Artificial Intelligence For Decision Making In The Era Of Big Data





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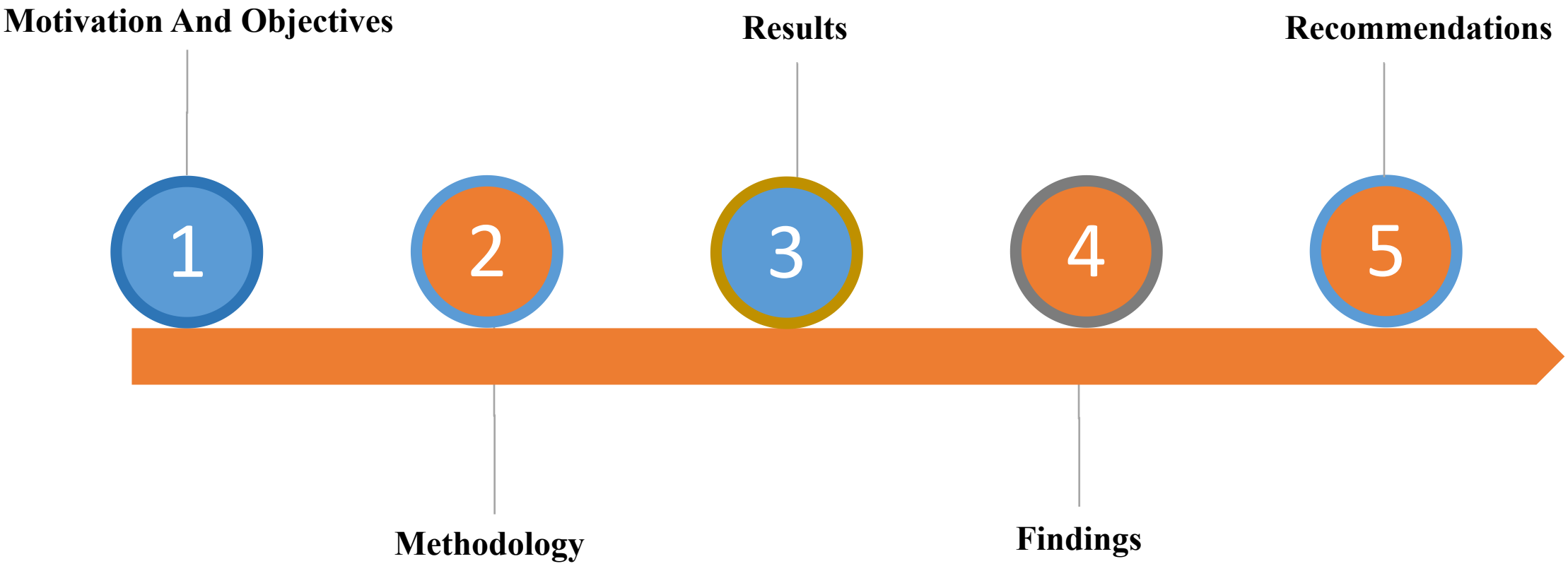
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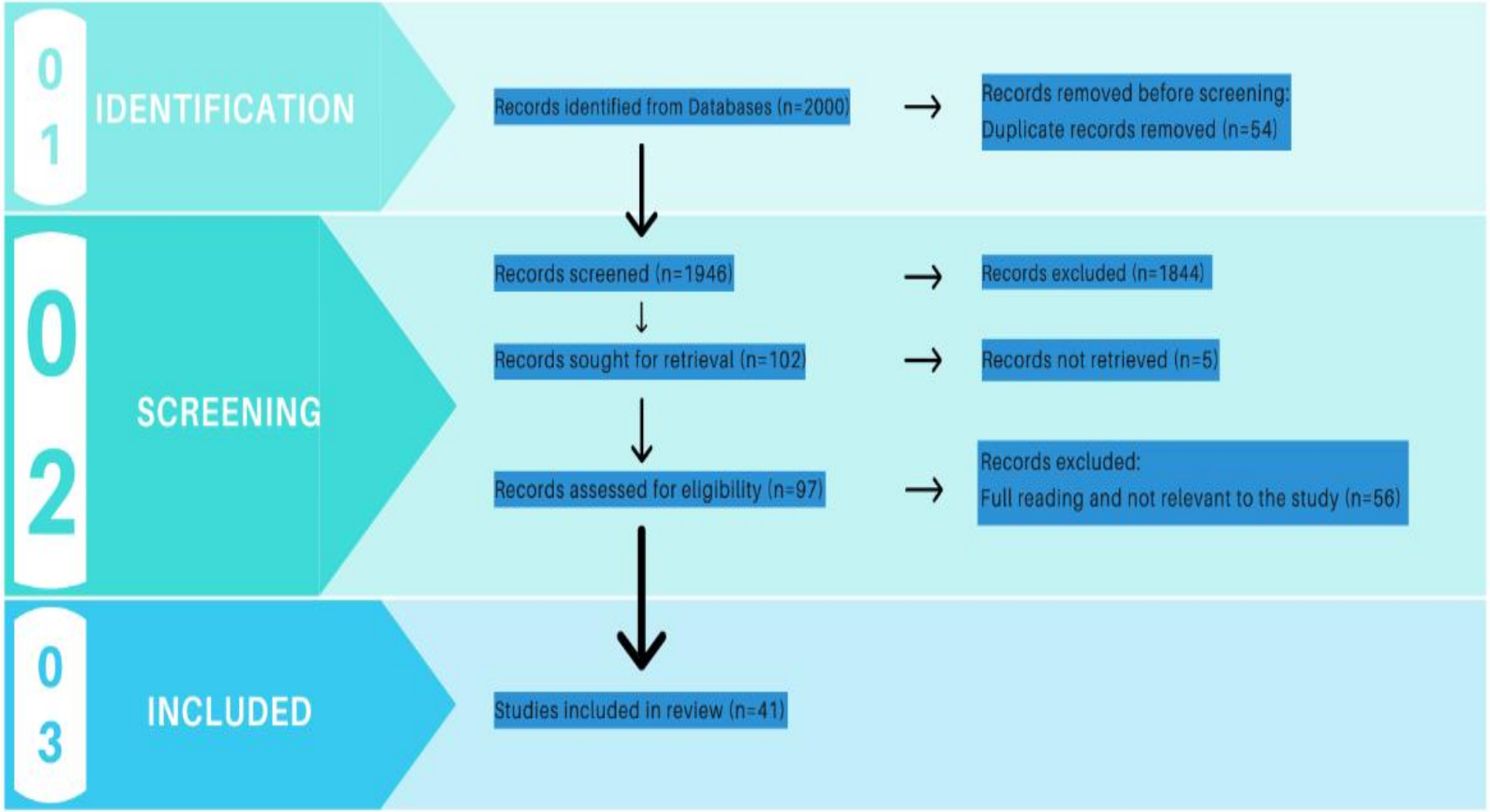
Motivation And Objectives:

