

Can Infopreneurship be an Employment Option for Library and Information Science Students?

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Abstract

The study aimed to determine if infopreneurship can be an employment option for Library and Information Science (LIS) students and graduates in KwaZulu-Natal (KZN), South Africa. Specifically, it investigated LIS graduates involved in infopreneurship, the requisite competencies, areas of infopreneurship, and challenges. Guiding the research was the interpretive paradigm. Employing a qualitative methodology, the study used the case-study design. Data were collected through triangulation of interviews, content analysis and observations. Non-probability sampling methods were used, i.e., purposive sampling and snowball sampling. A total number of 60 infopreneurs from KZN were interviewed. The results of the study revealed that infopreneurship is practised in South Africa, though a minimal number of graduates from LIS practise it. Furthermore, infopreneurship is constantly developing, as are the infopreneurship activities that infopreneurs can perform. Notwithstanding its challenges, the majority of the infopreneurs identified have been practising it for over five years. These results suggest that infopreneurship can be an option for employment for LIS students and graduates. Ultimately, there is a need for a curriculum review and development to best prepare students to be infopreneurs. Furthermore, there is a need to include infopreneurship policies for the fight against unemployment among graduates.

Keywords: entrepreneurship; entrepreneur; infopreneurship; infopreneur; information broker; information consultant; KwaZulu-Natal; South Africa

Introduction

In this paper, we argue that infopreneurship could provide an alternative job market for Library and Information Science (LIS) students and graduates in the KwaZulu-Natal (KZN) Province, South Africa. Unfortunately, the infopreneurship job market and employment potential for LIS graduates in the country are not widely known. With an estimated population of over 58.8 million people (Statistics South Africa [Stats SA] July 29, 2019), South Africa is one of the largest economies in Africa (World Bank 2021). Its ICT sector is ranked 92nd globally and 3rd in Africa (International Telecommunications Union [ITU] 2017). With 26 universities and an annual graduate output that increased to 210 931 in 2017 (Department of Higher Education and Training [DHET] South Africa 2019, 9), South Africa is yet to find a solution to its growing graduate unemployment rate (Stats SA 2016, xiv). In the 1st quarter of 2020, 2.3% (163 300) of the 7.1 million unemployed persons in South Africa were university graduates (Stats SA 2020a, 7). In light of the economic instabilities facing the country (Organisation for Economic Cooperation and Development [OECD] 2020, 4), the then Minister of Small Businesses, Lindiwe Zulu, indicated that entrepreneurship holds the key to radical economic transformation and a sustainable economy (SA News November 11, 2015). According to SA News (November 11, 2015), South Africa is ranked 58th globally and 3rd in Africa, with Tunisia 41st globally and 1st in Africa, followed by Botswana (53rd globally and 2nd in Africa) (Global Entrepreneurship Development Institute 2018).

The information sector, which is a key sector in the tertiary/service and quaternary sectors (Ivwurie and Ocholla 2016, 327), is credited with contributing 1.3% growth to the GDP (Stats SA 2020b, 4). It is one of the leading sectors in the country's annual real GDP growth at 0.8% (Stats SA 2019, 8). Bilbao-Osorio, Dutta, and Lanvin (2014, 223) posit that the ICT industry is an enabler of other industries in South Africa. Britz, as quoted in Ivwurie and Ocholla (2016, 327), indicates that the information sector is the fastest-growing sector in the economy. Also, the findings of a study by Ivwurie and Ocholla (2016) show that infopreneurship is practised in South Africa. Ramugondo (2021), having analysed works of various scholars¹ on infopreneurship, indicates that infopreneurship is, in essence, entrepreneurship, and its business is the production, sale and provision of information goods and services for a fee. According to Ivwurie and Ocholla (2016, 327), examples of infopreneurship include book and desktop publishing services; printing, photocopying, typing and scanning services; internet café services; internet service provider services; document storage warehouses; computer learning centres; and computer repair and troubleshooting services. These are some of the activities performed by infopreneurs, who are among those generally known as entrepreneurs and/or small business owners. However, due to minimal research on the subject (Ivwurie and Ocholla 2016, 328; Ocholla 1999, 107), the popularisation of the

1 See Amin et al. 2011; Chandler 2007; Coulson-Thomas 2001; David and Dube 2013; Du Toit 2000; Ivwurie and Ocholla 2016; Kesavan 1998; Lahm and Stowe 2010; Oduwale and Onatola 2008.

concept of infopreneurship is still a major challenge. Nonetheless, there are enough factors to support infopreneurship as an employment option for LIS students and graduates in South Africa. Studies by Amin et al. (2011), Ivwurie and Ocholla (2016), Dewah and Mutula (2016) show that infopreneurship is practised in other parts of the world, though widely known as entrepreneurship, and even students see this potential as well (Dewah and Mutula 2016; Du Toit 2000; Ivwurie and Ocholla 2016). Reasons for infopreneurship are:

- Increased graduate unemployment rate and job insecurity for those employed (OECD 2017 2; Stats SA 2019, 1–2).
- The resourcefulness of ICTs (Bilbao-Osorio et al. 2014, xiii, 223; Gillwald, Mothobi, and Rademan 2018, 6; Stats SA 2019, 8).
- The transition of South Africa to a knowledge-based economy (Department of Science and Technology n.d., 3).

