

CONTRIBUTIONS OF CATALOGUING STANDARDS IN THE RETRIEVAL OF ELECTRONIC INFORMATION RESOURCES IN UNIVERSITY LIBRARIES IN SOUTH EAST, NIGERIA

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Abstract

This study examines the contribution of cataloguing standards to the retrieval of electronic information resources (EIRs) in public university libraries in South-East Nigeria. The study was guided by three research questions and two null hypotheses, the study adopted a descriptive survey design. The population of the study consist of 184 professional librarians across public university libraries in the region. Data were collected using a structured questionnaire and an observation checklist, both validated by experts and tested for reliability, yielding a Cronbach's alpha of 0.87. Descriptive statistics and were used for data analysis and t-tests at a 0.05 level of significance was used to test the hypothesis. The findings revealed a wide range of electronic resources available in the libraries such as e-books, e-journals, CD ROM, e-projects etc, a moderate to high level of cataloguing standards application on Punctuation, capitalization, assignment of headings, subject cataloguing amongst others, and a significant contribution in facilitating speed in retrieval, save the time of the user, accuracy in information retrieval etc. The study recommends enhanced librarian training, standardization of cataloguing practices, increased investment in cataloguing technologies, continuous evaluation, and user education to optimize EIR access and retrieval. The research underscores the critical role of cataloguing standards in improving information accessibility and retrieval efficiency in academic libraries.

Keywords: Cataloguing Standards, Electronic Information Resources, Retrieval, University Libraries, South East Nigeria

Introduction

The rapid expansion of electronic information resources (EIRs) has revolutionized the environment of academic libraries globally. University libraries in Southeast Nigeria have undergone similar transformation, with electronic resources becoming essential for facilitating teaching, learning, and research. The efficient organization and retrieval of these materials depend significantly on established cataloguing standards. Cataloguing standards provide a systematic framework for the description, organization, and classification of information resources to improve accessibility and usability (Smith, Taylor, & Brown, 2020). Cataloguing standards significantly enhance resource discovery in electronic databases, online public access catalogues (OPACs), and digital repositories by assuring consistency in bibliographic information.

Cataloguing standards, including the Anglo-American Cataloguing Rules (AACR2), Resource Description and Access (RDA), MARC (Machine-Readable Cataloguing), and Dublin Core, are extensively used in university libraries to enhance resource identification and retrieval. AACR2 has traditionally directed cataloguers in producing uniform records, but RDA has presented a more flexible and adaptable framework appropriate for both print and digital materials (IFLA, 2021). The use of RDA in university libraries has refined the description of digital resources by highlighting the connections among content, carriers, and producers, thereby improving information retrieval (Smiraglia, 2014).

University libraries in Southeast Nigeria are swiftly implementing cataloguing standards to enhance the accessibility of their electronic information resources. Efficient cataloguing guarantees that electronic journals, e-books, databases, and institutional repositories are precisely documented and readily accessible. This procedure is essential in academic settings because students, researchers, and faculty depend significantly on online resources for intellectual endeavours (Onwudinjo&Eze, 2020). The use of metadata standards such as Dublin Core significantly improves the interoperability of these resources across digital platforms, facilitating information exchange and discovery (Weinheimer, 2019).

Notwithstanding the acknowledged advantages of cataloguing standards in improving resource retrieval, several difficulties continue to affect Nigerian university libraries. Inadequate training for cataloguers, insufficient technical infrastructure, and uneven implementation of

cataloguing standards impede the efficient organization and accessibility of electronic resources (Ezeani&Ezema, 2018). Additionally, several university libraries in Southeast Nigeria have resource limitations that hinder their ability to comprehensively adopt new cataloguing methods and information formats (Uwakwe&Okeke, 2022). The influence of cataloguing standards on the retrieval of electronic resources is significant. Well-organized cataloguing information enables users to effectively find relevant materials via search functionalities in OPACs and digital repositories. Precise bibliographic data enhance keyword searching, topic browsing, and result filtering, which are essential in academic settings (Hider, 2018). By using controlled vocabularies like Library of Congress Subject Headings (LCSH) or Medical Subject Headings (MeSH), cataloguers enhance search accuracy and pertinence in library systems.

