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USER PROFILE AND UTILISATION OF LIBRARY MATERIALS BY UNDERGRADUATE LIBRARY AND INFORMATION SCIENCE STUDENTS IN FEDERAL UNIVERSITIES IN SOUTH EAST, NIGERIA

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Abstract

This study investigated the relationship between user profiles and the utilisation of library materials by undergraduate Library and Information Science (LIS) students in federal universities in South-east, Nigeria. A descriptive survey research design was adopted. The study population comprised 294 undergraduate LIS students sampled across the region. Data collection was executed using a structured questionnaire. Data were analyzed using mean score, standard deviation, and Pearson Product-Moment Correlation Coefficient (r) to test the hypothesis at a 0.05 level of significance. The findings of the research question revealed that the mean score for users' interest profiling was 3.80, while library utilisation scored 3.66, with a correlation coefficient r-value of .764. This implies that there exists a very strong positive relationship between users' interest profiles and library utilisation. The corresponding null hypothesis was rejected ($p < 0.05$, $r = .764$, $p = .000$), indicating that there is a statistically significant relationship between users' interest profiling and library utilisation by undergraduate LIS students. The study concludes that an accurate understanding of student information needs and user profiles directly enhances library material access, recommendation workflows, and general system patronage. It is recommended among others that academic libraries dynamically should integrate modern profiling strategies within their library management frameworks to optimize the filtering, delivery, and visibility of resources.

Keywords: User Profile, Library Utilisation, Undergraduate Students, Library and Information Science, Federal Universities.

Introduction

Academic libraries support university education by providing relevant learning materials, research databases, and services that help students complete assignments, study for examinations, and conduct undergraduate research. Undergraduate student of library and information science constitute a unique category of library users because the academic

programme requires extensive interaction with library resources, services and technologies (Ihuman et al., 2024). In federal universities in Nigeria, undergraduate students constitute a large portion of library users, yet studies frequently report that library use is not uniformly optimal across all students and all resource types. Students' ability to locate and use library materials may depend on their user profile (e.g., year of study, information-seeking experience, and skills), as well as on library factors such as the availability of current materials, library environment, and accessibility to electronic resources and library websites (Ajuwon & Oshiname, 2022).

A user profile is a digital collection of information about a particular customer or user that's used to support the larger customer/brand relationship. By gathering this data in a single location, user profiles make it easier for marketers to understand and engage their audience effectively. While the information contained within a user profile often focuses on a patron's in-app behaviour and preferences, it's also possible to include a wide variety of other data types including web activity and in-store purchases—and to augment the information contained in each profile using weather data and other information.

User profiles are generally represented as sets of weighted keywords, semantic networks, or weighted concepts, or association rules. Keyword profiles are the simplest to build, but because they fundamentally have to capture and represented. They require a large amount of user feedback in order to learn the terminology by which a topic might be discussed. This problem is also shared by most semantic network-based profiles – they must learn the terminology with which concepts are discussed. Concept profiles, in

contrast, are trained on examples for each concept a priori, and thus begin with an existing mapping between vocabulary and concepts. Thus, they can build profiles that are robust to variations in terminology with less user feedback. Many of the approaches described rely on extracting, and weighting, keywords from documents and comparing documents to each other.

Similarly, a user profile according to Bako & Odigie, (2021), refers to the characteristics of library users that influence their information behaviour. In undergraduate library-use studies, user profile commonly includes demographic variable (e.g., gender and age) and academic variables (e.g., level of study). It may also include behavioural and capability indicators such as ICT skills, frequency of library visits, and preferred purposes for using the library.

Utilisation is referred as the actual putting into appropriate use of acquired information, it differs from person to person and from one cooperate organisation to another in accordance with their information need and other social economics imperative needs. Therefore it is a critical factor in the utilisation of library material. Utilisation of library materials according to Adeeko & Adetimirin (2021) refers to the extent to which students access and use information resources provided by the university library. Utilisation may occur through:

- Print resources (textbooks, reference sources, past questions where available),
- Scholarly materials (such as journals and journal databases),
- Electronic resources (e-journals, online databases, and library websites for access and discovery),

- Library services and assistance (e.g., reference support and circulation/borrowing services).