A detailed literature review for this paper is provided by Ramugondo (2021).²

Problem and Purpose of the Study

Ideally, all tertiary institution graduates should be able to earn a living with the knowledge they have acquired from higher education institutions (HEIs). At the moment, a South African graduate's main focus is attaining formal employment in either private or public entities (Professional Provident Society May 12, 2016). However, both these employment tracks cannot cope with formal employment demands. Increasingly, graduates who fail to secure formal employment seek alternative employment, basically any job that enables them to support themselves and their families (Moriri May 18, 2016). Unemployment is one of the main challenges faced by South Africa; the inability to absorb graduates into the labour force has been noted (OECD 2017, 1; Stats SA 2016, xiv). Thus, vast programmes have been introduced by the government, such as those targeting small, medium and micro enterprises (SMMEs); the Expanded Public Works Programme (EPWP); the New Growth Path (NGP); and the South African Decent Work Country Programme (SADWCP) (South African Government 2017). The Department of Small Businesses believes that entrepreneurship is the key to economic growth (SA News November 11, 2015) and development. Ultimately, failure to recognise or acknowledge infopreneurship as an alternative source of employment would be a considerable oversight. Besides the studies by Ivwurie (2015), and Ivwurie and Ocholla (2016), infopreneurship is not given sufficient attention in the country, despite its importance. There seems to be a gap in the knowledge and awareness of the infopreneurship sector in South Africa and its potential for alternative job creation. The main research question in this study is: Can infopreneurship be an employment option for LIS students and graduates in South

2 See <https://digitalcommons.unl.edu/libphilprac/5948/>.

Africa? The study that directed this article aimed to determine if infopreneurship can be an employment option for LIS students and graduates in South Africa.

Research Methodology

Anchored on the interpretivist paradigm, this study employed a qualitative approach. Because of this, the study opted for a qualitative case study. The rationale for this design was that case studies are relatively easy to administer, can be developed in less time, and are cost-effective. The target population of the study comprised infopreneurs in the KwaZulu-Natal Province of South Africa. Participants in the study were sampled through purposive sampling, coupled with snowball sampling and quota sampling. Snowball sampling was also utilised to access research participants that were not readily known to us. The final sampling method was quota sampling, which enabled us to distribute the participants evenly into the five predetermined categories of infopreneurship, i.e.: records and archive management; journalism and media studies; library and information science; information and communication technologies; computer science; and publishing studies. Sixty participants, 12 from each of the categories highlighted above, were interviewed using semi-structured interviews. Interview questions were open-ended for better insight into the study. Additionally, the study also collected data through the use of content analysis from the interviewed infopreneurs' company brochures, webpages, YouTube channels, blogs, and Facebook pages to capture more areas of infopreneurship that infopreneurs might have left out during the interview. Also, a literature review was utilised to gather data regarding the areas of infopreneurship.³ Furthermore, self-observations were done to validate the areas of infopreneurship the infopreneurs indicated that they provided and also to add those areas that might have been missed during the interview. A total of 60 interviews were conducted in various regions within the KZN province. Of these 60 participants, 65% were males, and 35% were females; the majority of them had a bachelor's degree (53.3%); and finally, the majority of them had been infopreneurs for a period of 6–10 years. Data were analysed using a qualitative narrative analysis method.

Discussion of Findings

The main question of the study was: Can infopreneurship be an alternative job option for LIS students and graduates? To find out whether or not this is possible, the study responded to the following four research questions:

- Are there LIS students and graduates involved in infopreneurship?
- What are the requisite competences of the infopreneur?

3 See Ramugondo (2021, <https://digitalcommons.unl.edu/libphilprac/5948/>) for a detailed literature review regarding the areas of infopreneurship and on the research questions that structured the research.

- What are the areas of infopreneurship?
- What are the challenges facing infopreneurs?

Are there LIS Students and Graduates Involved in Infopreneurship?

The conceptual framework underpinning this study views infopreneurs as individuals who are constantly seeking opportunities and change (Kirzner 1997, 72); individuals (information specialists) who market their information products and services for profit (Ivwurie and Ocholla 2016, 324); individuals who run a business providing information consultancy services (David and Dube 2013, 262–263); individuals who (through the integration of old ways of information entrepreneurship and new ways inspired by technological advances) sell information products and services (Lahm and Stowe 2010, 54); individuals who create opportunities (information products and services) in the information sector and sell them for profit (Chandler 2007, 1, 51); individuals in the business of information marketing, information selling, and information brokering (Kesavan 1998, 2); individuals whose business is the acquisition, development and sharing of information and knowledge for a fee (Coulson-Thomas 2001, 231); and individuals who gradually refine data into information and knowledge for relevant users, for a fee (Amin et al. 2011, 6).

The description above portrays infopreneurship as a business rooted and centred in the information sector. It is against this background that—even though it is interdisciplinary and anyone can be an infopreneur—those whose programmes in institutions of higher learning focus on understanding the nature and properties of the information sector stand at a vantage point to exploit the benefits of infopreneurship more than others. LIS students from the University of Zululand, KZN, are among those privileged students in this regard. According to the Department of Information Studies (DIS) website (<http://www.lis.uzulu.ac.za/index.php/about-us>), graduates from this DIS are expected to possess, among other things, appropriate knowledge and skills in general, knowledge of record keeping and infopreneurial management. Seeing that they are equipped to be infopreneurs, the study investigated whether or not there are students and graduates from LIS involved in infopreneurship.

