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Bibliometric Insights into Research Growth in Digital Collections and Services Using the Lens Database (2015–2024)

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Abstract:

This study conducts a bibliometric analysis to explore the growth of research in digital collections and services, using data from the Lens database spanning the years 2015-2024. The analysis of 11,152 documents reveals a significant annual growth rate of 21.27% in publications, indicating increasing scholarly interest in this field. The study examines key bibliometric indicators, including publication trends, citation patterns, and influential sources, to provide a comprehensive overview of the research landscape. SSRN Electronic Journal is identified as a prominent source, highlighting its substantial contribution to the dissemination of research in this domain. The findings provide valuable insights into the evolution and current state of research on digital collections and services, informing future research directions and practices.

Keywords: Digital Collections, Digital Services, Digital Library, Bibliometrics

Introduction:

Digital services have become an integral part of our daily routines. Indeed, they are now present from the moment we wake up until the moment we go to bed. Consequently, digital services play an increasingly critical role in influencing the well-being of their customers, with each customer–service interaction yielding diverse outcomes. These outcomes may be positive in situations where digital services simplify tasks, such as online banking. Still, they could also be negative if the digital service discourages in-person interactions or enhances addictive behaviours, for instance. Therefore, comprehending the impact of digital services on customer well-being has become imperative in our technology-driven world (Kemppainen & Paananen, 2024).

Review of Literature:

As digital services have become an integral part of our daily routines, it has become evident that they can significantly influence our well-being, both positively and negatively (Anderson et al., 2013). Gaining insights into how digital services affect users' well-being has become crucial, and there has been an increasing focus on transformative services provided online (Parkinson et al., 2017). A digital service can be defined as any type of service primarily accessed through digital channels, such as the internet or computer technology (e.g. a smartphone) (Williams et al., 2008). Thus, digital services

include services such as e-books, music streaming, and online entertainment (Rosenbaum and Russell-Bennett, 2021).

Rosenbaum and Wong (2012) concluded that instant messaging through digital services can offer social support and positively influence individuals' subjective well-being. Furthermore, video games have been recognised as potential enhancers of well-being. Halbrook et al. (2019) proposed that video games can contribute positively to players' well-being, particularly by fostering social interaction. Prior studies have also highlighted the potential of digital services to promote relaxation.

Objectives of the Study:

1. To analyse the annual production, growth and citations
2. To identify the most globally cited documents
3. To know the most relevant sources

Scope of the Study:

The scope of the proposed study is to identify and analyse the research growth on Research Trends in Digital Collections and Services through the Lens Database. The study is limited to the years 2015-2024. The analytical scope of the study aims to achieve the objectives set for the present study.

Limitations of the Study:

The significant limitations of the study are as follows:

- The present study is based on the Lens.org database only.
- The Study is limited to the years 2015 to 2024.

Methodology:

The data under study were harvested from the Lens database. The search string employed was "Digital collection" OR "Digital Services" The search timespan is set from 2015 to 2024 (based on the Lens Database). A total of 11152 records were retrieved. Data analysis and visualization were performed using Microsoft Excel, Biblioshiny and VOSviewer.

Data Analysis and Discussion:

1. General information about data:

Table 1 presents general information metrics related to research on the digital collections and services between 2015 and 2024. It shows that 11,152 documents were retrieved from 4,482 publications, indicating Journals, Books, and other sources. The annual growth rate of publications is 21.27% and the average age of a document is 3.85 years, suggesting that the literature is relatively current.

Each document has received 8.613 citations, with a total of 171,413 references cited across all documents. The analysis also identifies 3,790 keywords plus (ID) and 3,790 authors' keywords (DE). A total of 26,651 authors contributed to the field, with 2,791 documents being single-authored. The co-authorship pattern shows an average of 2.96 authors per document, indicating a collaborative research environment.

