



Envisioning Digital Transformation in Libraries for NextGen Academic Landscape

Editor-in-Chief

J P Singh Joorel

Editors

K P Singh

Dewendra Kumar Singh

Abhishek Kumar

Dinesh Ranjan Pradhan

Envisioning Digital Transformation in Libraries for NextGen Academic Landscape

13th International CALIBER -2022

(Convention on Automation of Libraries in Education and Research)

November 17-19, 2022 at Banaras Hindu University, Varanasi
Uttar Pradesh, India

Jointly Organised by

Information and Library Network Centre, Gandhinagar, Gujarat
&
Banaras Hindu University, Varanasi, Uttar Pradesh

Editor-in-Chief

J P Singh Joorel

Editors

K P Singh

Dewendra Kumar Singh

Abhishek Kumar

Dinesh Ranjan Pradhan



13th International CALIBER 2022

© INFLIBNET Centre [Gandhinagar, INDIA], 2022

ISBN 978-93-81232-10-1

Compiled by Mohit Kumar, STO (CS), INFLIBNET Centre

Published by

Information and Library Network Centre, Gandhinagar

(An IUC of University Grants Commission)

Infocity, Gandhinagar - 382007, Gujarat, India

<https://www.inflibnet.ac.in>, <https://caliber.inflibnet.ac.in>

Cataloguing-in-Publication(CIP)

Envisioning Digital Transformation in Libraries for NextGen Academic

Landscape: Proceedings of 13th International CALIBER 2022 jointly organised by INFLIBNET Centre, Gandhinagar, Gujarat and Banaras Hindu University, Varanasi, Uttar Pradesh during 17 to 19 November 2022/ edited by J P Singh Joorel ...[et. al.].- Gandhinagar: INFLIBNET Centre, 2022.

ix, 559p.: ill.; 18x24cm

ISBN 978-93-81232-10-1

Author and Keyword index included.

1. Inceptive Approach of Libraries for National Education Policy (NEP 2020)
 2. Emerging Technologies and Trends in Libraries 3. Open Science and Open Library
- I. INFLIBNET Centre II. Joorel, J P Singh, ed.

Table of Contents

1.	Academic Integrity, Information Use and Information Literacy in the Digital Environment: A Study from an Ethical use Perspective	1
	<i>Prasenjit Dhar and Mithu Anjali Gayan</i>	
2.	Application of Emerging Web Technologies for Research and Development in Higher Education Institution: A Study	14
	<i>Neha Naik and J Shivarama</i>	
3.	Authorship Pattern and Degree of Collaboration in Librarianship Topic	29
	<i>Rajan Kumar and Mukesh Behera</i>	
4.	Awareness, Perception and Attitude Towards Plagiarism among Library and Information Science Professionals in Maharashtra: An Investigative Study	44
	<i>Dattatraya Trayambak Kalbande, Subhash Chavan and Nandkishor Motewar</i>	
5.	Convalescent Plasma Therapy and COVID-19: A Scientometric Analysis	58
	<i>Svetal H. Shukla and Roma Yogesh Asnani</i>	
6.	Current Trend in the Library System: Academic Integrity and Plagiarism	70
	<i>Vinod Parihar, Diksha Sharma^a, Pramod Kumar Singh and Diksha Sharma^b</i>	
7.	Exploring the Readiness of Indian Private University Libraries for Offering MOOC Services	80
	<i>Flora Charles Lazarus and Rajneesh Suryasen</i>	
8.	Gift Authorship as a means of Research Collaboration among Indian Researchers	91
	<i>Somipam R Shimray</i>	
9.	Global Retracted Research Publications: A Bibliometric Study	103
	<i>Mohit Garg and Nabi Hasan</i>	
10.	ICT Professional Skills and NEP 2020: A Special Reference to Library and Information Science Education in Karnataka State	117
	<i>Umesha Naik and Hema V Cholin</i>	
11.	Imbibing and Implementation of NEP 2020 for Re-Imagining Libraries for Research and Development	123
	<i>Garima Gujral and J Shivarama</i>	
12.	Mapping of Research Publications on Hydrology in India from 1989 to 2020: A Scientometric Study	130
	<i>Jawahar Lal, Anil Agrawal, R Parameshwaran, Rajesh Kumar Singh and Manish Kumar Singh</i>	
13.	Marketing of Library Resources & Services: A Case Study of Central Library, Sikkim University	149
	<i>Sarbada Pradhan and Avijit Rai</i>	