Using purposive and snowball sampling, infopreneurs in KZN were identified and interviewed through face-to-face interviews. Of those interviewed, only 2% of the 60 were from LIS. The reluctance of LIS students and graduates to participate in infopreneurship has been noted by other infopreneurship studies. With the exception of a study conducted in Botswana, where a total of 16 students, who comprised the total population of the study, indicated that they were all interested in engaging in infopreneurship (Dewah and Mutula 2016, 7), in studies by Du Toit (2000); David and Dube (2013); and Ivwurie and Ocholla (2016), pessimism towards infopreneurship by LIS students and graduates was noted when compared to students from other fields of study, particularly computer science. The study by Du Toit tested the students' attitude towards infopreneurship from the Department of Computer Science and from the Department of Information Science at the Rand Afrikaans University (University of

Johannesburg), South Africa (Du Toit 2000, 87). The results showed that computer science students were more interested in being infopreneurs than information science students (Du Toit 2000, 87). In Zimbabwe, even though a change of attitude towards infopreneurship has been noted among students in the fields of LIS, RAM, journalism and media studies, and publishing studies (David and Dube 2013, 266–267), this steady growth has been marred by the lacking entrepreneurial mindset of students (Khumalo and Nkala 2015, 70). Ivwurie and Ocholla (2016, 332) point out that in South Africa and Nigeria, computer science and information technology students and graduates are more involved in infopreneurship businesses than LIS students and graduates. It is worth noting that even though South Africa, as a country, has undergone a variety of changes since the year 2000 when Du Toit conducted her study, up to 2016 when Ivwurie and Ocholla conducted theirs, the infopreneurship attitude of LIS students and graduates in South Africa is still the same, regardless of time.

Furthermore, in this current study, just as was found in 2000 and 2016, out of the 20 programmes that the infopreneurs in KZN who indicated that they studied at tertiary institutions, the majority of infopreneurs were from the fields of computer science (11.1%) and marketing (11.1%), while 2.2% was from LIS. When asked if they had a choice for a permanent job or being an infopreneur, 5% of the respondents indicated that they would prefer to be full-time employees. Their reasons for this are their continued concerns regarding financial security, stress over meeting goals and paying rent, and the uncertainty of not being able to make a sale or profit. It can be posited that the reason why infopreneurship intention is low when it comes to LIS students and graduates, could be the fear of encountering some of the challenges mentioned above, hence the difficulty in identifying infopreneurs from the LIS field.

Lastly, the obscured image of infopreneurship makes it hard to track these types of enterprises down. Highlighted as one of the challenges of infopreneurship, the image of infopreneurship is obscured and overshadowed by entrepreneurship and SMMEs. According to Ocholla (1998, 93), there is a need to “embark on a meaningful search for the identity of infopreneurship in order to secure future survival.” A review of literature on infopreneurship has revealed that the concept of infopreneurship lacks an explicit and functional theoretical and conceptual framework. Challenges mentioned are, for example, the inability to map out and audit the concept in the country (Ivwurie and Ocholla 2016, 338–339); the lack of a general acceptable name and definition to describe the infopreneurial phenomena (Fisher and Kunaratnam 2007, 13); the obscure image of infopreneurs and lack of awareness of the concept by the general populace, and even those involved in it (Ivwurie and Ocholla 2016, 338; Ocholla 1998, 85; Onaade 2012, 17).

Table 1 below shows that the majority of the infopreneurs interviewed (95%) were not familiar with the concept of infopreneurship.

Table 1: Awareness of infopreneurship

Knowledge of infopreneurship	Frequency (N60)	Percentage (100%)
Yes	3	5
No	57	95
Entrepreneur or infopreneur	Frequency (N60)	Percentage (100%)
Entrepreneur	28	46.7
Infopreneur	13	21.7
Either of the two	19	31.7

What are the Requisite Competences of the Infopreneur?

The competences of an infopreneur define infopreneurship. The competences required for infopreneurship offer a holistic view of who is an infopreneur and how aspirants' characteristics should be developed and enhanced (Man, Lau, and Snipe 2008, 258; Mojab, Zaefarian, and Azizi 2011, 438). To this end, one can only be considered an infopreneur when he or she possesses some of the competences identified below. Owing to the minimal success rate of SMMEs in South Africa (Fatoki 2014, 926; Leboea 2017, 3; Musandiwa 2014, 13; Naude and Chiweshe 2017, 3; SBP 2014, 2), it was determined that the role and competences of owners of SMMEs (infopreneurs) are intrinsic to the survival and success of their infopreneurial enterprises (Bendary and Minyaw 2015, 23). They are the embodiment of individual elements that allow the infopreneur to succeed in business (Sarwoko, Surachman, and Hadiwidjojo 2013, 32).

Competences of infopreneurship were classified into two groups. The study on infopreneurship by Ivwurie and Ocholla (2016, 332) calls these two classes "specialised skills" and "specialised business skills." David and Dube (2013, 262) refer to them as "business skills" and "technical skills." The term "specialised skills" refers to the set of skills that are related to the products and services the infopreneur is offering, and the term "specialised business skills" refers to the set of skills regarding the management of the business (Ivwurie and Ocholla 2016, 332). Thus, merging David and Dube's and Ivwurie and Ocholla's description, the categories were called "specialised business skills" and "specialised technical skills."