Big data analytics has attracted significant attention from academicians and practitioners as it provides several ways to improve economic performance and efficiency, thus this study contains three objectives:

1. **To find out how big data has been used to enhance decision-making.**
2. **Suggests the challenges big data non-users face when adopting big data.**
3. **The implication of not incorporating big data as driven for decision-making.**

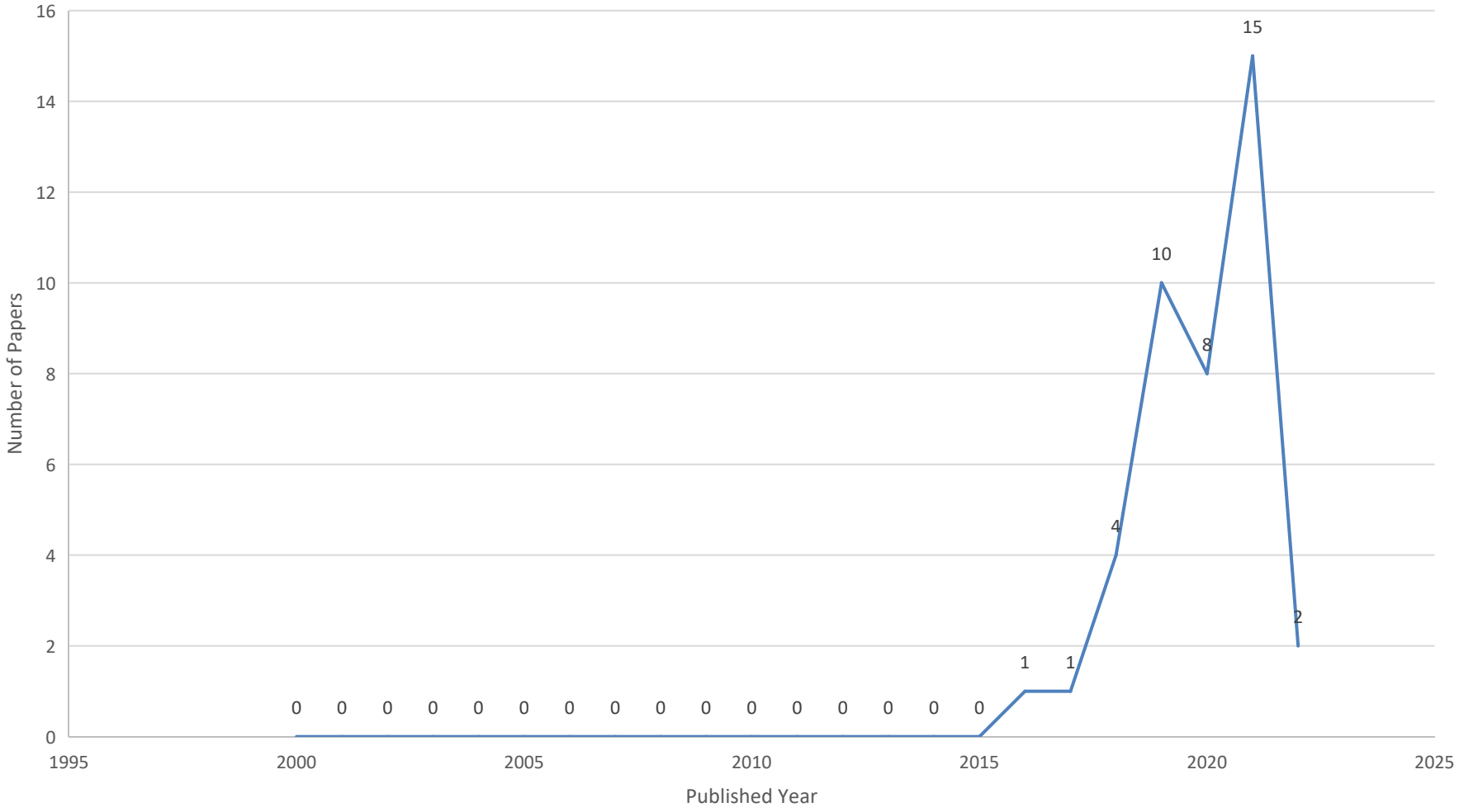
Methodology:

Identification of studies via databases and registers



Results:

The distribution of papers published over time



Results:

Distribution of reviewed articles

Serial Number	Name of Journals	Number of Papers	Published Year
1	BMJ Open	1	2018
2	Business Process Management Journal	2	2019, 2021
3	Cities: The International Journal of Urban Policy and Planning	1	2021
4	Computers in Human Behavior	1	2021
5	Computers in Industry	1	2021
6	Ear and Hearing	1	2020
7	Economics of Innovation and New Technology	1	2018
8	European Journal of Operational Research	1	2018
9	European Management Journal	1	2022
10	Industrial Management and Data Systems	2	2019, 2021
11	Information and Management	1	2019
12	Information Processing and Management	1	2021
13	Interactive Learning Environments	1	2019
14	International Journal of Information Management	3	2018, 2019, 2020

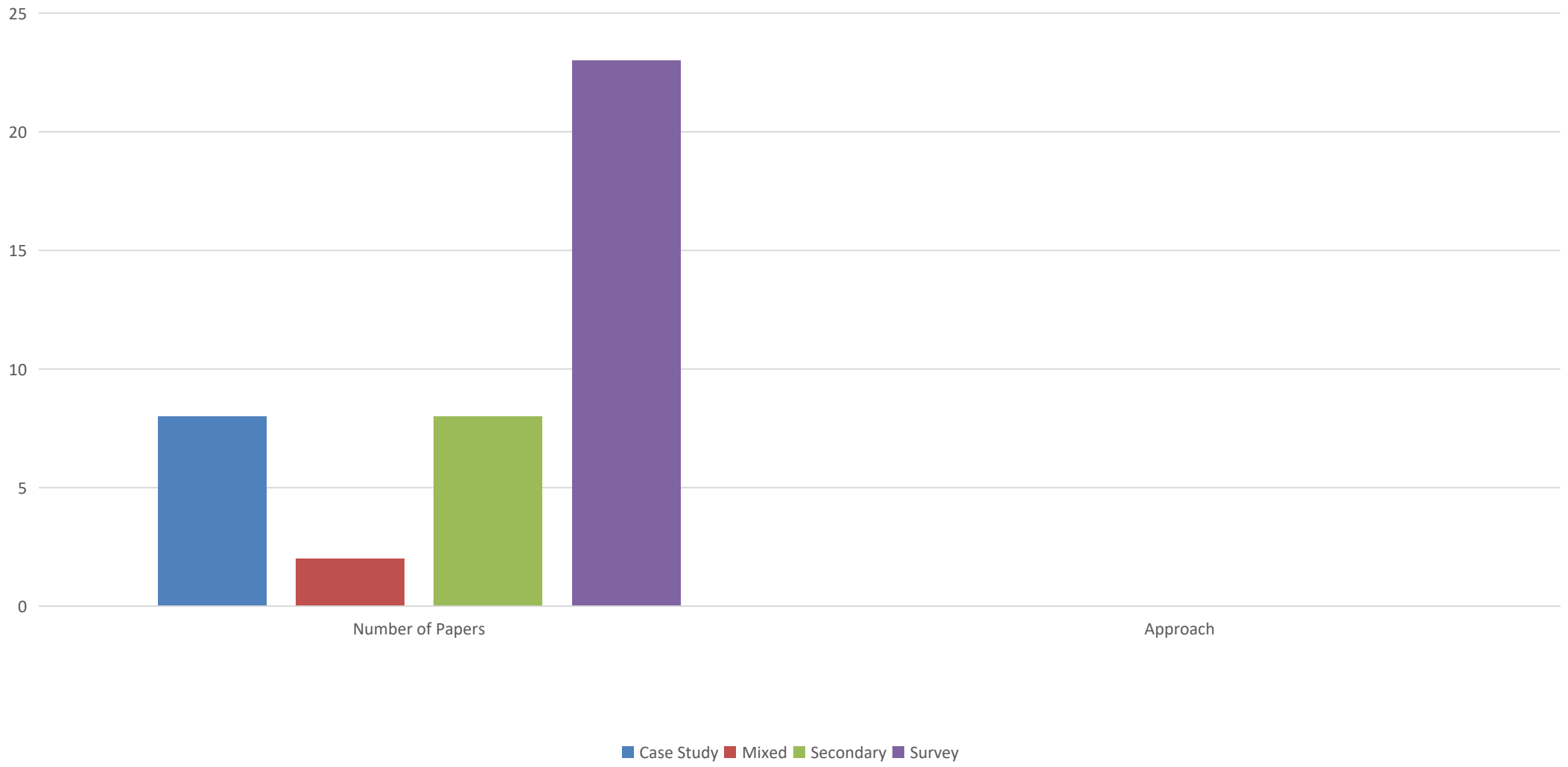
Results:

Distribution of reviewed articles

Serial Number	Name of Journals	Number of Papers	Published Year
15	International Journal of Logistics Management	1	2021
16	Journal of Asian Finance, Economics and Business	1	2020
17	Journal of Business Research	2	2016, 2019
18	Journal of Enterprise Information Management	2	2020, 2021
19	Journal of Multimedia Information System	1	2019
20	Management Decision	2	2019, 2020
21	Procedia CIRP	1	2019
22	Procedia Computer Science	2	2017, 2020
23	Resources, Conservation and Recycling	1	2019
24	South African Computer Journal	1	2021
25	Technological Forecasting and Social Change	7	2020, 2021
26	Tourism Management	1	2022
27	Transport Policy	1	2020

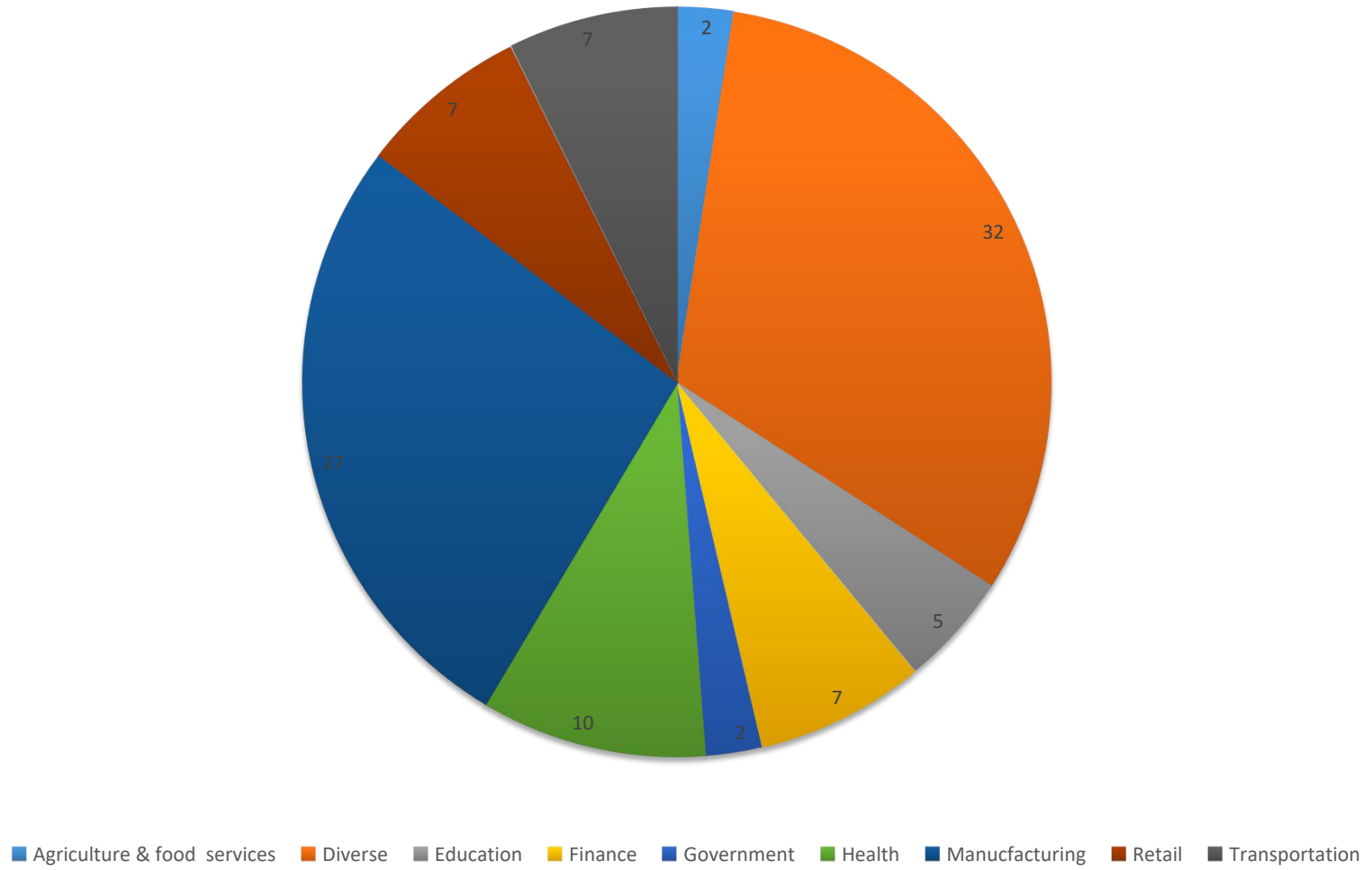
Results:

Representation of research approach



Results:

Representation of articles by sectors



Results:

Affiliation of Authors

Affiliations	Number of Authors
United Kingdom	29
China	28
India	12
Denmark	11
New Zealand	7
Pakistan	7
Portugal	6
Australia	5
Germany	5
Italy	5
Korea	5
South Africa	5
United Arab Emirates	5
United States	5
Brazil	4
Czech Republic	4
France	4

Results:

Affiliation of Authors

Affiliations	Number of Authors
Turkey	4
Greece	3
Malaysia	3
United Kingdom	3
Canada	2
Finland	2
Kingdom of Saudi Arabia	2
Morocco	2
Tunisia	2
Bangladesh	1
Cyprus	1
Hong Kong	1
Russian	1
Spain	1
Switzerland	1

Findings:

How and What Big Data is Used For?

- Big data helps overcome the challenges of obtaining valuable information.
- Big data boost circular economy performance, demonstrating that big data analytics capability drives decision-making quality in its effectiveness and efficiency.
- Big data analytics have the potential to enable innovation, thus improving innovation efficacy and efficiency.
- Big data also encourages better risk management.
- Big data help to make informed decisions, recognizes customers' real sentiments, and satisfy them.
- Big data can help control unexpected event that can cause disruption (the case of COVID-19 and the use of health QR code to detect the location, personal information, and abnormalities).

Findings:

Challenges Faced With Big Data:

- Misunderstanding the term AI is a challenge in big data for decision-making.
- The lack of measuring the benefit of AI and its impact and understanding of the synergy of AI and big data.
- The lack of top management commitment, and collaboration and alignment among organizational departments.
- Lack of qualified and experienced consultants, and lack of in-house data scientists.
- Poor data quality and lack of trust in data.
- Time-consuming activity and the lack of sufficient resources.
- The lack of security and privacy and financial support.
- Data scalability issues, lack of efficient techniques or procedures, and lack of data integration and management.

Findings:

Implications:

- Big data users benefit from the AI advantages as big data act as assistance in decision making.
- It enhances knowledge, performance, efficiency, their productivity, and give a hedge on competitiveness.
- Big data users contribute to the digital economy.

Recommendations:

- It is important to first understand the term AI and its role in decision making.
- Decision makers needs to be in constant learning.
- Personally get skills through learning about how to sort the challenges out and act accordingly.
- Or hire a skilled person to fix it on your behalf.
- Data Engineers can handle the challenges of big data linked to reliability, quality, and structure.
- More awareness of big data usage in decision making in terms of its benefit and challenges should be advertised.