This research investigates the role of cataloguing standards on the retrieval of electronic information resources inside university libraries in Southeast Nigeria. It delineates the accessible electronic information resources and the degree of implementation of cataloguing standards for electronic information resources to facilitate successful retrieval in public university libraries in the South East.

Statement of the Problem

The rapid expansion of electronic information resources in Southeast Nigerian university libraries has revolutionized information storage and accessibility. Nonetheless, difficulties in efficient retrieval persist owing to irregular cataloguing techniques and an absence of standardized systems. Conventional cataloguing techniques often fail to accurately describe electronic resources, resulting in problems such as subpar metadata descriptions, insufficient indexing, and non-standardized access points. As a result, students and researchers have challenges in finding electronic materials, which impedes their academic progress.

My Personal observation shows that, notwithstanding the significance of cataloguing standards in enhancing information retrieval, their application in university libraries in southeastern Nigeria is minimal. This study seeks to examine the impact of cataloguing standards on the improvement of electronic resource retrieval. It aims to identify existing electronic resources, evaluate the adoption of cataloguing standards, and ascertain their effect on retrieval efficiency in university libraries in Southeast Nigeria. The research examines the contribution of

cataloguing standards in the retrieval of electronic information resources in university libraries in southeastern Nigeria.

Research Question

The following research questions guided the study:

1. What electronic information resources are available in public university libraries in the south-east, Nigeria?
2. What is the extent of application of cataloguing standards on electronic information resources for effective retrieval in public university libraries in the southeast, Nigeria?
3. To what extent do the application of cataloguing standards on electronic information resources contribute to its retrieval in public university libraries in Nigeria's South East?

Hypotheses

The following null hypotheses were tested on a 0.05 level of significance:

H₀₁: There is no significant difference in the mean rating of librarians on the extent of application of cataloguing standards on electronic information resources for effective retrieval in public university libraries in South-East Nigeria.

H₀₂: There is no significant difference in the mean rating of librarians on the extent to which the application of cataloguing standards on electronic information resources contribute to its retrieval in public university libraries in South-East Nigeria.

Review of related literature

The university library is a vital element of higher education institutions, designed to facilitate academic programming, research, and the distribution of information. It caters for students, staff, and researchers by offering access to a variety of information resources, both tangible and digital. University libraries are essential in promoting education, research, and innovation by providing academic resources, study environments, and information literacy instruction (Aina, 2020). Ifidon&Ifidon (2019) assert that university libraries are structured to fulfil the intellectual and research requirements of their affiliated institutions. They are distinguished from other library kinds by their extensive collection of academic books,

periodicals, theses, dissertations, and digital resources. These libraries function according to well-articulated policies that correspond with the goal and vision of the colleges they support (Ojedokun&Moahi, 2022).

University libraries provide an array of services, including the supply of information resources, reference and information services, research and innovation assistance, user education and information literacy, as well as digital and technical services (Ogbomo, 2021; Ani&Esin, 2020). University libraries play a crucial role in academic achievement and institutional advancement. They advocate for lifelong learning, facilitate accrediting standards, and augment worldwide information exchange (Ekere, Nwachukwu, & Orji, 2021). Moreover, they mitigate the digital divide by offering internet access and digital resources to students and researchers without personal access to these materials.

Any digital format of information that can be accessed, saved, and sent via electronic devices mostly computers and mobile devices is referred to as an electronic information resource (EIR). Databases, e-books, online journals, e-newspapers, multimedia files, and websites are some examples of these resources (Ani, Ngulube, & Onyancha, 2015). They provide quick access to a wide range of material on a variety of topics, making them an essential component of contemporary information retrieval and distribution systems. EIRs provide users access to current information and resources at any time and from any location, making them indispensable tools for personal, professional, and academic usage.

Accessibility, searchability, and the capacity to store and handle enormous volumes of data are some of the benefits of EIRs. EIRs may be updated in real-time, unlike conventional print materials, guaranteeing users have access to the most recent information (Sohail& Ahmad, 2017). Additionally, they provide a variety of multimedia forms, including text, audio, and video, which improves the educational and informative experience (Mackenzie, 2020). In order to increase the reach and effectiveness of information retrieval systems, libraries and educational institutions are therefore embracing electronic resources more and more.