28.	Scope of Metaverse Technology in Central Library, Rajiv Gandhi University	328
	<i>D K Pandey</i>	
29.	Startup Data Preliminaries : A Case Study of Users from Western Maharashtra	338
	<i>Rupali Sham Bhosale, Prakash B. Bilawar, Sangram Ashok Killedar and Sujata Ashish Hande</i>	
30.	A Study on Contribution from Indian Universities towards Union Catalogue of IndCat INFLIBNET Centre	348
	<i>R Shyam Sundar and B Jeyapragash</i>	
31.	Topic and Trend Analysis of LIS Research Articles in the UGC-CARE Group I Accredited LIS Journals Using Voyant Tools	357
	<i>Vinay Anand and Kumar Gaurav</i>	
32.	Towards a National Collection: Metadata Aggregation of Digital Cultural Heritage	368
	<i>T. K. Gireesh Kumar and Praseetha Gireesh</i>	
33.	Towards Advancing Creativity in Libraries Using Natural Language Processing for Data Curation: A Bibliometric Analysis	384
	<i>Pooja Rana and Pramod Kumar Singh</i>	
34.	Usage Pattern of E-Resources during COVID-19 and Post COVID-19: A Study	397
	<i>Navin Upadhyay, Kanu Chakraborty, Shambhu Raj Upadhyay and Bhaw Nath Pandey</i>	
35.	User-generated Social Tags Versus Librarian-generated SLSH Terms: A Comparative Analysis in Social Science	408
	<i>Kalyan Sundar Samanta</i>	
36.	Digital Information Management in Ardent Era – A Case Study	423
	<i>Monika Verma, Mohit Kumar Verma and Pawan Kumar</i>	
37.	Global Research Trends in “Big Data” during 2012-21: A Data Mining Based on Scientometric Tools	440
	<i>Dhruba Jyoti Borgohain, Sunil Kumar Yadav and Manoj Kumar Verma</i>	
38.	Impact of Smartphone Among Postgraduate Students of Manipur University: A Study	458
	<i>Hauminlun and Ch. Ibohal Singh</i>	
39.	Knowledge Management: A Bibliometric Analysis	476
	<i>Jobin Joseph</i>	
40.	Managerial Cores in Open Science: Interpreting ‘Open’ with Library and Information Science	485
	<i>Aditi Roy and Saptarshi Ghosh</i>	
41.	Measuring the Open Access Friendliness of Indian Institutions through Data Carpentry	498
	<i>Abhijit Roy and Parthasarathi Mukhopadhyay</i>	
42.	Open Science: Global Position and Share of India	509
	<i>Nayanthara S and Anila Sulochana</i>	

