

# Skill Development, Youth Employability and Digitalization: A Bibliometric Analysis Using VOS Viewer

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**Abstract:- Purpose – The motive of the present paper is to extensive depth analysis of literature and provide additional innovative on skill development and youth employability. The objective of the present analysis to conduct thematic analysis on skill development, vocational institutions, technical education, digitalization and employment opportunities generation among youth generation with labour market reform and associated with skill development. The study includes 943 articles on skill development, youth, employability, digitalization research in world conducted from 2012-2022. This study extracted from Scopus in area of digitalization, skill development and employability in various domain by using bibliometric analysis of literature via VOS smart viewer. The finding of the study indicate role of digitalization, government institution, vocational training institution are effective tools for the skill development and youth employability in country. The study include the values of systematic literature review on skill development, youth, employment scale, digitalization and innovation concept would provide insights to various academician, research scholar, government authorities in their plan formulation.**

**Keywords:-** *Systematic Literature Review, Digitalization, Skill Development, Youth, Employability, Bibliometric Analysis, Vos Viewer*

## I. INTRODUCTION

The new industrial development enhanced the consumer demand and make producers more competitive, the competitiveness among the producer countries, the concept of skill development has emerged as international importance. Skill development as important tools to solve major problems

of the world as well process to developing the skill of labor force of the nation ((Blom & Saeki, 2011)<sup>1</sup>. The organizational and nation both made the program and policies to develop skill among youth, and helps to solve two major problems of the world namely poverty and unemployment (King and McGrath, 2002). In developing nations like India, which faces transformational change in economies, (shifting agriculture labour force to manufacturing /service sector), skill development solve the problem of transition. The skill development helps to reduces not only prominent problems (poverty, unemployment) but also help to built democracy with human rights and continuous, sustainable and quick human development resources and help organization to competitor with external environment (Horwitz, 2013). The skill development and technical education leads youth to develop ability and capacity through deliberate and systematic training helps them to enhance their performance. After the adoption of liberalization policies in India, a sustainable economic growth of country is much highly depended upon skilled work force, especially in manufacturing and service sector (Agrawal, 2014; Mehrotra and Ghosh, 2014). The economic growth of the country is highly depended upon skilled labor workforce participation, to strengthen the economic growth of the country, it is vital to invest in skill development and training to the youths. The economy growth of country is highly depended on employment growth among youth and role of vocational training among youth generation helps to generate huge employment potential among youth (Tara & Kumar, 2016). The skill development programs, technical education support, employability added the demographic advantage helps to speedy growth of the country,

<sup>1</sup> Blom, A., & Saeki, H. (2011). Employability and skill set of newly graduated engineers in India. The World Bank.

and leads to accelerate highly economic growth within and outside the country. Unemployment is the root cause of several societal problems such as higher crime among youth, drug abuses, and depression among youth, psychological and political instability. It is observed that the unemployed persons are more vulnerable towards crime. Thus, for the healthy social structure, it is quite important to control the unemployment. As skill development may provide the employment or making capable the persons for the self employment and so this can be seen as an avenue to control the unemployment (Sharma & Mishra, 2015). Skill development among youth and inclusion of digital technology are three major engines of economic growth and social development of country (Ahmad et.al,2016). High technology transfer through skill development enhance better knowledge transfer among youth and respond more effectively and promptly employment generation in the country (Prakash,2019). Developing countries like India is transition to knowledge transfer through skill development helps youth to generate their own ventures and ability to people create more traditional work in modern ways (Mishra et.al,2022).

#### ➤ *Objective of Study*

The present article aims to provide complete overview present work on skill development, youth and employment generation during the period 2012-22. The study is based on extensive research and subject of skill development and to review recent article to establish thematic research progression. The study's also provide a depth study of present scenario of skill development, youth, employment generation and role of digitalization in various work.

## II. METHODOLOGY

The present study uses experimental learning theory (Kolb,1984) and includes various studies related to skill development, innovation and employability skill. The era of experimental learning in skill development process and procedures, experimental learning broadly viewed two perspectives firstly, field based learning in innovation, skill and role of vocational training through internships, practical exposures, services. Secondly, the experimental learning purposes skill knowledge, attitudinal level and critical thinking and reflective the ability to take course to achieve the desired goals (Lewis and Williams, 2006, (Kolb and Kolb, 2008).