Statement of the Problem

User profile refers to the demographic, academic and behavioural characteristics of library users, including age, gender, level of study, frequency of library visits, information needs, and preferred information resources. It is one of the sub variables of user education which is the responsibility of both the university library and department of library and information science. It is the tradition of the library to determine the profile of the users before acquiring the library materials for the use of the student. Despite the explicit effort made by universities to analyse user characteristics for the efficient acquisition and deployment of library materials, it appears that many students remain unaware of the existing information resources in their institutional libraries. Those who use the library seems to find it difficult locating needed materials, this may be because they lack the knowledge of the search tools which would help them locate information material needed. Consequently, the library may be underutilised and this seems to account for student's inability to meaningful research. While these operational deficiencies are widely noted, there remains a critical empirical gap regarding how structured understanding and tracking of a student's interest profile directly relates to their overall library material utilization rates within LIS cohorts in this specific geographic zone. This study was designed to address this problem by empirically evaluating the precise nature and statistical significance of the relationship between users' interest profiling and library utilisation among undergraduate LIS students in federal universities in South-east, Nigeria.

Based on the objective of the study, the following research question and hypothesis was formulated:

Research Question

What relationship exists between users' interest profiling and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria?

Hypothesis

There is no significant relationship between users' interest profiling and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria.

Literature Review

User Profile is the process of Extracting, Integrating and Identifying the keyword based information to generate a structured Profile and then visualizing the knowledge out of these findings. User profiling helps personalising a system to work according to the user. Therefore user profiling or personalisation is one of the major concepts used for accessing

the user relevant information, which can be used to solve the difficult problems of reminder system like classification and ranking of items in accordance with an individual's interest.

The ultimate goal of an information provider is to satisfy the user information needs. That is, to provide the user with the right information, at the right time, through the right means. A prerequisite for developing personalised services is to rely on user profile representing users' information needs. Personalization has become an important

topic for digital libraries to take a more active role in dynamically tailoring their information and service offers to individuals in order to better meet their needs (Gulati et al., 2024). Most of the work on personalised information access focuses on the use of machine learning algorithms for the automated induction of a structured model of a user's interests, referred to as user profile, from labeled text documents (Hidri, 2024). Keyword-based user profiles suffer from problems of polysemy and synonymy. The result is that, due to synonymy, relevant information can be missed if the profile does not contain the exact keywords occurring in the documents and, due to polysemy, wrong documents could be deemed as relevant. This work explores a possible solution for this kind of issue: the adoption of semantic user profiles that capture key concepts representing users' interests from relevant documents.

Pazzani and Billsus in Hidri (2024) opined that an intelligent agent use machine learning techniques to build user profiles from users' interactions and preferences, enabling the identification and recommendation of web pages and other information resources that match users' interest. The learning process is performed by first converting a hypertext markup language (HTML) source into positive and negative examples, represented as keyword vectors, and then using learning algorithms like Bayesian classifiers, a nearest neighbor algorithm, and a decision tree.