Startup Data Preliminaries: A Case Study of Users from Western Maharashtra

**Rupali Sham Bhosale, Prakash B Bilawar, Sangram A Killedar
and Sujata Ashish Hande**

The present paper dwells upon the awareness about startups, the support from funding agencies and the role of library and information center in the use of data/information useful for undertaking Startup initiatives of users from Western Maharashtra. The analysis reveals that, 32.78% of users are aware of and working on startup project since last year. Amongst the various types of information resources, search engines are the most frequently resource preferred by 26.22% of users with the mean value of 3.39 followed by the prominent information resources like e-resources, print sources, and online open access resources, etc. as the structural foundation backbone for innovative startup projects. Amongst the preferred working sector, it is noticed that the majority traces towards Science and Technology domain ((59.01%) than the rest of the faculties/subjects. Again, 65.57% of respondents applied customer need and behavior strategy, followed by other strategies like an experiment, practice, trial and error, uniqueness, feedback, marketing, discussion or interview, assumption/confirmation of hypotheses, update, and data diplomacy etc. for their startup plans. Further, 91.80% of respondents opined that after implementing a novel, idea, project, and software it makes an impact on their information-seeking behavior. Again, 70.49% of users opined that finance is a major problem in implementing an innovative idea/project as a part of startup data preliminaries.

Introduction

With the changing scenario, society needs new knowledge, new product, and new services in a reduced time for their stakeholders. If the service is more innovative and advanced then the users/customers are quite satisfied and they take more benefits of such services. Since the library and information center fall under service center, an effective, need-based and up-to-date timely services should be of prime concern. The organization, associations, and corporation were providing the information relevant for inventions or products because many organizations provide funds for completing their innovative products for new creations or new products to strengthen their new activities/products.

The libraries are involved to support in completing new projects/task termed as “startup data” by exploring the requisite data/information/knowledge to a specific organization and its product. Thus, libraries are exploring their product and services in terms of e-resources as well as print reading materials to assist in creating new inventions/ products of particular organization/institution.

Information about the startup

In Today's 21st century development is the main thrust for the economy on all levels and in all sorts of associations, whether it's scholastics, corporate, and enterprises. The startup is one such concept. The purpose is to develop new, usually innovative products or services under uncertain conditions.

“Startup India is a flagship initiative of the government of India, intended to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India.”¹

Startup India project was launched on 16th January 2016 and involves the participation of 67 government bodies and its departments scattered in different states. In Maharashtra state, 7 such government departments are involved under this startup project.

From the review, it is noticed that, India is one of the fastest-growing startup countries in the world. Currently, more than 75000 startups have registered in India since 2015. Nowadays, per day 80 startups are registered in India, and 7,50,000 new jobs are created through startups. Domain wise out of the total startups, 12% startups are based on information technology, 7% related to education, 9% related to health, and only 5% on the agriculture sector. The major sectors covered under startup in India are animal husbandry, construction, fintech, food processing, travel, drinking water, industry 4.0, security, media entertainment, enterprise technology, space, transportation, and the environment.

Support of Library in Startup initiatives -

With the changing demand of users for new and advanced information library through its varied resources, services and facilities reaches at the desktop of the users. As through startups, the young generations/ students are very keen to work in new fields authentic, reliable and timely information is of great concern for them. Libraries can provide all kinds of information, from basic (retrospective) to current information related to the chosen discipline/subject. A library can start a separate 'startup information section' as a best practice or innovative service of libraries along with their traditional sections. This section can be available 24*7 to all the stakeholders of the institution and can direct its services to the needy customers/professionals through both offline and online mode. The services include TOC (Table of Content), DDS (Document Delivery Service), CAS, SDI, Alert, Reference/ Referral service, etc. to provide nascent information to the younger's who wish to involve in startup innovative movement.

2. Objective of this study

The main objectives of the present survey are:

- i. To know the startup awareness and the ICT facilities available at their workplace.
- ii. To study the usability of information sources for startup projects as a data preliminaries.
- iii. To know the strategy applied in undertaking innovative ideas/projects as a part of startup initiatives.
- iv. To find out the problems while implementing the startup project.

3. Research Methodology

For the present study survey method is used as a research methodology and the questionnaire as a data collection tool.

4. Scope of the study

For the present study researchers selected 70 entrepreneurs in different types of entrepreneurship in western Maharashtra. A total of 61 entrepreneurs have given responses those 61 responses are taken as a 100% response and drawn the findings.