Cataloguing standards are vital frameworks that direct the description, organisation, and classification of information resources in libraries to facilitate effective information retrieval. These guidelines provide a standardised framework for documenting bibliographic information,

ensuring uniformity across library holdings. Smith, Taylor, and Brown (2020) assert that cataloguing standards are essential for enabling users to efficiently identify materials via many access points, including author, title, topic, and keyword searches.

Prominent cataloguing standards include the Anglo-American cataloguing Rules (AACR2), which provides comprehensive directives for the description of both print and non-print materials. AACR2 has been supplanted by the more adaptable Resource Description and Access (RDA), which aims to support digital resources and conform to worldwide metadata standards (Oliver, 2013). MARC (Machine-Readable Cataloguing) formats are extensively used for encoding bibliographic data, facilitating interchange across library systems. In the digital era, metadata formats like Dublin Core are being used to characterize electronic information resources, enhancing resource discovery across many platforms (Dunsire, Hillmann, & Phipps, 2011). By adopting suitable cataloguing standards, libraries may augment the visibility, accessibility, and usefulness of their resources, therefore enhancing user satisfaction and academic productivity.

Methods

This research utilized a descriptive survey design and focused on a population of 184 professional librarians in public university libraries in Southeast Nigeria. Two data collection instruments were employed: a structured questionnaire titled “Contribution of Cataloguing Standards to Retrieval of Electronic Information Resources in University Libraries in South East, Nigeria” (CCSREISULQ) and a 26-item observation checklist to ascertain the availability of electronic information resources in the libraries being examined. Both instruments were validated by experts from the Department of Library and Information Science and the Measurement and Evaluation Unit, Faculty of Education, at the University of Nigeria, Nsukka (UNN). To determine the reliability of the instruments, the Cronbach's alpha (α) method was used, resulting in a reliability score of 0.87. The data for the study was administered and collected by the researcher. Descriptive statistics were used to analyze the collected data, while the null hypotheses were tested using a t-test at a 0.05 level of significance.

Findings

TABLE 1: Distribution of questionnaire by Institution before and after Administration

Institution	Admin.	Return	%
Federal			
AE-FUNAI	7	7	100%
FUTO	48	33	68.7%
MOUAU	23	21	91.3%
NAL	45	36	80%
PFANL	15	15	100%
Total	137	97	70%
State			
ABSU	10	8	80%
COOU	10	8	80%
EBSU	7	6	85.7%
ESUT	10	10	100%
IMSU	10	10	100%
Total	47	42	89.3
Grand Total	184	154	83.6%

Source: field survey 2024

The total numbers of questionnaire distributed was 184 (100%) and 154 (83.6%) were returned and used for the study. See table 1.

Research Question One

What are the electronic information resources available in public university libraries in the southeast of Nigeria?

Table 2: Frequency and percentage of electronic information resources available in university libraries in south East, Nigeria

S/N	Electronic Information Resources	Availability		Remark
		Frequency (f)	Percentage (%)	
1	Electronic books	10	100%	Available
2	Electronic journals	10	100%	Available
3	Electronic newspapers	3	30%	Not Available
4	Electronic magazines	2	20%	Not Available
5	Electronic full text database	9	90%	Available
6	CD ROM	10	100%	Available
7	Electronic projects	8	80%	Available

8	Electronic Thesis/Dissertation	7	70%	Available
9	Electronic lecture notes	1	10%	Not Available
10	Electronic Past Question Papers	2	20%	Not Available
11	Electronic Reference Materials	6	60%	Available
12	Electronic Internet database	6	60%	Available
13	Electronic Courseware	3	30%	Not Available
14	Electronic Research Reports	2	20%	Not Available
15	Online Databases,	9	90%	Available
16	Access to Global Online Research on Agriculture program (AGORA)	10	100%	Available
17	Journal Storage (JSTOR)	7	70%	Available
18	Health Inter-Network Access to Research Initiative (HINARI)	10	100%	Available
19	Elton B. Stephens Company (EBSCO)	10	100%	Available
20	Electronic Clippings	0	0%	Not Available
21	Electronic indexing databases	2	20%	Not Available
22	Electronic Abstracting	0	0%	Not Available
23	Image collection	0	0%	Not Available
24	E- Reference database	2	20%	Not Available
25	Electronic Patents	0	0%	Not Available
26	Electronic Standards	0	0%	Not Available