Specialised Business Skills

Ivwurie and Ocholla (2016, 332) consider these types of skills "prerequisite for working as an infopreneur." Coulson-Thomas (2001, 233) posits that these skills are likely to make an infopreneur more successful. The study by Dewah and Mutula (2016, 6) noted the significance of specialised business skills, as their respondents indicated that there is a need for financial management, marketing management, and personnel management courses to be added to their coursework. In a study conducted by David and Dube (2013, 266), some students indicated that it is the "business skills that could enable them to start small information selling/marketing enterprises." Hence, when infopreneurs were asked about the competences required for an infopreneur, all the infopreneurs pointed

out specialised business skills as a requirement for one to stand a better chance of succeeding. The requisite specialised business skills highlighted by the infopreneurs interviewed included: human resource management skills; communication skills; project management skills; leadership skills; division of labour skills; time management skills; planning skills; financial management skills; networking skills; negotiation skills; customer service skills; sales skills; marketing skills; procurement skills; pricing skills; training and team development skills; advertising skills; fore-casting and back-casting skills; interpersonal skills; conflict management skills; business plan writing skills; motivational and strong mentoring abilities; an ability to adapt to a new environment; and the willingness to learn.

Specialised Technical Skills

Referred to as conceptual skills, specialised technical skills are best described as competences that relate to different conceptual abilities (Man et al. 2008, 132). Just like specialised business skills, these skills are necessary to translate infopreneurs' initiatives into a real business (David and Dube 2013, 268). To Ivwurie and Ocholla (2016, 332), they are fundamental to infopreneurship and afford those applying them greater chances of success. From the description above and the results from the interviews, it was established that the specialised technical skills of an infopreneur are linked to the areas of infopreneurship. To be specific, if an infopreneur's area of infopreneurship is web development, that can be translated as "he/she has web development skills" or has "human resource management skills" to scout for someone with web development skills. For IT-related infopreneurs, technological skills that stood out as the most important were, for example: photocopying skills; laminating skills; photo-editing skills; video editing skills; photography skills; videography skills; programming skills; the ability to use the Internet; skills in setting up a network; database skills; graphic design skills; data capturing skills; design skills (logos, signs, brochures, invitation cards, business cards, posters, banners, and menus); website design and development skills; multimedia skills; broadcasting skills; computer literacy; computer/phone repair and troubleshooting skills. More than 150 areas of infopreneurship were identified—thus, more than 150 skills (see table 2 below). Furthermore, as can be seen in the example provided, the skill's name is identical to the area of infopreneurship.

Management and Development of Skills

Regarding the management and development of infopreneurship skills, scholars always cite infopreneurship education. Coulson-Thomas (2001, 234) states: "Educators, trainers, and developers should establish what needs to be done in terms of course provision, competency assessment and learning support to produce more information entrepreneurs." A study by David and Dube (2013, 268) concluded that due to the lack of business and technical skills, which were noted in their study, there is a need to review the infopreneurship course content to include content on business skills and technical skills to improve the infopreneurial and business acumen of graduating students. Khumalo and Nkala (2015, 72) indicate a need to change the approach when teaching

infopreneurs and adopt a practical as opposed to a theory-based approach. To improve competitiveness and competence, El Kalash, Mohammed, and Aniki (2016, 247) note the need for the curriculum content and methods of training in our institutions that offer information-related courses to be reviewed. According to Du Toit (2000, 90), it is studying infopreneurship courses, among other things, that will enable students to have a fuller understanding of the entrepreneurial phenomenon and become more competent stakeholders, whether as employees or infopreneurs. A study by Ivwurie and Ocholla (2016, 332) has established that, notwithstanding the fact that skills to be an infopreneur can be attained through other means, infopreneurs who attain their skills through formal education have a greater chance of success.

Given this background, the study wanted to understand methods used by infopreneurs to develop and manage their skills. It was established that there are numerous ways of developing and managing one's skills as an infopreneur and that infopreneurs do not rely on one single method. Apart from formal education, the majority of infopreneurs in this study indicated that they develop and manage their skills through: online searches; attending government business skills development programmes; attending workshops, conferences and seminars; market research; listening to clients through surveys and suggestion boxes; reading business articles, publications and books; attending exhibitions and trade shows; and attending specialised skills training schools.

What are the Areas of Infopreneurship?

The review of literature describes areas of infopreneurship as activities infopreneurs are involved in to make a profit (Ocholla 1999, 107). Simply put, they are the goods and services provided by individuals with the ability to creatively and innovatively create new products and services or the ability to recognise opportunities that may or may not have been there or are as yet undiscovered by the general populace.⁴ Using the literature review, interviews and content analysis, these products and services provided by infopreneurs were identified and validated through the use of observation. A total of 152 items of information goods and services were identified and categorised into five categories: 1) records and archive management areas of infopreneurship; 2) information and communication technologies and computer science areas of infopreneurship; 3) publishing areas of infopreneurship; 4) library and information science areas of infopreneurship; 5) journalism and media areas of infopreneurship. Almost all the courses in infopreneurship cover the subject of infopreneurship. However, of all these studies on infopreneurship reviewed in this study, only two actually had infopreneurs as their main target population (just like the present study), namely the studies by Ocholla (1998) and Ivwurie and Ocholla (2016). Furthermore, the findings in these three studies (this one included) indicate an increased reliance on ICTs for the business to

4 The basic concept in Kirzner's entrepreneurial alertness and discovery approach is alertness (Yu 2001, 48), which is described as an attitude of receptiveness to available (but hitherto overlooked) opportunities that lead to entrepreneurial discoveries (Kirzner 1997, 72).

function. To be specific, in the case of this current study, the majority of the infopreneurship establishments had computers, photocopiers, the Internet, and telephone lines. In some cases, these infrastructures were there to support the functioning of the business, while in other cases, they were a business by themselves, generating income. Businesses involved in teaching and training, web development, graphic design, broadcasting, digital marketing, research, records management, newspaper business (just to name a few) need computers, the Internet, photocopiers and telephone lines to help in the proper functioning of the business. On the other hand, businesses that deal with photocopying, printing, scanning, laminating, phone booths, internet cafes, and electronics retail stores use computers, photocopiers, the Internet and telephone lines as income-generating infrastructures. Thus, technology makes infopreneurship possible (Buda et al. 2011, 33).