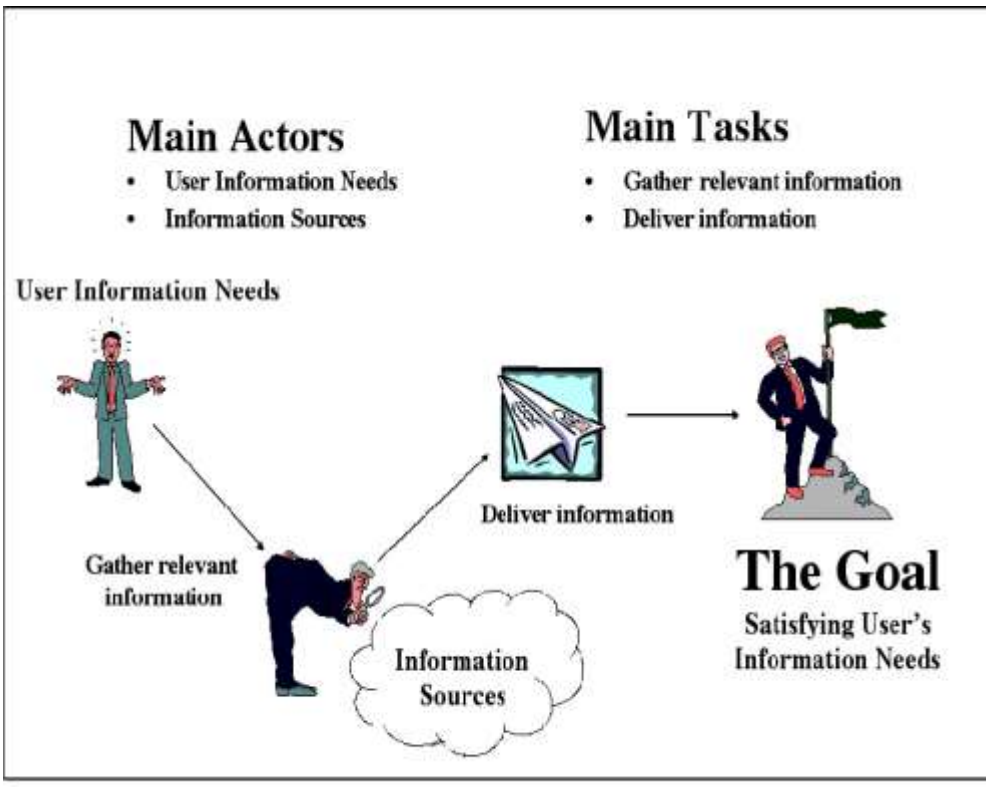

Figure 1.1: The information seek scenario
Source: https://www.semanticscholar.org/paper/User-Profile-Modeling-and-Applications-to-Digital-Amato-Straccia/602f5ae53ad857ac287fb892add3b89b11746a31/figure/0

Personalization systems are based on some type of user profile, a data instance of a user model that is applied to adaptive interactive systems. User profiles may include demographic information, e.g., name, age, country, education level, etc, and may also represent the interests or preferences of either a group of users or a single person. Personalisation of Web portals, for example, may focus on individual users, for example, displaying news about specifically chosen topics or the market summary of specifically selected stocks, or a groups of users for whom distinctive characteristics where identified, for example, displaying targeted advertising on e-commerce sites. In order to construct an individual user's profile, information may be collected explicitly, through direct user

intervention, or implicitly, through agents that monitor user activity. Hidri further posit that although profiles are typically built only from topics of interest to the user, some projects have explored including information about non-relevant topics in the profile. In these approaches, the system is able to use both kinds of topics to identify relevant documents and discard non-relevant documents at the same time. Profiles that can be modified or augmented are considered dynamic, in contrast to *static* profiles that maintain the same information over time. Dynamic profiles that take time into consideration may differentiate between short-term and long-term interests (Freitas et al., 2026). Short-term profiles represent the user's current interests whereas *long-term* profiles indicate interests that are not subject to frequent changes over time. For example, consider a musician who uses the Web for her daily research. One day, she decides to go on vacation, and she uses the Web to look for hotels, airplane tickets, etc. Her user profile should reflect her music interests as long-term interests, and the vacation-related interests as short-term ones. Once the user returns from her vacation, she will resume her music-related research, and the vacation information in her profile should eventually be forgotten. Because they can change quickly as users change tasks, and less information is collected, short-term user's interests are generally harder to identify and manage than long-term interests. In general, the goal of user profiling is to collect information about the subjects in which a user is interested, and the length of time over which they have exhibited this interest, in order to improve the quality of information access and infer user's intentions.