In present study on skill development published research article 2012 to August 2022 was skimmed from Scopus database collection. The key words "skill development,

digitalization, employability, and vocational training have been used in the search engine of the Scopus data to utilize closed research publication extracted. As per result of search engine on various keywords, a extensive numbers of research publication were published globally. The sort out the article discrimination based upon year of publication, journal, language, title, abstract, citation numbers, document type were selected and sort the data and exported them in csv format that met the criteria. The retrieval of database took place on 15-10-2022, and concurrences themes, citation, co-citation, authorship, co-authorship, bibliographic were examined by using VOS viewer (version 1.6.10), and total 943 research papers has been examined and extensively abstracted for this study.

Table 1. Average Document Per Author

Description	Result
Documents	943
Keywords (with with highest total limit strength)	352
Author's key (KEYWORDS with the highest total limit strength)	163
Average citations per research documents	2.67
Authors	121
Documents per author	2.24

The data extraction took place on October 15, 2022. The extraction in the form of concurrences, major themes, Citation (highest to lowest), Co-author citation, Co-authorship and Bibliographic coupling, were examined using VOS viewer (version 1.6.10). The total number of papers extracted for this study was 943, and the research article includes were written by 121 authors, with an average research document per author of 2.24. (Table I)

#### ➤ *Bibliometric analysis of publication country:*

Total 943 publications (Table 1) on skill development were identified in the Scopus database between 2012 and August 2022. The count of the publication has been selected entire research articles and minimum citation paper ("minimum citation=1").The total 101 countries research publication meet these threshold. Fig 1. The countries that appeared most were the United Kingdom (212), followed by united states (190) and Spain (40). The all together three countries predominantly have 442 research papers/scholarly articles (almost 45%) in skill development, employability and digitalization.

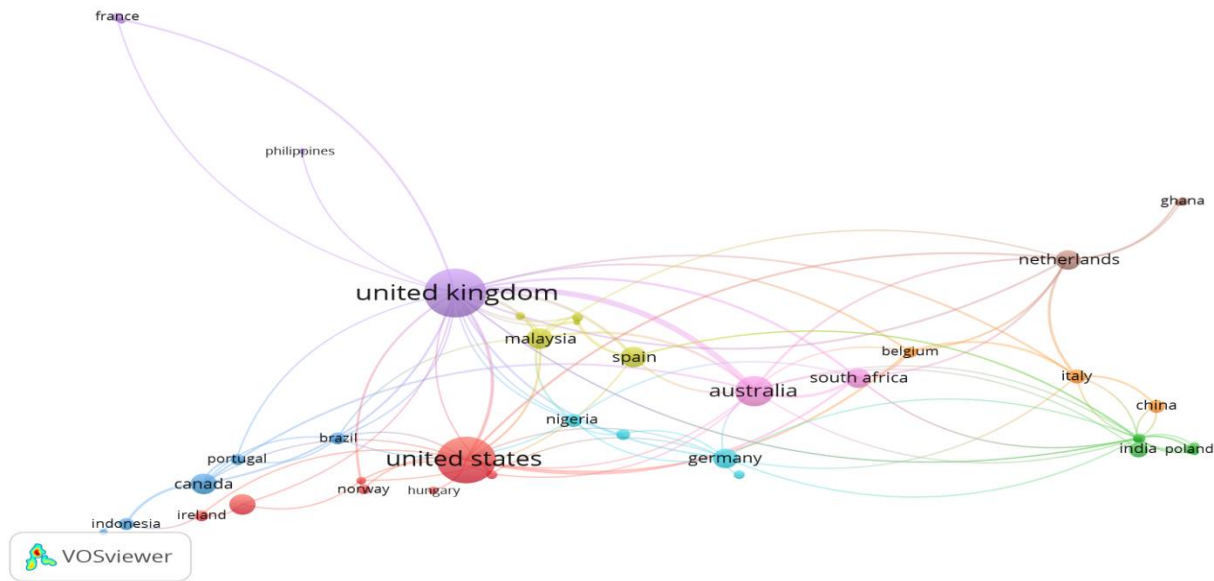


Fig 1 Keyword Visualisation Analysis (VOS Viewer)

➤ *Bibliometric analysis of the keywords:*

The keywords input of authors in their research manuscript and followed more than three times in the Scopus core database were combined result in to final analysis. In order from 943 research papers most frequent, most relevant, most co-associated key words were 761, out of which 650 met the threshold. The keywords are closed and linked with various authors were employability (146), higher education (61), Youth (40), education (36) and skill (35). The figure 2 depicts that these four employments, skill development and youth generation are major key words components in the existing literature database