5. Result and discussion

Part I: General information

Table. 1: General information

	Categorical Variables	Y
Gender	Male	42 (68.85)
	Female	19 (31.15)
Age	Between 20-30	37 (60.65)
	Between 30-40	16 (26.23)
	Between 40-50	3 (4.93)
	Above 50	5 (8.19)
Designation/Position	Students	26 (42.62)
	Teachers	8 (13.12)
	Directors	7 (11.48)
	Founders	10 (16.39)
	General	10 (16.39)

Note: Y= Respondents; Figures in parenthesis indicate percentage

General information of startup data preliminaries is represented in table no.1. It is observed that 68.85% were male and 31.15% were female. Age-wise data reveals that 60.65% were between 20-30 ages, 26.23% were between 30-40 ages, 8.19% were above 50 age, and 4.93% were between 40-50 age group. It means more of the respondents were between the 20-30 age group. Designation data shows that; 42.62% were students, 16.39% were founders/ general category, 13.12% were teachers and 11.48% were directors. It shows that most of the students are involved in startup new creations.

Part II: Awareness on Startup:**Table 2: Awareness of Startup**

	Awareness Parameters	Y
Year	Last 1 Year	20 (32.78)
	Last 2 Year	8 (19.67)
	Last 3 Year	14 (22.95)
	Last 4 Year	3 (4.91)
	Last 5 Year	6 (9.83)
	Last 6Year	4 (6.55)
Idea behind the startup project	Own mind/Idea	39 (63.93)
	Friends/Colleagues	4 (6.55)
	Teachers/Guide	17 (27.86)
	Professionals/Experts	6 (9.83)
Working area/sector of startup work	Science and Technology	36 (59.01)
	Commerce and Management	2 (3.27)
	Humanities	5 (8.19)
	Inter Disciplinary faculties	4 (6.55)

Note: Y= Respondents; Figures in parenthesis indicates percentage

Table 2 indicates awareness and working on startup projects. It is observed that the majority of the respondents are aware of and working on startup projects since the last 1 year (32.78%), followed by the last 3 years (22.95%), last 2 years (19.67%), last 5 years (9.83%), last 6 years (6.55%), and 4 years (4.91%). In their source of ideas behind undertaking startup projects, it is observed that most of the respondents took ideas behind startup projects in their minds/thoughts (63.93%) for creating innovative startup projects, followed by guidelines from the teachers or guides (27.86%), professionals or experts (9.83%), and friends or colleagues (6.55%). The working area/ sector for startup work mostly implies that most of the respondents were interested in science and technology discipline (59.01%) followed by humanities (8.19%), inter-disciplinary faculties (6.55%), and commerce and management (3.27%).

Part III: Startup Support

❖ Further majority of respondents (57.37%) took help from the incubation center to design, modify and finalize their projects.

Table 3: Sources of Support

Sr. No.	Sources of Support	No. of response	Percentage
1	Government Agency/Offices	7	11.47%
2	Academic Institutions- University, Colleges etc.	19	31.14%
3	Research Organizations	2	3.27%
4	Individual level	7	11.47%

From Table 3 it is clear that, 31.14% of respondents took help from academic institutions like universities, and colleges, followed by both the government agency/ offices and at an individual level (11.47%). A very meager quantum of respondents assists through research organizations (3.27%).

❖ Again, it is observed that 34.42% were taking support of government schemes such as the India aspiration fund or Atal innovation mission or Mudra loan, and other schemes of that particular project.