Furthermore, Oduwale and Onatola (2008, 63) believe that new areas of infopreneurship are born each time ICT evolves. As a consequence, income-generating infopreneuring activities are limitless (Boadi 2006, 74) and will continue to be unearthed (Amin et al. 2011, 14). Some of the income-generating infopreneuring activities unearthed by Ivwurie and Ocholla (2016, 333) include: forensic investigation services; tracking system services; business registration services; referral services; and the design of library buildings. Similarly, this study was also able to unearth some income-generating infopreneuring activities. Of the 152 activities captured by the study, 36% were unearthed by this study (see table 2). Various factors could have contributed to this, with one major contributing factor being the fact that all these infopreneurship studies were conducted in different geographical settings, times and technological advancements. Some of the activities unearthed in this study include: vlogging; online presence or influencer; search engine optimisation; website maintenance and support; office automation; cloud services; computer equipment and accessory supply and servicing; voice-over-internet protocol (VoIP) services; book repair and restoration; rebinding and strengthening of old books; transcribing; photo enlarging; and customised stamps.

Finally, it was noted during observations that to maximise profit, some infopreneurs not only provide infopreneurship services in their ventures, but also sell snacks to information users. This was more common in Internet cafes, telephone containers, and printing centres. In their study, Ivwurie and Ocholla (2016, 333) noted a large variety of alternative options for infopreneurship.

Table 2: Areas of infopreneurship

Area of Infopreneurship	Activity captured in RL and Interviews (45)	Activity only captured in RL (50)	Activity only captured in Interviews (57)
Records and archive management	Document scanning and backup; records classification and indexing	Designing and development of data capturing software; registry systems analysis and design; records surveying; records appraisal; automation of records management systems	Document digitisation; image delivery through various platforms; document shredding services; meta tagging
Information and communications technologies-computer science	Website design; online marketing; network cable installations; computer networking; Internet services providers; Internet café; local and international phone call services and airtime sales; software creation and sales; software updates; forensic services; virus removal; computer literacy training; information technology support services; graphic design and printing solutions; computer, compiling and typing resumes; laptop and phone imports and sales; second-hand phone trading	Security devices installation; designing Local Area Networks; CCTV installation and maintenance; tracking devices installation and maintenance; forensic investigation services; designing and implementation of customised information systems; global system for mobile communication connectivity; database design and management systems	Website and email hosting; search engine optimisation; website maintenance and support; office automation; cloud services; computer equipment and accessory supply and servicing; hardware and software installation; data recovery; voice-over-internet protocol (VoIP) services; brand creation; print layouts; wholesale and retail outlet computer training
Publishing	Proofreading; editing; printing; laminating; binding (theses and dissertations, library journals, law reports); book packaging converting, bookmarking and optimisation of documents to PDF; bookshop; book drive and donations; advertising; marketing (online and offline)	Newsagents; book publishing; magazine reports; developing academic journals; compilation and publishing of directories; translation services; document delivery services; document vocabularies; newspaper clipping services; periodical subscription agency; infographers; property networking and multi-listing; portfolio management; book and print media selling and marketing; audio and video products	Distribution; cover-page design; book repair and restoration; rebinding and strengthening of old books; transcribing; lettering; file and folder creation; pamphlet and booklet publishing

Library and information science	Research consultancy/support; data collection; data analysis; quality assurance and integration of multiple data streams for research studies, student projects and administrative needs; reading rooms; reading clubs; prepare or assist in preparation of results for reports, publications and/or presentations; market research; designing and development of specialised libraries	Library automation services; indexing and abstracting; referral services; organising files and planning of paper flow; cataloguing; compilation of bibliographic list; helping libraries write proposals; career counselling; library event management services; online and offline searching and retrieval; substitution of librarians on leave; performance of library chores; lending library; knowledge and information consultancy; maintenance of services provided through the consultancy services; novel, short story and poetry writing; compilation of workbooks	Strategic business development; project feasibility and implantation assessment; consumer market link facilitation; computing enterprise gross margin/net margin analysis; net profit assessment on an enterprise-by-enterprise basis; business analysis; business training; assessor and moderator training; office duties and operating training; professional minute-taking training; strategic business development; project feasibility and implantation assessment; assessment, moderation, and project management for training; skills audit; workplace skills; skills development facilitation; monitoring and evaluation; community outreach and development programmes; typing services; profiling; management (conflict, stress, time, diversity) training; change management and team building; HIV-AIDS training
Journalism and media	Online and offline marketing and advertising; blogging; design and printing of t-shirts, business cards, brochures, signs, restaurant menus, invitation cards; media production; photography and Photoshop studio; event photography and videography services; newspaper business	Television broadcasting; radio broadcasting; photo-booth rental services; online news; video editing services; satellite connection installation	Communication and assertiveness training; brand development; brand marketing; vlogging; photo enlarging; customised stamps; online presence or influencer; campaigns and print work

What are the Challenges Facing Infopreneurs?