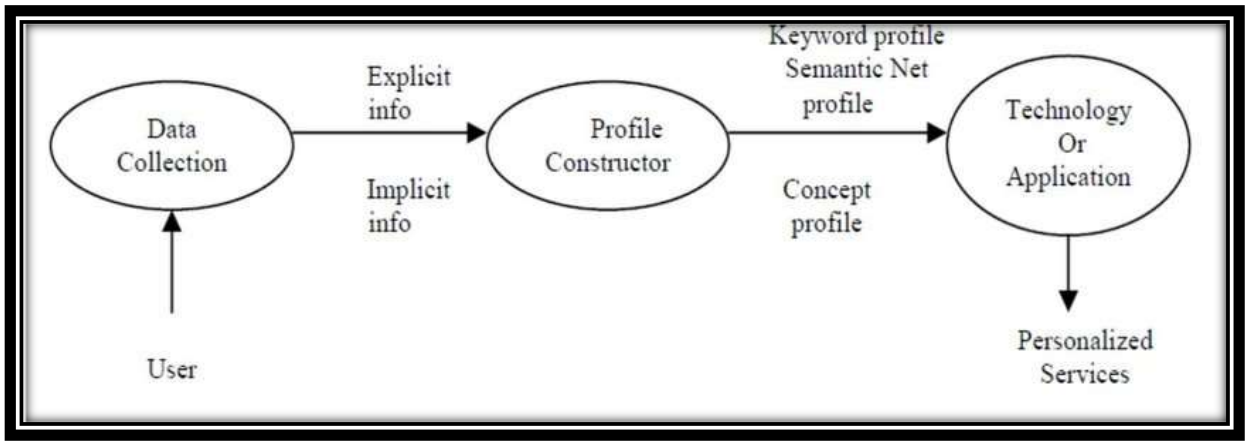

Figure 1.2: Overview of user-profile-based personalization
Source: Kelly and Teevan in Al-Hadid et al., (2022).

As shown in Figure 1.2, the user profiling process generally consists of three main phases. First, an information collection process is used to gather raw information about the user. Different types of user data can be extracted. The second phase focuses on user profile construction from the user data. The third phase summarizes a variety of ways in which profiles may be represented and fourth phase states some of the ways a profile may be constructed. The final phase, in which a technology or application exploits information in the user profile in order to provide personalised services.

Theoretical Framework

The study adopts Classical Conditioning Theory by Ivan Pavlov (1927).

Classical Conditioning Theory by Pavlov (1936)

Classical conditioning as propounded by Ivan Pavlov in 1936 it involves a type of conditioning in which individuals responds to some stimulus that would not ordinarily produce such response. Pavlov used the ringing of a bell to attract the attention of a dog. Each time the dog responded, a piece of meat was presented. After a while, the presentation of the meat was withheld but the dog continued to respond to the ringing of

the bell by salivating considerably. While the meat, described as an unconditioned stimulus, elicited an unconditioned response, the bell, a conditioned stimulus, eventually resulted to a response termed a conditioned response.

Pavlov's experiment revealed that people can learn by reacting to particular events (stimulus) and eventually their responses can continue even without applying the stimuli. This type of learning is said to be passive because it demonstrates reflexive behaviours but human behaviours which is very complex is mostly emitted voluntarily than elicit.

The implication of this theory to the study is that the creation of a pleasant library environment with the knowledge of the profile of the intended students will act as a conditioning to make use of library as this will make them relaxed and calm in utilizing the library. It will also help the student to have access to knowledge, provide them with cognitive tools that allows them to think about their surroundings and resolve problems.

Methodology

The correlation method was used to determine the relationship between users' profile and utilisation of library materials by undergraduate students of library and information science of federal universities in South East, Nigeria. A sample of 294 respondents was selected using purposive sampling technique and face validation for the study. The internal consistency of the study was established through average inter-item correlation method. The data obtained were analyzed using Cronbach's Alpha statistical tool which yielded .764 indicating a very strong reliability while the data collected was analyzed using Pearson product-moment correlation co-efficient. The r-value was used to answer

the research question in order to reveal the level of relationship while p-value was used to test research hypothesis at 0.05 level of significant. **Result and Discussion**

Research Question

What is the relationship that exists between users' interest profile and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria?

Table 1: The Nature of relationship that exists between users' interest profile and library utilisation by undergraduate library science students in federal universities in south-east, Nigeria N= 294

Variable	Mean (X)	Correlation Coefficient (r)	Remark
Users' Interest Profile	3.80		
Library Utilisation	3.66	.764	Very strong relationship

Table 1 indicates the result on the strength level of relationship that exists between users' interest profiling and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria, with the mean score of 3.80 for users' interest profiling, 3.66 for library guide and a correlation coefficient r-value of .764. This implies that there exists a very strong relationship between users' interest profile and library utilisation by undergraduate students of library science in Federal Universities in south-east, Nigeria.

Research Hypothesis

There is no significant relationship between users' interest profile and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria.