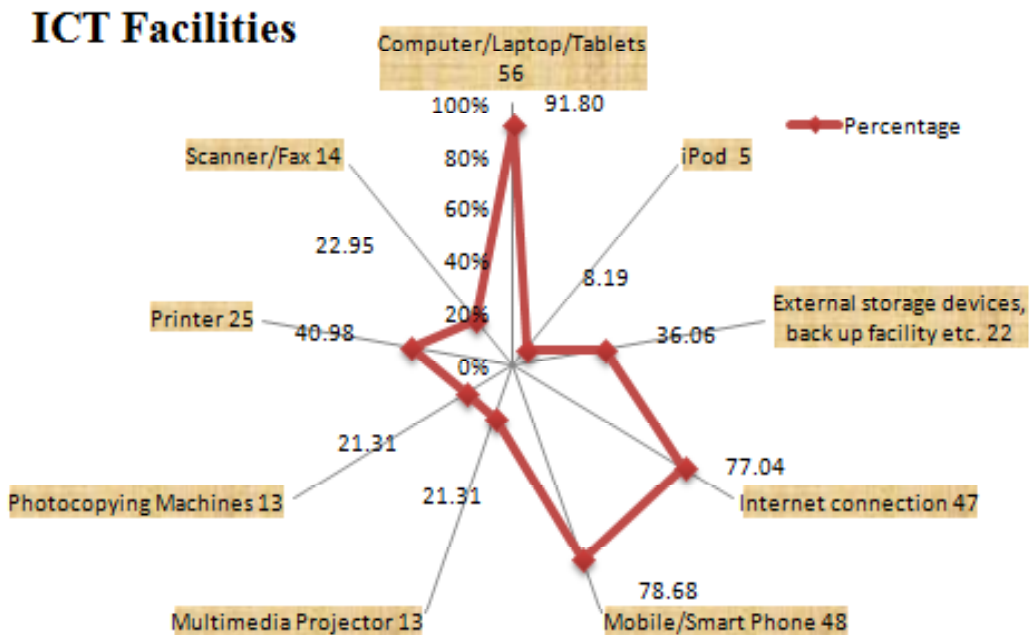


Figure 1: (table no. 4)- ICT Facilities

Table 4: ICT Facilities

Sr. No.	ICT facilities	No. of response	Percentage	Rank
1	Computer/Laptop/Tablets	56	91.80%	1
2	iPod	5	8.19%	8
3	External storage devices, backup facility, etc.	22	36.06%	5
4	Internet connection	47	77.04%	3
5	Mobile/Smart Phone	48	78.68%	2
6	Multimedia Projector	13	21.31%	7
7	Photocopying Machines	13	21.31%	7
8	Printer	25	40.98%	4
9	Scanner/Fax	14	22.95%	6

Regarding the use of ICT facilities from the radar Graph 1/Table 4, it is observed that most of the respondents use computers/laptops/tablets (91.80%) for their startup project, followed by other tools like mobile or smartphone (78.68%), Internet connection (77.04%), printer facility (40.98%), External storage device/ back up facility (36.06%), Scanner/ fax facility (22.95%), Multimedia projector and photocopying machines facility at their workplace (21.31%), and iPod facility by (8.19%).

Part IV: Use of Information Resources

Table 5: Use of Information Resources

Type of information resources	1 Not used	2 Rarely used	3 Occasionally used	4 Frequently used	5 Most frequently used	Non Respondents	Total	Mean
Print sources	13 (21.31%)	4 (6.55%)	18 (29.50%)	13 (21.31%)	12 (19.67%)	1	61	3.08
Electronic resources	12 (19.67%)	8 (13.11%)	10 (16.39%)	13 (21.31%)	17 (27.86%)	1	61	3.21
Case Studies	17 (27.86%)	16 (26.22%)	11 (18.03%)	7 (11.47%)	9 (14.75%)	1	61	2.55
Consortia	40 (65.57%)	14 (22.95%)	4 (6.55%)	1 (1.63%)	1 (1.63%)	1	61	1.47
Web 2.0/3.0 tools	31 (50.81%)	11 (18.03%)	7 (11.47%)	8 (13.11%)	3 (13.11%)	1	61	2
Online Open Access Learning tools/resources	7 (11.47%)	15 (24.59%)	14 (22.95%)	13 (21.31%)	11 (18.03%)	1	61	3.06

