societal needs, ensuring libraries remain relevant and impactful.

3.1 Researchers' Motivations for the Study

1. **Addressing the growing need for critical and creative thinking:** In the face of rapid technological transformations, modern societies must cultivate advanced research and analytical skills.
2. **Enhancing information and educational literacy:** Promoting lifelong learning and professional development while addressing the challenges posed by digital technologies and AI.
3. **Improving public library services:** Aligning programs and offerings with societal needs and providing actionable recommendations for developing

robust information literacy initiatives in public libraries. These efforts contribute to achieving advanced, sustainable strategic goals and ensuring the continued relevance of libraries in contemporary society.

4.1. Study Problem

Public libraries in the United Arab Emirates (UAE) face significant transformations and challenges driven by the rapid evolution of artificial intelligence (AI) technologies and the digital environment. These advancements necessitate the development of programs that enhance information literacy among citizens. However, the absence of a specialized, well-organized program for promoting information literacy poses a major barrier to addressing these needs. Furthermore, public libraries lack effective strategies to cultivate research and critical thinking skills—skills essential for engaging with information in the AI era.

This research seeks to identify the actual needs and knowledge gaps in public libraries in the UAE, aiming to design an effective program that fosters information literacy and equips individuals with the tools to navigate modern technological challenges.

5.1. Study Questions

Main Question

How can a specialized program be designed and implemented to enhance information literacy in public libraries in the UAE, catering to all societal segments and addressing the demands of the AI era?

Sub-questions

1. What training programs currently exist in public libraries in the UAE, and how can they be improved to address societal needs in the era of advanced technologies?
2. What strategies can effectively enhance the research and critical thinking skills of public library visitors to meet the challenges of AI?
3. How can an integrated program be designed to include digital awareness, information literacy, and the safe use of modern technologies in the digital environment?
4. What lessons can be learned from successful programs in public libraries worldwide, and how can these be adapted to the UAE context?

6.1. Study Objectives

1. Highlight the role of public libraries in fostering information literacy in the AI era.
2. Assess and evaluate the existing training programs in public libraries in the UAE and identify ways to improve them to meet societal demands in the age of advanced technologies.
3. Determine effective strategies for enhancing the research and critical thinking skills of library visitors and their communities in response to AI challenges.
4. Design a comprehensive information literacy program that equips individuals to navigate modern technological challenges effectively and responsibly.

7.1. Study Methodology and Tools

The study employs a **descriptive analytical method**, collecting and analyzing data to assess the current state of training programs in UAE public libraries. The research focuses on specific public libraries, particularly their training programs and events, using the following tools:

- **Scientific observation**
- **Questionnaire**

8.1. Study Limits

Time Limits

The study was conducted from May to July 2024.

Spatial Limits

The study focused on public libraries within the geographical boundaries of the UAE.

9.1. Study Community and Sample

The study community consists of over 200 public libraries across the UAE. However, based on public library design and functionality criteria, a selection of

prominent libraries meeting essential standards was identified as the study sample.

Table 1: Selected Public Libraries in the UAE

No.	Library Name	Emirate	Date of Establishment
1	Juma Al Majid Center for Culture and Heritage	Dubai	1991
2	Mohammed bin Rashid Public Library	Dubai	2016
3	Dubai Public Libraries	Dubai	1989
4	Sharjah Public Libraries	Sharjah	1925
5	House of Wisdom	Sharjah	2020

10.1. Literature review

The research process utilized several databases and search engines to collect Arab and foreign studies related to the topic. The sources included:

- **Arab Databases:**
 - Dar Al-Mandumah Database: <https://www.mandumah.com>
 - Al-Manhal Database: <https://www.almanhal.com>
 - Maarefa Database: <https://search.emarefa.net/ar>
- **Foreign Databases:**
 - Scopus: <https://www.scopus.com/home.uri>

The electronic search engines used included:

- **Google Scholar:** <https://scholar.google.ae>
- **Semantic Scholar:** <https://www.semanticscholar.org>

Key search terms included: *Public libraries, Information culture, Information awareness*. The studies reviewed are summarized below:

Arab Studies

Loricat, Asmaa Abdullah, et al. (2023)

This study explored the role of public libraries as multi-purpose centers for continuous learning and promoting information literacy skills. Using semi-structured interviews with public librarians, the research highlighted:

- Public libraries serve as key information centers for continuous learning.
- A need for continuous training in information and communication technology (ICT) for librarians.
- Recommendations to enhance librarians' competencies in information literacy.

Abdullah, Ebtisam Abd Allah Al-Sayed (2021)

This study examined the role of professional library and information associations in spreading information culture. Key findings included:

- A shift from single to multiple awareness in the context of the information revolution.
- Six proposed levels of information culture for libraries and information.
- Recommendations to diversify association activities and implement a comprehensive training program to promote information culture.

Issa, Muhaji, and Lamrous Amal (2016)

This study investigated public reading libraries in Algeria and their role in enhancing information culture. It identified levels of information culture, such as:

- Library culture
- Computer culture
- Digital culture
- Research culture

The study proposed a training and education program to develop these competencies in public libraries.