The result in Table 2 shows the electronic information resources available in university libraries in south East, Nigeria. From the Table, the result revealed that electronic books, electronic journals, electronic full text databases, CD ROM, electronic projects, electronic thesis/ dissertation, electronic reference materials, online databases etc., were the available electronic information resources in university libraries in south East, Nigeria. The decision for regarding the 13 electronic information resources as available was based on the fact that the percentage availability of those electronic information resources was up to 50% or above which were above

the cut-off point. The remaining 13 electronic information resources which include e-newspapers, e- magazines, e- lecture notes, e- past question papers, e- research reports, e- courseware, e- clippings etc., had their percentage below 50% which is below the cut-off point. This indicates that they were not available.

Research Question Two

What is the extent of application of cataloguing standards on electronic information resources for effective retrieval in university libraries in the southeast of Nigeria?

Table 3: Mean and standard deviation of respondents on the extent of application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East Nigeria, n = 154

S/N	Cataloguing Standard	Federal		State		Overall		Remark
		$\bar{X}$	SD	$\bar{X}$	SD	Mean $\bar{X}$	SD	
1	Punctuation	3.39	.53	3.40	.51	3.40	.52	HE
2	Capitalization	3.37	.60	3.35	.55	3.36	.57	HE
3	Assignment of headings	3.29	.54	3.41	.53	3.37	.54	HE
4	Subject cataloguing	3.45	.50	3.43	.54	3.44	.52	HE
5	Descriptive cataloguing	3.45	.58	3.41	.53	3.42	.55	HE
6	Application of edition statement	3.24	.62	3.31	.54	3.29	.57	HE
7	Application of standard numbers	3.24	.62	3.32	.58	3.29	.59	HE
8	Application of title	3.41	.50	3.36	.59	3.38	.56	HE
9	Statement of responsibility	3.37	.63	3.27	.60	3.31	.61	HE
10	Application of series statement	3.35	.59	3.30	.57	3.32	.58	HE

11	Application of call number	3.39	.53	3.37	.54	3.38	.54	HE
12	Uniform locator	3.27	.67	3.23	.60	3.25	.62	HE
13	Authorized access point	3.25	.59	3.31	.54	3.29	.56	HE
14	Application of authority/vocabulary control	3.25	.59	3.30	.59	3.29	.59	HE
15	Classification	3.41	.64	3.41	.55	3.41	.58	HE
16	Application of imprint	3.25	.66	3.31	.56	3.29	.59	HE
17	Note area	3.27	.75	3.23	.60	3.25	.65	HE
18	Application of collation	3.14	.72	3.20	.63	3.18	.66	HE
19	Shelf list management	3.12	.74	3.18	.71	3.16	.72	HE
20	Application of filing methods	3.22	.67	3.21	.65	3.21	.66	HE
21	Development of added entries	3.24	.68	3.22	.63	3.23	.64	HE
	Cluster Mean	3.30	.47	3.21	.41	3.31	.43	HE

Result in Table 3 shows the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East, Nigeria. The result revealed that items 1-21 as well as the cluster mean had their mean values ranged from 3.16 -3.46. These values were within the real limit of 2.50 -3.49; indicating that the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East, Nigeria is high. The Table also revealed that the standard deviations of the 21 items ranged from .52-.72; indicating that the respondents were homogenous in their response.

Hypothesis One

There is no significant difference in the mean rating of male and female librarians on the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East, Nigeria.

Table 4: An independent t-test analysis of significant difference in the mean rating of Federal and state librarians on the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East, Nigeria

Gender	N	Mean	SD	df	t-value	P-value
Male	51	3.30	.47	152	-.099	.922
Female	103	3.31	.41			

Results in table 4 shows the t-test for independent samples assuming equal variance. The result shows $t(152) = -.009$, $p = .922$. Hence, the null hypothesis of no significant difference was accepted since the p-value (.922) is greater than 0.05 level of significant. The researcher therefore, concludes that, there is no significant difference in the mean rating of male and female librarians on the extent of readiness for application of cataloguing standards on electronic information resources for effective retrieval in university libraries in South-East, Nigeria.