ENVISIONING DIGITAL TRANSFORMATION IN LIBRARIES FOR NEXTGEN ACADEMIC LANDSCAPE

Patent	20 (32.78%)	20 (32.78%)	12 (19.67%)	6 (9.83%)	2 (3.27%)	1	61	2.1
Discussion forums/ Groups	14 (22.95%)	15 (24.59%)	7 (11.47%)	12 (19.67%)	12 (19.67%)	1	61	2.85
General/Scholarly and Subject Specific Search Engines	16 (26.22%)	18 (29.50%)	13 (21.31%)	5 (8.19%)	8 (13.11%)	1	61	2.49
Subject Gateways and portals	26 (42.62%)	16 (26.22%)	10 (16.39%)	2 (3.27%)	6 (9.83%)	1	61	2.08
Subject bookmarking sites	27 (44.26%)	12 (19.67%)	10 (16.39%)	5 (8.19%)	6 (9.83%)	1	61	2.16
Search Engines	8 (13.11%)	5 (8.19%)	16 (26.22%)	15 (24.59%)	16 (26.22%)	1	61	3.39

Table 5 represents the use of various types of information resources as a backend towards undertaking startup innovation. It is noticed that, search engines are the most frequently resource preferred by 26.22% of users with the mean value of 3.39 followed by the rest of information resources like e-resources frequently used by 27.86% of users with the mean score 3.21, print sources occasionally used by 29.50% of users with the mean value 3.08, online open access learning tools/resources 24.59% rarely used this source with the mean value of 3.06, discussion/forums/groups is rarely used by 24.59% with the mean values 2.85, case studies not used by 27.86% users, general/ scholarly and subject-specific search engines is rarely used by 29.50% with the mean value 2.49, subject bookmarking is not used 44.26% of respondents, subject gateways/portals is not used 42.62% users, the patent is rarely used by 32.78% users with the mean value 2.1, Web 2.0/3.0 tools rarely used by 18.03% and consortia is not used by 65.57% of users.

❖ Further, the time required to accomplish the startup plan, it is observed that, 39.34% of respondents take one year time to accomplish the startup plan, followed by the sixth month (31.14%), two years (14.75%), up to 3 years (9.83%), and more than 3 years by 3.27% of respondents

Table 6: Strategy applied

Sr. no.	Strategies	No. of response	Percentage	Rank
1	Assumption & Confirmation of Hypotheses	13	21.31%	8
2	Customer need/behavior	40	65.57%	1
3	Data diplomacy	8	13.11%	10
4	Discussion/Interview	15	24.59%	7
5	Experiment	36	59.01%	2
6	Feedback	25	40.98%	5

7	Marketing	21	34.42%	6
8	Practice, Trial and error	34	55.73%	3
9	Update	10	16.39%	9
10	Uniqueness	29	47.54%	4

The data pertaining to the strategy applied for the task is represented in above table 6. It shows that 65.57% of respondents applied customer need and behavior strategy, followed by experiment 59.01%, practice, trial, and error 55.73%, uniqueness 47.54%, feedback 40.98%, marketing 34.42%, discussion or interview 24.59%, assumption and confirmation of hypotheses 21.31%, update 16.39%, and data diplomacy by 13.11%.

Part V: Impact

- ❖ 91.80% of respondents opined that after implementing a novel, idea, project, and software it makes an impact on their information-seeking behavior.
- ❖ The probable benefits of the innovative activity reflect in: undertaking entrepreneurship (60.55%), Government subsidy by 36.06%, and fund generation by 19.67% of the users.