Table 1: General information

Description	Results
Timespan	**2015:2024**
Sources (Journals, Books, etc.)	4482
Documents	11152
Annual Growth Rate %	21.27
Document Average Age	3.85
Average citations per doc	8.613
References	171413
Keywords Plus (ID)	3790
Author's Keywords (DE)	3790
Authors	26651
Authors of single-authored docs	2791
Single-authored docs	3167
Co-Authors per Doc	2.96

2. Research Productivity, Growth & Citations:

Table 2 presents data on research productivity related to digital collections and services from 2015 to 2024. Research productivity, growth, and citations from 2015 to 2024 demonstrate an increasing trend in the number of records, from 417 in 2015 (3.74%) to 2,366 in 2024 (21.22%).

The mean total citations per article has shown a declining trend in recent years, from 13.40 in 2015 to 1.02 in 2024. The mean total citations per year also decreased from 1.22 in 2015 to 0.51 in 2024. This trend could be attributed to the fact that more recent publications have had less time to accumulate citations. The citable years, representing the time span for potential citations, naturally decrease from 10 years for publications in 2015 to 1 year for those in 2024.

Table 2: Research Productivity, Growth & Citations

Sr. No.	Year	Records	Percentage	Mean TC per Art.	Mean TC per Year	Citable Years
1	2015	417	3.74	13.40	1.22	10
2	2016	459	4.12	10.63	1.06	9
3	2017	532	4.77	15.90	1.77	8
4	2018	595	5.34	24.37	3.05	7
5	2019	687	6.16	17.72	2.53	6
6	2020	1014	9.09	16.07	2.68	5
7	2021	1417	12.71	9.28	1.86	4
8	2022	1668	14.96	6.59	1.65	3
9	2023	1997	17.91	3.80	1.27	2
10	2024	2366	21.22	1.02	0.51	1
		11152	**100**			**10 Years**

3. Most Relevant Sources contributing to Digital collections and services:

Table 3 highlights the top sources contributing to research on the Digital collections and services, based on the number of citations recorded. The analysis of relevant sources reveals that the SSRN Electronic Journal is the most significant contributor to the research on digital collections and services, accounting for 339 articles, which is 18.07% of the total publications.

The Journal of Risk and The Journal of Credit Risk also feature prominently, with 143 (7.62%) and 108 (5.76%) articles, respectively. Other notable sources include The Journal of Energy Markets (105 articles, 5.60%), The Journal of Computational Finance (102 articles, 5.44%), and The Journal of Operational Risk (101 articles, 5.38%). Overall, the table highlights a concentration of publications in specific journals, indicating key outlets for research in this field.

Table 3: Most Relevant Sources

Sr. No.	Sources	Articles	Percentage
1	SSRN Electronic Journal	339	18.07%
2	The Journal of Risk	143	7.62%
3	The Journal of Credit Risk	108	5.76%
4	The Journal of Energy Markets	105	5.60%
5	The Journal of Computational Finance	102	5.44%
6	The Journal of Operational Risk	101	5.38%
7	Journal of Risk	95	5.06%
8	The Journal of Risk Model Validation	95	5.06%
9	Electronic Markets	86	4.58%
10	The Journal of Investment Strategies	83	4.42%

4. Most Global Cited Documents of Digital collections and services:

Table 4 presents the top 10 most globally cited documents related to digital collections and services. It highlighted that the most cited paper is Oztemel E (2018), Journal of Intelligent Manufacturing, with a total of 1459 citations and a TC (Total Citations) per Year of 182.38, indicating a strong influence and sustained relevance since its publication. Following this, Reuver M (2018) has garnered 1099 citations with 137.38 TC per Year, and Wood AJ (2018) has 1044 citations and 130.50 TC per Year. Notably, Appel (2019) in the Journal of the Academy of Marketing Science has 1002 citations and a TC per Year of 143.14, and Grubler (2018) in Nature Energy has 895 citations and 111.88 TC per Year. These highly cited papers represent key works that have made significant contributions to and shaped the discourse in their respective fields.