Abu Eid, Imad (2013)

Presented at a scientific conference at the University of Technology, Malaysia, this study reviewed the contributions of Dubai's public libraries to digital culture development. Highlights included:

- Initiatives such as Dubai e-Government, Dubai Internet City, and the Sheikh Mohammed bin Rashid Al Maktoum Program for Information Technology Education.
- Programs targeting the elimination of computer and information illiteracy, including the International Computer Driving License (ICDL) Training and Examination Center.

Foreign Studies

Matteson and Gersch (2020) explored how public librarians provide information literacy programs through individual interactions with beneficiaries. Public librarians in the United States documented expressed information needs, focusing primarily on helping beneficiaries plan information tasks, access information, and critically evaluate it. Secondary findings revealed that although librarians strongly valued the importance of education, individual and situational factors often posed barriers to effective teaching. This study contributes to the understanding of how information literacy instruction methods in public libraries differ from those in school and academic libraries. The findings highlight that public librarians implicitly integrate various information literacy concepts into diverse training programs during interactions with beneficiaries.

Yilmaz and Soylu (2014) examined the concept of information culture, its relationship with public libraries, and their role in combating information illiteracy. Focusing on public libraries in Turkey, the study evaluated their contributions to enhancing information culture within their communities. It emphasized the vital role of public libraries as accessible centers reaching all societal segments and called for activating their role in fostering information culture.

Nielsen and Borlund (2013) investigated public librarians' perspectives on information literacy and user education in Denmark, aiming to enhance users' awareness of lifelong learning. The study combined interview data with responses from an electronic questionnaire. It concluded that while public librarians recognize libraries as key learning hubs, there is no consensus on the definitions of information literacy and lifelong learning. The findings underscore the diversity of training programs offered in public libraries, particularly within the educational field.

McShane (2011) critically analyzed the role of Australian public libraries in enhancing information literacy skills, particularly through the use of Web 2.0 tools. By examining case studies of libraries utilizing these tools, the study assessed the impact of community engagement on improving information literacy, civic participation, and access to information.

Harding (2008) conducted a comprehensive literature review on the role of public libraries in promoting information literacy and culture. Despite numerous challenges hindering their effectiveness, public libraries worldwide have embraced their responsibility to develop information literacy. Harding highlighted a range of implemented programs and noted that although public libraries are on the path to advancing information literacy, their approaches remain inadequately defined.

Julien and Hoffman (2008) explored the role of Canadian public libraries in fostering information literacy skills. They investigated current training practices, perspectives, and experiences of library users, particularly regarding Internet access. The study found that while most users felt confident in their Internet skills, library staff reported that many customers lacked sufficient information literacy. The findings emphasize the need for targeted communication with users who overestimate their proficiency while developing programs to address skill gaps.

3. Conclusions

1.3 Study Results:

1. The study underscored the vital role of public libraries in fostering information culture within societies, particularly in the era of artificial intelligence. It highlighted the challenges posed by this technological revolution and emphasized the growing need to enhance critical and creative thinking skills to navigate these complexities effectively.
2. The study examined the training programs offered by public libraries in both foreign and Arab contexts. It analyzed the nature of these programs, identifying points of agreement and divergence in their content, presentation methods, and thematic focus. These insights contributed to the design of a proposed training program tailored to enhance information culture.

3. The research assessed the current state of public libraries in the United Arab Emirates by selecting prominent examples. It evaluated their efforts to promote information culture, revealing strengths and weaknesses. Notably, the Juma Al Majid Center emerged as a leading institution offering free awareness programs and workshops for diverse societal groups, even in remote areas. These initiatives aim to enhance information skills, foster safe digital practices, and support personal and professional development through three key tracks: library awareness, archival awareness, and digital and information awareness. However, the study identified a lack of specialized programs explicitly focused on information culture within the sampled libraries.
4. Based on the findings, the study proposed a comprehensive training program designed to improve information culture levels. This program encompasses six main axes, addressing critical competencies necessary for individuals to become information-literate and adapt positively to technological advancements. A detailed training toolkit accompanies the program, outlining the tools required for each axis.

2.3 Study Recommendations:

1. Public libraries should establish specialized and regular training programs in information culture, incorporating tracks such as library awareness, archival awareness, and digital and information awareness. These programs should emphasize enhancing critical and creative thinking skills to enable communities to engage effectively with modern technologies.
2. Strengthen collaboration between public libraries and educational and governmental institutions to align efforts in promoting information culture and ensuring the safe and effective use of technology.
3. Invest in infrastructure and technological advancements to build public libraries equipped to provide accessible services for all societal segments, recognizing their critical role in fostering intellectual, scientific, professional, and civilizational development.
4. Develop an ethical charter for technology use, including artificial intelligence, to ensure positive outcomes and protect user privacy.
5. Public libraries in the UAE should adopt a dedicated program for information culture and offer it free of charge. This initiative is essential for

empowering individuals to engage with information and digital technology critically and creatively, thereby contributing to societal progress and achieving sustainable development.