Table 2: The Result of Pearson Product Moment Correlation Coefficient on the relationship that exists between users' interest profile and library utilisation by undergraduate library science students in Federal Universities in south-east, Nigeria

Variable		Users Interest Profile	Library Utilisation
Users Interest Profile	Pearson Correlation	1	.764**
	Sig. (2-tailed)		.000
	N	294	294
Library Utilisation	Pearson Correlation	.764**	1
	Sig. (2-tailed)	.000	
	N	294	294

**. Correlation is significant at the 0.05 level (2-tailed).

The above table shows the result of Pearson Product Moment Correlation Coefficient on the relationship between users' interest profile and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria. The table further reveals the r-value as.764 and a p-value as .000 while the critical r-value as .139 with degrees of freedom of 292. However, since the p-value is less than 0.05 ($p < 0.05$) the research hypothesis which states that there is no significant relationship between users' interest profiling and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria is rejected while the alternative is upheld. It can therefore be stated that there is a statistical significant relationship between users' interest profiling and library utilisation by undergraduate students of library science in federal universities in south-east, Nigeria.

The empirical results compiled across the 294 LIS undergraduates reveal that a very strong, positive, and statistically significant relationship exists between a user's interest profile and their utilization of library materials ($r = .764$, $p < .05$). This finding is conceptually vital because a user's interest profile represents the systematic tracking, categorization, and analysis of an individual's unique academic, psychological, and behavioural information-seeking characteristics. By identifying these patterns, academic libraries can predict or establish what spheres of knowledge or content media are most relevant to specific student groups, thereby easing resource discovery and boosting satisfaction.

This finding strongly aligns with the empirical conclusions of Freitas et al. (2026), who observed that the ultimate goal of user profiling within digital spaces is to collect structured insights regarding the subjects a user interacts with and the duration of those interactions. Doing so improves the relevance of information filtering and helps institutional architectures infer user intent before the user encounters search fatigue. Additionally, these findings support the positions of Gulati et al. (2024) and Hidri (2024), who emphasized that moving past basic keyword-matching models into personalized, dynamic user profiles directly mitigates the classic retrieval limitations caused by polysemy and synonymy.

The significance of this relationship implies that when university libraries intentionally ascertain and maintain up-to-date user interest profiles, it directly optimizes the target selection and acquisition of physical and digital materials. Consequently, students spend less time navigating disjointed search catalogs and can quickly locate

resources relevant to their course modules and research interests. Conversely, as empirically established by the strong correlation metrics (r = .764, p = .000), failing to account for user profiles leaves undergraduate students struggling to identify accessible search tools, resulting in library underutilization and an inability to perform meaningful undergraduate research. Therefore, institutional focus must shift toward embedding student profiling data within the core frameworks of university library operations.

Recommendations

Based on the findings and discussion of this study, the following recommendations are made to optimize library operations:

1. Institutionalise Dynamic Profiling Systems: Academic libraries should integrate modern, automated user interest profiling tools into their existing Library Management Systems (LMS) to track undergraduate research trends, course registrations, and resource preferences in real time.

2. Enhance Search Tool Training and User Education: The Department of Library and Information Science, in active partnership with the university library administration, should design and execute targeted, mandatory user education modules that teach undergraduate students how to use modern search engines, discovery layers, and online public access catalogs (OPACs).

3. Align Acquisition Policies with Profile Data: Collection development librarians should systematically audit library acquisition workflows to ensure that the purchase of print materials, e-journals, and reference subscription databases explicitly reflects the documented academic profiles and active interest tracks of the students.

4. Optimize the Information Environment: Library administrators should upgrade physical and digital learning spaces, ensuring seamless access to high-speed ICT infrastructures and electronic databases, creating a responsive information environment that encourages voluntary utilisation.

Conclusion

This study establishes that user interest profiling is a powerful predictor and correlate of library material utilization among undergraduate Library and Information Science students in federal universities in South-east, Nigeria. The strong, statistically significant positive relationship highlights that when an academic library understands its users' behavioral and academic characteristics, it can deliver tailored, relevant resources that enhance student engagement and satisfaction.

Conversely, neglecting user profiling contributes to library underutilization, leaving students unaware of available assets and unable to navigate complex information environments. Applying Pavlovian classical conditioning principles demonstrates that an aligned, predictable, and supportive library environment serves as a positive stimulus that reinforces proactive study patterns. The study concludes that academic libraries can maximize resource utilization and improve undergraduate research outcomes by systematically transitioning from passive, static collections to dynamic, user-profile-driven delivery systems.

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