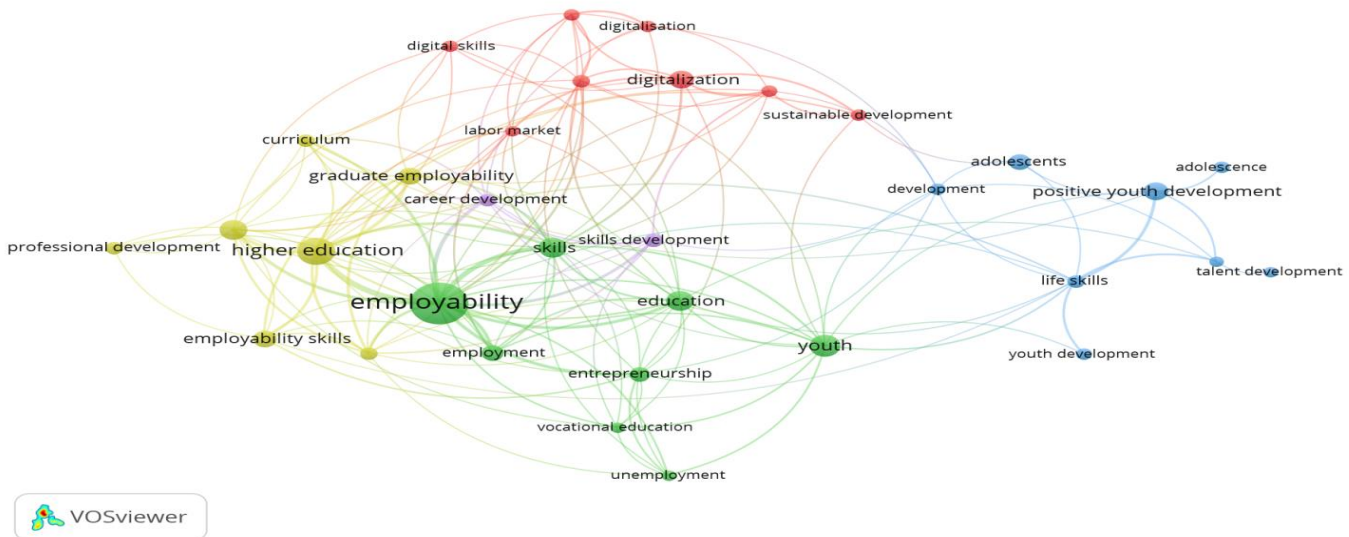


Fig 2 (Content wise VOS Viwer)

➤ *Bibliometric analysis of the Publication and cumulative papers:*

Figure 3 reviews the evolution of both the individual Publication and cumulative Publication about the research on digital transformation, skill development and youth employability in management since 2012. Figure 3 further indicates that research articles published before 2012 can be viewed as researchers providing the groundwork for the present research topic. The surge in digital transformation and youth employability research popularity in these domains began only in the last decade, most noticeably in 2016.