The major concern about the challenges faced by infopreneurs is the impact these challenges have on the infopreneurs' business and profit. The "identity of infopreneurs" is one of the major challenges of infopreneurship. Respondents in this study said that it was considered a major challenge due to the fact that the lack of identity presented other major challenges for the sector, such as: the inability to map out and audit the concept (Ivwurie and Ocholla 2016, 338–339); the lack of a generally accepted name for and definition of infopreneurial phenomena (Fisher and Kunaratnam 2007, 13); obscure image of infopreneurs and lack of awareness of the concept by the public, and even by those who are involved in infopreneurship (Ivwurie and Ocholla 2016, 338; Ocholla 1998, 85; Onaade 2012, 17); lack of contextually supportive theories (Ivwurie and Ocholla 2016, 339); limited empirical research on infopreneurship (David and Dube 2013, 262; Ivwurie and Ocholla 2016, 328; Ocholla 1998, 83); and a lack of governmental support towards infopreneurship (Ivwurie and Ocholla 2016, 323). Nevertheless, the identity "crisis" was not even considered a challenge by infopreneurs in this study. When considering that literature does indicate that some infopreneurs do not care how they are referred to, but what matters to them is what they do (AIIP 2000, 2) (Ivwurie and Ocholla 2016, 332), the rationale behind "identity" not being a challenge can be deduced. Furthermore, when asked how they preferred to be referred to, of the 60, 46.7% indicated that they preferred to be called entrepreneurs, and 21.7% indicated that they preferred to be called infopreneurs (it is noteworthy that this was after an explanation of what an infopreneur is—see table 1). Finally, 31.7% indicated that it did not matter how they were referred to. While the identity of an infopreneur was not considered a challenge, it was deduced that the infopreneurs are already dealing with other major challenges, which overshadow the importance of identity regardless of its significance. These major challenges, as they were common to most infopreneurs, include: stiff competition; poor management skills; difficulty finding an ideal location for business, and expensive rental space; a language barrier; difficulty finding reliable employees with proper skills; load shedding; technology; financial constraints; and crime.

Stiff Competition

It has been noted that infopreneurship is urban centric. Of the 60 interviewed infopreneurs, the majority of them had their businesses located in Durban (48.3%), followed by those in Richards Bay (16.7%). While the location is good, it also creates competition as information users now have more options to choose from. Thus, apart from running their businesses, infopreneurs must devise plans to give them a competitive edge over their competitors. One respondent indicated:

The main challenges are that the language industry is very brutal and there is a lot of backstabbing. Our main clients are market researchers. Hence, as such, we end all vying for the same clients more or less. Thus, the competition is fierce and you might find yourself without any clients if you are not smart. Mostly the clients will use price as a determining factor. So, if you don't know how much your competitors are offering, it

becomes a challenge because you might end up selling yourself too high or too low. The competition rules in this industry are non-existent; thus, it is very brutal.

Similarly, Chandler (2007, 9) highlights that too many infopreneurs price their products out of the ballpark; thus, it is significant to check to see how the competitors are pricing their products. Another infopreneur indicated that he faced stiff competition from bigger companies and that he had to continuously re-align his business to target the existing gaps. Chandler (2007, 45) is of the view that it is significant for an infopreneur to understand the competition so that he or she may be aware of what he/she is up against. This will help in identifying ways to make the infopreneurs' services or products different and/or better.

Poor Management Skills

As a requisite skill for a business to thrive, the lack of this skill is detrimental. For one to be an infopreneur, one needs some of these skills (Ivwurie and Ocholla 2016, 332). Agbenyegah (2013, 199) indicates that poor management skills have a negative impact on most start-ups. In their study, David and Dube (2013, 268) noted the lack of management skills. Students taking infopreneurship as a module in the study conducted by Dewah and Mutula (2016, 6) highlighted the need for a management module to be added to their curriculum. Against this background, it is not an overstatement to highlight the lack of management skills that can lead to the demise of the business. As such, a proactive step to prevent this is by learning management skills and/or hiring someone with good management skills.

Language Barrier

Highlighted in the contextual setting is that the study's setting is in KwaZulu-Natal. With a population of approximately 10 449 300, the majority of the people speak isiZulu (80.9%), followed by English (13.6%), then isiXhosa (2.3%), followed by Afrikaans (1.5%), and finally other languages (1.7%) (Tourism KwaZulu-Natal 2021, n.p.). With the majority of people speaking isiZulu, it means that the majority of customers that infopreneurs have, also speak isiZulu. Thus, if the infopreneur cannot speak isiZulu and the customer cannot speak English, then there will be a communication challenge between the two parties. A study by Buarqoub (2019, 64) noted that language barriers are the root causes of many problems in business. A survey conducted by Forbes Insights established that not only do they cause many problems for businesses, but they also have a broad and pervasive impact on business operations (Forbes Insights 2011, 1). Due to this challenge, customers may find it difficult to get the necessary information regarding products or services (Kim and Mattila 2011). Central to the arguments presented by the studies above is the impact a language barrier has on a business. Furthermore, the gap presented by the language barrier leads to miscommunication and misinformation. Both parties feel the effects of miscommunication and misinformation, in that the customer may be unable to clearly state his or her information needs, while the infopreneur may be unable to provide the information product or service required by the client since they do not fully understand each other. Infopreneurs facing this challenge indicate that to deal with this situation, they

resort to hiring a Zulu-speaking employee, who will not only help in the business operations but also in communicating the needs of information clients. This was noted as one of the strategies adopted by most businesses (Forbes Insights 2011, 1).