Research Question Three

What is the extent to which the application of cataloguing standards on electronic information resources contributes to effective retrieval in university libraries in Nigeria's South East?

Table 5: Mean and standard deviation of respondents on the extent to which the application of Cataloguing standards on electronic information resources contributes to effective retrieval in University libraries in the Southeast, Nigeria. n=154

S/ N	Item Statement	Federal	State	Overall Mean	Remark
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		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	
1	Facilitate speed in retrieval	3.57	.50	3.53	.52	3.55	.51	VHE
2	Saving the time of the users	3.53	.50	3.55	.56	3.55	.54	VHE
3	Accuracy in information retrieval	3.45	.58	3.51	.56	3.49	.56	HE
4	Easier inter library lending and retrieval	3.37	.63	3.46	.54	3.43	.57	HE
5	Provision of access to the library collection	3.45	.58	3.50	.52	3.48	.54	HE
6	Ease of use of library collections	3.47	.64	3.47	.59	3.47	.61	HE
7	Timely retrieval of remotely located resources	3.37	.56	3.37	.58	3.37	.57	HE
8	Helps the users in locating materials in the collection	3.37	.60	3.55	.50	3.49	.54	HE
9	Helps in understanding of what the library has in the collection	3.33	.55	3.50	.52	3.45	.54	HE
10	Improved security of the information resources	3.27	.67	3.37	.61	3.34	.63	HE
	Cluster Mean	3.42	.42	3.48	.43	3.46	.43	HE

Result in Table 5 shows the extent to which the application of cataloguing standards on electronic information resources contributes to effective retrieval in university libraries in South East, Nigeria. The result revealed that items 1-2 had mean values of 3.55 which is within the real limit of 3.50-4.00; indicating that the extent to which the application of cataloguing standards on

electronic information resources contributes to effective retrieval in university libraries in South East, Nigeria for the items is very high. Notwithstanding, items 3-10 with the cluster mean have their mean values ranged from 3.34-3.49, which is within the real limit of 2.50- 3.49; indicating that the extent to which the application of cataloguing standards on electronic information resources contributes to effective retrieval in university libraries in South East, Nigeria is high. The Table also revealed that the standard deviations of the 10 items ranged from .51-.63; indicating that the respondents were homogenous in their response.

Hypothesis two

There is no significant difference in the mean rating of male and female librarians on the extent to which the application of cataloguing standards on electronic information resources will contribute to effective retrieval in university libraries in South-East, Nigeria.

Table 6: An independent t-test analysis of significant difference in the mean rating of federal and state librarians on the extent to which the application of cataloguing standards on electronic information resources will contribute to effective retrieval in university libraries in South-East, Nigeria

Gender	N	Mean	SD	df	t-value	P-value
Male	51	3.42	.42	152	-.849	.397
Female	103	3.48	.43			

Result in table 6 shows the t-test for independent samples assuming equal variance. The result shows $t(152) = -.849$, $P > 0.05$. Thus, the null hypothesis of no significant difference was accepted. This is because the p-value of .397 is greater than 0.05 level of significant. The researcher therefore, concludes that, there is no significant difference in the mean rating of male and female librarians on the extent to which the application of cataloguing standards on electronic information resources will contribute to effective retrieval in university libraries in South-East,

Discussion of findings

Electronic Information Resources Available in Public University Libraries in the South-East, Nigeria

The findings of the study revealed that e-books, e-journals, full-text electronic databases, CD-ROMs, e-projects, e-theses and dissertations, electronic reference materials, internet databases, online databases, access to the Global Online Research on Agriculture Program (AGORA), Journal Storage (JSTOR), Health Inter-Network Access to Research Initiatives (HINARI), and the Elton B. Stephens Company (EBSCO). This is consistent with Buba, Abubakar, and Lawal (2019), who described electronic collections as collections of information that can be accessed only using electronic devices such as e-books, databases, e-journals, articles, and CD-ROMs. The researcher, therefore, suggests that tertiary institutions should equip their university libraries with more advanced electronic information resources for their users.