Table 4: Most Global Cited Documents

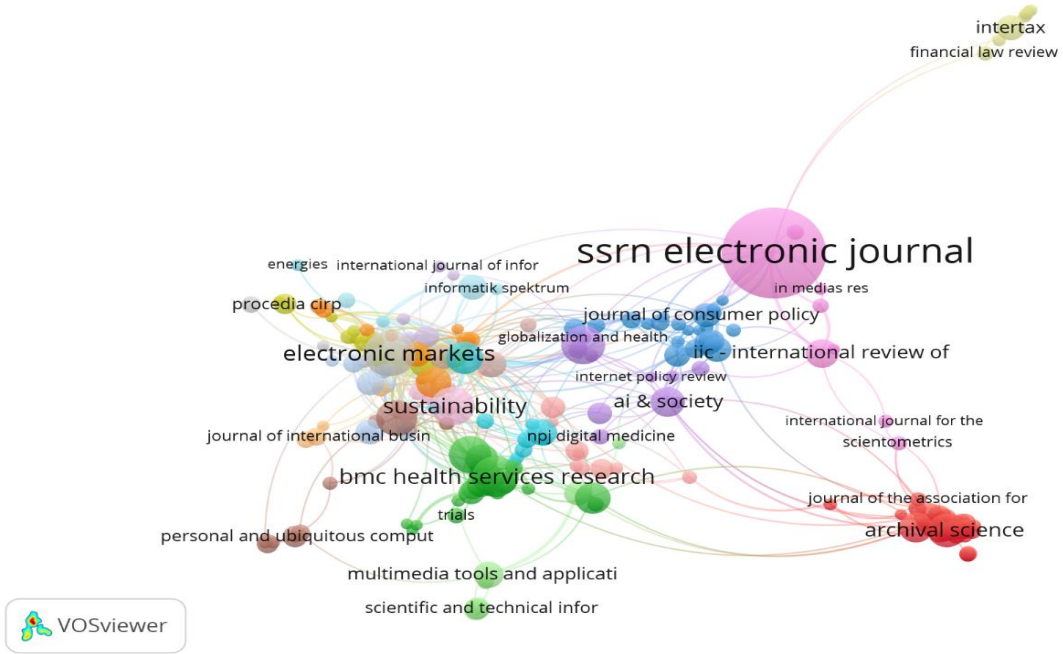
Sr. No.	Paper	Total Citations	TC per Year
1	Oztemel E, 2018, Journal of Intelligent Manufacturing	1459	182.38
2	Reuver M, 2018, Journal of Information Technology	1099	137.38
3	Wood Aj, 2018, Work, Employment & Society : A Journal of The British Sociological Association	1044	130.50
4	Appel G, 2019, Journal of The Academy of Marketing Science	1002	143.14
5	Grubler A, 2018, Nature Energy	895	111.88
6	Mergel I, 2019, Government Information Quarterly	824	117.71
7	Gomber P, 2017, Journal of Business Economics	761	84.56
8	Risius M, 2017, Business & Information Systems Engineering	645	71.67
9	Legner C, 2017, Business & Information Systems Engineering	637	70.78
10	Wortmann F, 2015, Business & Information Systems Engineering	584	53.09

5. Most Relevant Sources Network Visualization

Network Diagram 1 visually represents the network of the most relevant sources, illustrating the interconnectedness and relationships between them. The SSRN Electronic Journal appears as a central hub, highlighting its dominant role in the field, which aligns with its high article count (339) and percentage (18.07%) in the table.

The network also shows clusters of journals related to specific areas, such as finance (e.g., Intertax, Financial Law Review) and technology (e.g., Electronic Markets, Informatik Spektrum), indicating disciplinary concentrations within the broader scope of digital collections and services research. The visualization provides a clear overview of the scholarly communication landscape and the key sources that shape the discourse in this domain.

Network Diagram 1: Most Relevant Sources



Conclusion:

Bibliometric analysis provides a comprehensive overview of the research growth in digital collections and services from 2015 to 2024. The study highlights the increasing volume of publications, with a notable annual growth rate, and identifies key sources and citation patterns within the field. The findings reveal the "SSRN Electronic Journal" as a central platform for disseminating research in this area. While the analysis offers valuable insights into the evolving trends and key essentials, it's important to acknowledge the study's limitations, including its reliance on a single database (Lens.org) and the specific timeframe.

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