Difficulty Finding Reliable Employees

Highlighted in the framework of infopreneurship, Kesavan (1998, 6) indicates that, when necessary and as required by the job, an infopreneur may recruit qualified people. For Fisher (2008, 9), the decision of having employees or not is wholly dependent on the “amount of value-added that your service provides.” Three major aspects have been noted in this study as reasons why infopreneurs might need employees. The first reason is that the business is too big for one person to handle; secondly, the infopreneur lacks certain skills, and to compensate, he/she hires someone with the skills lacking in the company; and finally, due to the language barrier, some infopreneurs are forced to hire employees to help get over this challenge. Notwithstanding, the need for an extra hand presents the challenge of finding someone with the right set of skills, who is reliable, and then how to retain that employee. When infopreneurs were asked about the challenges they had, some of them indicated: employees abusing the labour law; employees going AWOL (absent without leave); and clients complaining about the poor service from the employees.

You might have disloyal employees who will just vanish with no notice. This creates a backlog and slows the business down, and ultimately you lose money.

Load Shedding

Load shedding of electricity is a phenomenon where the government schedules power cuts in various areas across South Africa for a certain period of time to save energy. As highlighted already, infopreneurship establishments are becoming more and more reliant on technology. Furthermore, most of the technological equipment used by infopreneurs relies on electric power to operate—meaning that without power, business operations would come to a standstill. Respondents indicated that its major impact is that it cuts down productivity time and sales. One infopreneur stated: “Load shedding has become a norm. This has caused a 19% decline in my monthly revenue, and there is no solution to this as generators are out of reach with the forever-rising price of fuel.” In a study by Ivwurie and Ocholla (2016, 335) respondents complained of load shedding as well. This is because inadequate power supply inhibits growth and affects entrepreneurs’ costs (Olawale and Garwe 2010, 733); Omidyar Network 2013, 11). To counteract, some infopreneurs in this study indicated that they make use of power invertors and generators to allow continuity of business transactions. While this is an alternative, it is an expensive one, as noted (Olawale and Garwe 2010, 733; Omidyar Network 2013, 11).

Finding an Ideal Location and Inexpensive Rental Space

A study by Ocholla (1998, 85) established that infopreneurship, though not exclusively, is largely urban-centred. The majority of respondents in a study by Ivwurie and Ocholla (2016) had their businesses stationed in the city, similar to the participants in this study.

With a high density of population, cities make infopreneurship establishment easily accessible. Nevertheless, the hefty prices required for rent make it impossible for infopreneurs to enjoy their full profit. It is a bittersweet relationship, as cities provide a good location to run one's own business; however, the rent is high. Infopreneurs in a study by Ivwurie and Ocholla (2016, 334) also complained about high office space rent. The easiest solution would be to move the business to a remote area; however, that would mean less traffic when compared to the city. Furthermore, buying the office space would be ideal as it would remove the pressure of monthly rent; however, faced with the challenges of getting funding, that would be hard. It is for this reason that some infopreneurs indicated that indeed the rent cost is high, the utility bills are high, and the employees' salaries are high, yet, "what can we do?" lamented one infopreneur. He indicated that expensive as it is, the city is still the best and ideal location for their business. Due to this, other infopreneurs have opted to buy shipping containers and turn them into office spaces, mainly by the roadside.

Technology

It has been established that technology is part of infopreneurship (Buda et al. 2011, 33). This was the case in the present study as well. Data from the observations indicated that the majority of the observed establishments had computers, photocopiers, internet, and telephone lines. With the speed at which technology keeps growing and changing, infopreneurs have to keep abreast with all the advancements happening in the technological world and must ensure that their computers, photocopiers, and internet are up to the latest standards to guarantee proper and efficient functionality. One respondent in the study indicated:

Every time a new software comes it's a challenge because you must catch up and pay. Every time Microsoft releases new windows, we must do away with the old version and buy the new one. That alone presents a number of challenges, such as the costs of change—it costs a lot to buy new software, it costs a lot of time and money to train the staff on the new software, it costs money and time to sync, reconfigure, and setup the new windows with other machines like printers, cameras, photocopiers, etc.

Financial Constraints

Lack of capital impedes proper functioning and stifles the growth of a business, turning a dream into a complicated "nightmare" (Legas 2015, 30). The lack of finance or access to finance is considered to be "the most serious obstacle" to the development of infopreneurship (Samitowska 2011, 45; Smith and Beasley 2011, 737). According to Pretorius and Shaw, as quoted in Olawale (2010, 90), a large percentage of the failure of entrepreneurial ventures in South Africa is attributed to inadequate capital structure or resource poverty. Ivwurie and Ocholla (2016, 334) have established that a major challenge faced by infopreneurs is the lack of funding and minimal access to small loans and government grants. Elisha (2009, 30) also notes that the lack of initial capital and access to it is a drawback to aspiring and seasoned infopreneurs. One respondent indicated:

Financial challenges really do hinder our small businesses from prospering. Access to finance from the banks is a mountain to climb. Government policies also do not favour us, they are more suitable for the well-established businesses, and this makes it very hard to compete.