Extent of Application of Cataloguing Standards on Electronic Information Resources for Effective Retrieval in Public University Libraries in the South-East, Nigeria

The findings of the study revealed that cataloguing standards in punctuation, capitalization, assignment of headings, subject cataloguing, descriptive cataloguing, application of edition statements, application of standard numbers, application of titles, statements of responsibility, application of series statements, application of call numbers, uniform locators, authorized access points, application of authority/vocabulary control, classification, application of imprint, note area, application of collation, shelf list management, application of filing methods, and development of added entries were very highly applied to electronic information resources for effective retrieval in public university libraries in the Southeast of Nigeria. This is in line with Aina (2019), who opined that there is a need to adopt a cataloguing standard in cataloguing practice for uniformity and consistency. The researcher therefore remarks that university libraries should adopt Resource Description and Access (RDA), which is a new cataloguing standard for digital resources.

Extent to which the application of cataloguing standards on electronic information resources will contribute to effective retrieval in public university libraries in the Southeast, Nigeria

The results of this study show the extent to which the application of cataloguing standards on electronic information resources contributes to effective retrieval in university libraries in Southeast Nigeria. The results revealed that the application of cataloguing standards on electronic information resources contributes very highly to facilitating speed in retrieval and saving the time of users, accuracy in information retrieval, easier interlibrary lending and retrieval, provision of access to the library collection, ease of use of library collections, timely retrieval of remotely located resources, and helping users in locating materials in the collection. This is consistent with Hider (2018), who argues that cataloguing and classification are important for the efficient organization and accessibility of library collections. He pointed out that meticulous cataloguing and classification practices ensure that users can easily locate relevant resources, thereby enhancing the overall effectiveness of information retrieval systems in academic libraries. The research remarked that cataloguing standard applications to information resources reduce time wastage in information searches, thereby facilitating speed in retrieval processes.

Recommendations

- To improve the retrieval of electronic information resources in university libraries, several important strategies should be implemented. First, there is a need to enhance training on cataloguing standards. University libraries should organize regular training sessions and workshops to keep librarians updated on the latest cataloguing standards, particularly as they relate to electronic information resources. Such training would significantly improve the cataloguing process and ensure that electronic resources are accurately and efficiently indexed for easier retrieval.
- Furthermore, there should be a concerted effort toward the standardization of cataloguing practices across all public university libraries in Southeast Nigeria. Adopting a unified cataloguing system would promote consistency in the organization and retrieval of electronic resources, allowing users to access relevant materials more easily, regardless of the institution they visit.

- In addition, libraries must invest in modern cataloguing software and tools that support current cataloguing standards. This technological investment will increase both the efficiency and accuracy of cataloguing processes, ultimately enhancing the discoverability of electronic resources.
- Continuous evaluation and feedback mechanisms should also be integrated into library practices. Regular assessment of cataloguing standards and active solicitation of user feedback will help identify gaps or issues in the system and ensure that the cataloguing process evolves in line with user needs and technological advancements.
- Collaboration among libraries in the region is another vital recommendation. By sharing best practices, resources, and expertise, libraries can collectively improve their cataloguing methods and promote broader access to electronic resources.
- Finally, public awareness and user education are crucial. Librarians should actively educate users on how to effectively search for and utilize electronic resources, including guidance on how cataloguing systems work. This will empower users to retrieve the information they need more independently, efficiently, and effectively.

Conclusion

The study assessed the Contribution of cataloguing standards to retrieval of electronic information resources in University libraries in south east Nigeria. It posed to identify the available electronic information resources, Ascertain the extent of application of cataloguing standards on electronic information resources, and determine the extent to which the application of cataloguing standards on electronic information resources contribute to its retrieval in public university libraries in the South East, Nigeria. It is noteworthy from the study's findings that application of cataloguing standards to electronic information resources contribute immensely to retrieval of EIRs in the library, there are a number of electronic information resources available in the university libraries investigated. Cataloguers also apply the necessary cataloguing to electronic information resources for effective retrieval in public university library in south east Nigeria.

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