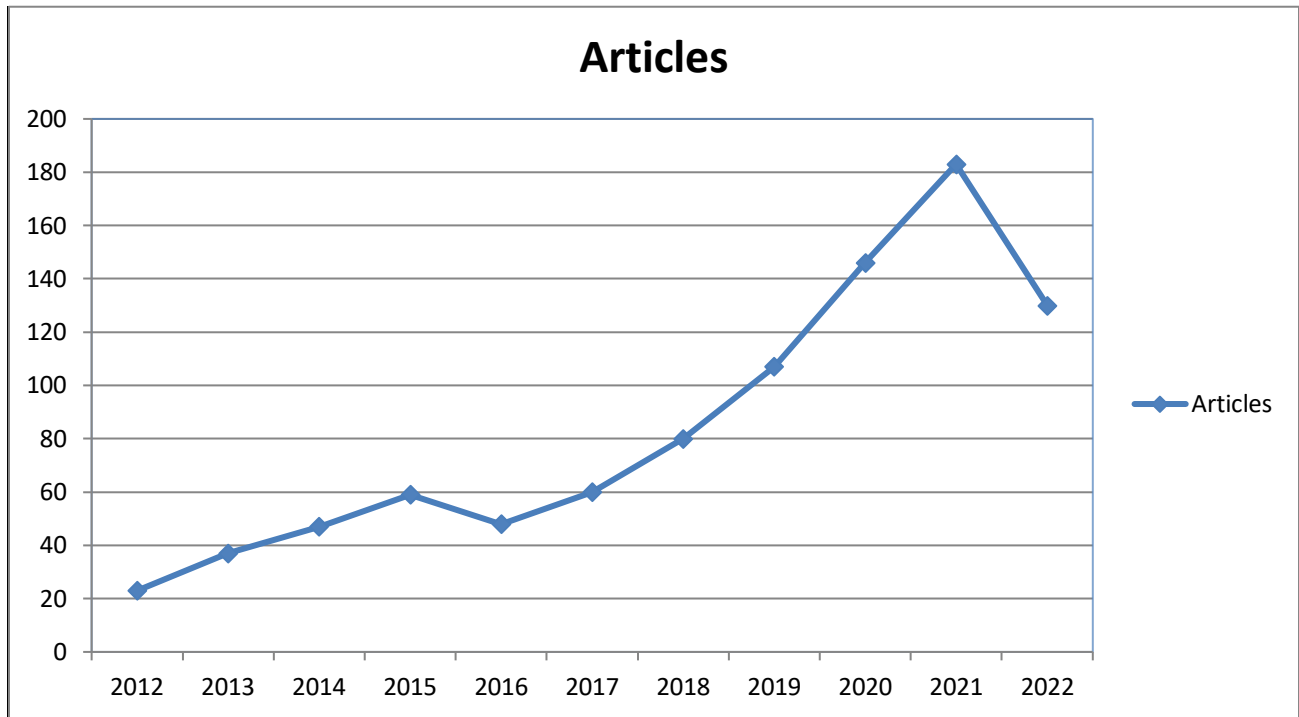


Fig 3 reviews the evolution of both the individual Publication

**Table-2: Top 10 Countries Of Digital Transformation Research**

Country	No. of publication	Percentage	Citation	Average Citation
United Kingdom	212	18.97	2372	11.18868
USA	190	17.00	2144	11.28421
Australia	83	7.43	1705	20.54217
Netherlands	36	3.22	491	13.63889
Germany	34	3.04	488	14.35294
Canada	39	3.49	430	11.02564
Italy	19	1.70	379	19.94737
Denmark	7	0.62	333	47.57143
south Africa	34	3.04	268	7.882353
Spain	40	3.58	237	5.925
Norway	9	0.80	197	21.88889
China	19	1.43	194	12.125

From the analysis of the above mentioned table 57 countries have mostly published at least one publication to skill development and vocational training in Scopus data set. The table indicate top 10 countries with highest number of publication and highest citation on scholarly articles published on top key words i.e skill development, employability, work force and youth. The list was surpassed by United Kingdom (212 documents) with 18.97%, followed by United States of America (USA) with (190 documents) with 17%. These both countries documents have been highest citation level 2372 (United Kingdom) and 2144 cited (United States of America) and highest cited impact average 11.18% and followed 11.28% for (USA). The table also indicates that 8 countries national contribution came from industrial countries and developed countries.

**TABLE-3: TOP 10 University Of Skill Development Research**

University	No. of Publication	Citation	Average Citation
Harvard graduate school of education, united states	2	145	72.5
Iza, bonn, germany	2	128	64
University of Graz, Austria	2	105	52.5
University Of Brighton, United Kingdom	2	104	52
University Of California, Irvine, United States	4	73	18.25
Sheffield Hallam University, United Kingdom	2	70	35
Fidipro Programme, University Of Jyvaskyla, Finland	2	70	35
Kihu, Research Institute For Olympic Sports, Jyväskylä, Finland	2	70	35
Edge Hill University, Ormskirk, United Kingdom	3	69	23
School of sport, university of stirling, stirling, united kingdom	2	65	32.5
Utrecht university, netherlands	3	60	20

The table no 3, the analysis of 10 most creative university research authors were published their research papers related to skill development and other key words components. It has been discovered that Harvard Graduate school United state having highest citation (145) with 2 publication, this paper has highest average impact factor is 74.5. The other university followed by Harvard were Iza, bonn, germany (citation 128, documents 2), University of Graz, Austria (citation 105, 2) and others.

### III. CONCLUSION

Bibliometric analysis of the skill development and employability literature has presented in order to acquire a depth understanding about the trends and historical review in particular area of stud with the help of VOS viewer software. The present study uses literatures review with help of bibliometric approach and statistically examines the volume effect of 943 research publication in topic related to skill development and employability among youth. The present study includes to determine the keywords namely skill development, employability, youth, digitalization and vocational institution publication from 2012 to 2022, the number of papers released cumulatively, the national, international network, university sources the author, the publication sources, and the citation trends. The research documents and papers have been collected from Scopus database with organized search queries with appropriate key words. With comparing the geographical distribution of literature in all 101 countries, United Kingdom and United States have highest numbers of publication as well highest citation. The study found that research publication on skill development and employability has been major area of research during 2012-22 but the trends have been decline after 2021. All supportive work that connected to skill development and employability but entirely not mention it in title has been omitted from the consideration; however, it is significantly limitation that no search query is completely error free.

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