Another infopreneur added:

Government policies also affect us very much. We have about 75 employees, and with the minimum wage being dictated to us, we have to pay them that or more in order for us to be on the right side of the law. We also pay a lot of tax and the fuel costs are sky high.

Looking at this from a different perspective, Omidyar Network (2013, 5) points out that the fault also lies with entrepreneurs, indicating that financiers have noted a lack of fundable business plans, pointing to issues ranging from failure to depict the business's profitability and commitment on the part of the entrepreneur. Thus, while indeed there are challenges with funding and access to it, management skills still come into the picture, as argued above. With inadequate management skills, particularly financial management skills, infopreneurs will be unable to come up with a feasible plan and thus render their businesses un-fundable and unsustainable. To this, an interviewee stated:

Financial challenges are there as well. If the members of the public do not have money, then we suffer as well. We still have to pay salaries, though. That is why as a business, we need to save money for a rainy day.

Fisher (2008, 11) postulates that infopreneurs should investigate revenue-generating opportunities, but also recognise that fundraising will be an ongoing challenge.

Crime

As one of the socio-economic challenges facing South Africa, Oyelana and Fiseha (2014, 687) and Olawale and Garwe (2010, 733) postulate that crime is one of the highest deterrents from venturing into business. Direct and indirect impacts, ranging from physical and monetary harm to psychological harm (McDonald, Schlemmer, and Rankin 2008, 69–73), can deter aspiring infopreneurs from venturing into business (Olawale 2010, 88; Oyelana and Fiseha 2014, 688–689). Crime also affects a small business's ability to attract customers as well as the productivity of the venture (Oyelana and Fiseha 2014, 677). Some interviewees from the current study indicated that crime had pushed them to a point where they had to enforce strict rules on customers, but customers might not like it. For example, due to the fact that some customers would usually steal keyboards and computer mice, the infopreneur imposed a strict law against bags inside the store. Another intervention was the adjustment of opening time and closing time, where the infopreneur opens up a bit later and closes the store early. However, though an intervention, short business hours can be equated to short profits. Finally, other infopreneurs highlighted that having security guards is a better option, but expensive. Another infopreneur stated: "Not long ago, there was a strike. During that strike, some people broke into my store and stole some things that belonged to my business. So that set us back a lot." With regards to this challenge, it

was noted that crime causes an infopreneur to lose, but unfortunately, to make up for their loss, they may have to raise their fees. Thus, crime not only affects the business owner, but it also affects the quality of service provided, pricing, and customers as well.

Conclusions

The study's main question was finding out whether or not infopreneurship can provide an alternative job option for LIS students and graduates. The study was only able to identify one LIS infopreneur from the 60 interviewed infopreneurs. This could be because the LIS curriculum does not completely inspire LIS students and graduates to be infopreneurs. Also, LIS products and services are—as opposed to, e.g., technology-oriented products and services—not easy to sell without unique ingenuity. Computer science students have been noted to be more interested and successful in infopreneurship. Contrary to the views of computer science students, Du Toit (2000, 88) notes that most information science students do not consider themselves as being as creative as computer science students. With regard to the competences of an infopreneur, the study also determined that there are two types of competences, i.e., specialised business skills and specialised technical skills. The specialised business skills largely represent skills regarding the management of the business. The study and literature have been in-synch with regard to the relationship between technical skills and the areas of infopreneurship. In a nutshell, specialised technical skills refer to skills that relate to infopreneuring activities that an infopreneur is involved in. In a case where the infopreneur lacks certain skills required to prosper the venture, two options were established, i.e., hiring a qualified person with the right set of skills and/or the infopreneur taking some extra lessons or attending workshops to develop the missing skills.

There were 152 areas of infopreneurship identified in the study. These areas of infopreneurship were categorised into five clusters, comprising subject areas dealing with the gathering, processing and dissemination of information, i.e., 1) records and archive management areas of infopreneurship; 2) information and communication technologies and computer science areas of infopreneurship; 3) publishing areas of infopreneurship; 4) library and information science areas of infopreneurship; 5) journalism and media areas of infopreneurship. In light of the understanding that anyone with the right set of skills can be an infopreneur, it was determined that these categories do not mean that infopreneurs involved in them would necessarily have the disciplined background.

Infopreneurship is not immune to challenges. Notwithstanding, some challenges were more common than others, e.g., stiff competition; poor management skills; a language barrier; difficulty finding reliable employees with proper skills; load shedding; finding an ideal location and inexpensive rental space; technology; financial constraints; and crime. It was assumed that infopreneurs would also highlight “the image or identity of an infopreneur” as one of the challenges. However, this was not so. It was then conjectured that this was probably because the majority of the infopreneurs were mostly focused on the products and services they provide and not on what they are called. It was also noted that none of the infopreneurs indicated that they had no specialised technical skills.

Even though this study found only one LIS graduate involved in infopreneurship, it is assumed this finding could have been minimised had the snowball technique been completely exhausted. Nonetheless, infopreneurship can employ LIS students and graduates, as it does with related information-oriented disciplines. Ultimately, there is a need for more research on an infopreneurship-enabling curriculum/curriculum transformation. Furthermore, there is a need for research focusing on the motivating factors for computer science students to be enthusiastic about entering infopreneurship when compared to LIS students. The conceptualisation/conceptual framework of infopreneurship still needs more in-depth research. Finally, more research on the status of infopreneurship across other provinces in South Africa is necessary.

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