Part VI: Difficulties encountered:

Table 7: Difficulties noticed

Sr. no.	Difficulties	No. of response
1	Disapproval of higher authority	5
2	Finance	43
3	Government rules/ Work culture	13
4	Inadequate and skilled personnel	13
5	Lack of knowledge	15
6	Lack of proper ICT infrastructure	12
7	Lack of time	18
8	Security Concerns	4

Table 7 shows that the majority of respondents (70.49%) face finance as a major problem in implementing an innovative project followed by other difficulties/problems such as lack of time (29.50%), lack of knowledge about innovative projects (24.59%), government rules and work culture (21.31%) and the equal quantum in getting inadequate and skilled personnel, disapproval by higher authority problem (8.19%) and, 6.5% of respondents face security concerns problems.

6. Suggestion

For startups, inventors require proper knowledge about funding, market strategy/studies, and new ideas which gets either from e-resources or print sources of information. The lack of information regarding government schemes is the barrier in seamless exhibition of startup plans or projects. Sufficient funding and ICT infrastructure, technical skills/abilities, and the innovative ideas are the essential prerequisites for the innovative startup ideas and its implementations.

7. Conclusion

The younger generation especially the students (UG/PG/Research) should actively have participated in startup inventions that make an impact in the creation of new jobs useful for the society. As a budding scientist, the source and idea behind the startup project are in their mind and it should come for immediate action with proper guidance. Most of the Science and technology fields are working on startup projects, and taking the help of academic institutions like universities, and colleges for their design, modification, and finalizing projects. Awareness programs on Government schemes for a startup like 'India aspiration fund' or 'Atal innovation mission' or 'Mudra loan' etc. should be organized. The librarians make a role of information providers for startup projects by making one section in libraries as a 'startup section', that provides any information about new inventions/ideas for future users.

References

1. Startup India <https://www.startupindia.gov.in/content/sih/en/about-startup-india-initiative.html> (Accessed on 03/08/2022)
2. Ahmad, K., JianMing, Z., & Rafi, M. (2020). Librarian's perspective for the implementation of big data analytics in libraries on the bases of lean-startup model. *Digital Library Perspectives*, 36(1), 21-37.
3. Bieraugel, M. (2015). Managing library innovation using the lean startup method. *Library Management*, 36(4/5), 351-361.
4. Pun, R. (2015). The embedded librarian as an entrepreneur in a startup university. *Reference Services Review*, 43(3), 439-449.
5. Restivo, L. (2014). Why startups need libraries (and librarians). *The Serials Librarian*, 67(1), 31-37.
6. Spender, J. C., Corvello, V., Grimaldi, M., & Rippa, P. (2017). Startups and open innovation: a review of the literature. *European Journal of Innovation Management*. 20(1), 4-30.
7. Startup India <https://www.startupindia.gov.in/> (Accessed on 03/08/2022)
8. Startup India https://www.startupindia.gov.in/content/sih/en/about_startup_portal.html (Accessed on 03/08/2022)

9. Wikipedia https://en.wikipedia.org/wiki/Startup_India (Accessed on 03/08/2022)
10. Sakal newspaper https://epaper.esakal.com/FlashClient/Client_Panel.aspx#currPage=13 (Accessed on 17/08/2022)
11. Jantz, R. C. (2012). Innovation in academic libraries: An analysis of university librarians' perspectives. *Library & Information Science Research*, 34(1), 3-12
12. Toane, C., & Figueiredo, R. (2018). Toward core competencies for entrepreneurship librarians. *Journal of Business & Finance Librarianship*, 23(1), 35-62.

Keywords: Information Services; Entrepreneurs; Innovation; Startup; Startup Data

About Authors

Mrs. Rupali Sham Bhosale

Research Scholar
Department of Library and Information Science
Shivaji University, Kolhapur, Maharashtra

Dr. Prakash B. Bilawar

Deputy Librarian
B. B. K. Knowledge Resource Center (Library)
Shivaji University, Kolhapur, Maharashtra

Mr. Sangram Ashok Killedar

Research Scholar
Department of Library and Information Science
Shivaji University, Kolhapur, Maharashtra

Mrs. Sujata Ashish Hande

Research Scholar
Department of Library and Information Science
Shivaji University, Kolhapur, Maharashtra