

Investigating the utilisation of information sources to screen business opportunities by prospective entrepreneurs

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ABSTRACT

In the past two years, South Africa has experienced lower economic growth than its annual population growth of around 1.6%, which means that the country is going rapidly backwards. Information is a very important asset for entrepreneurs in a sense that it helps them to identify gaps in the market and find ways to address those gaps, which contributes to economic growth.

The purpose of this study was, therefore, aimed at investigating prospective entrepreneurs at a University of Technology whether they actively search for and utilise information sources on business opportunities. The literature review was conducted on several types of information sources. The Information sources are classified into three categories, namely:

- Format: documentary versus oral information; textual versus audio-visual; electronic versus paper-based information.
- Status: personal versus impersonal; published/open versus unpublished/ secret or confidential information.
- Location: which is internal versus external information.

Not all of the three categories are important, but status and location are important for the business. Since this study was mainly focussing on prospective entrepreneurs, only external information sources of the status and location dimensions were investigated. Both information sources collaboratively constitute the external-formal and external-informal sources of information.

The research approach utilised in this study was a quantitative research approach. A structured questionnaire was utilised and a systematic random sampling method was employed. The findings of the study indicated that the prospective entrepreneurs do sometimes utilise the information sources but not as often as would be preferred. The empirical results showed that the prospective entrepreneurs perceived the external-formal sources of information to be more important than the external-informal sources. The external-formal sources of information are therefore utilised more than the external-informal sources.

Keywords: external-formal, external-informal, prospective entrepreneurs.

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CHAPTER 1

NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

The World Bank (2015:4) report on South Africa Economic Update highlights that South Africa is in its demographic window of opportunity and may remain there for around the next 50 more years. The World Bank report further emphasises that since 1994 the working-age (15-64 years) population has increased by 11 million to date. It is projected to grow for the next 50 years by about 9 million. According to the World Bank report (2015:4), this presents tremendous opportunities for South Africa to boost its growth and to raise the standard of living. Unfortunately, all these people must find jobs if they are to help South Africa to harvest a boost to its economic growth before it faces challenges associated with rapidly growing elderly.

Revell-Love and Revell-Love (2016:835) alluded that entrepreneurship development has emerged during the last two decades as the most important economic force that the world economy has experienced. This shows how important entrepreneurs and entrepreneurship are for the growth of the economy. Moghavvemi, Salleh and Standing (2014:1181) further support this notion as they argue that entrepreneurs contribute to the economic performance by means of the introduction of innovations, facilitate technological progress, bringing change, driving firms' expansions, creating jobs and improving wealth. This makes entrepreneurship to be a valuable tool to utilise in developing any country to reach its full growth potential.

The topics covered in this chapter are: The problem statement which explains the reason why this study is undertaken, the primary and secondary research objectives, scope of the study, the research methodology, the limitations of the study and the layout of the entire study.

1.2 PROBLEM STATEMENT

Information is a very important asset for entrepreneurs in a sense that it helps to reduce the marketplace inefficiencies (Vaghely & Julian, 2010:74). Chen, Chang and Lee (2015:900) alluded that information and resources determine whether entrepreneurs can recognise their target customers and market opportunities in a highly uncertain and competitive environment. According to Kropp, Lindsay and Shoham (2006:505), entrepreneurs generally accept that entrepreneurship involves taking risks in return of a potential gain but if possible, entrepreneurs prefer to lower the risks aspect by operating in international markets. This will require entrepreneurs to search for information also beyond the borders of their country. This means that adequate information is very important for entrepreneurs to remain creative and competitive, especially in the case of South Africa as noted by the Global Entrepreneurship Monitor (GEM) that South Africa has a significantly more pessimistic economic outlook than the rest of the Sub-Saharan countries (Harrington & Kew, 2016:22). The GEM report further indicates that South Africa has had two years of economic growth which is below its annual population growth of around 1.6% meaning that the country is going rapidly backwards (Harrington & Kew, 2016:23). The GEM report further states that South Africa has a lower rate of potential entrepreneurs than the rest of the entire African region (Harrington & Kew, 2016:25).

In the beginning of the third quarter of 2017 the unemployment rate in South Africa was standing at 27.7% (Statistics SA, 2017:8). Given this high rate of unemployment the entrepreneurial activities should increase to counter balance unemployment since according to Bird and Wennberg (2016:688), people will be involved in entrepreneurial activities to alleviate adverse effects caused by unemployment. Faria, Cuestas and Mourelle (2010:1282) support this opinion by postulating that there is always an inverse relationship between entrepreneurship and unemployment. As argued by Chen *et al.* (2015:900) that information can help entrepreneurs to recognise market opportunities, it is possible that South Africans are not utilising the information sources at their disposal as effectively as possible hence the low entrepreneurial activities.

This study is, therefore, aimed at investigating the extent to which information sources are being utilised by prospective entrepreneurs to screen business opportunities so that they become successful entrepreneurs.

1.3 RESEARCH OBJECTIVES

The research objectives of this study will be divided into primary and secondary objectives. The secondary objectives will be further divided into theoretical and empirical objectives.

1.3.1 Primary objective

The primary objective of this study is to investigate the use of information sources by prospective entrepreneurs to create knowledge which will in turn enables them to screen business opportunities.

1.3.2 Secondary objectives

In order to achieve the primary objective, secondary objectives were formulated and are divided into theoretical and empirical objectives.

1.3.2.1 Theoretical objectives

The following theoretical objectives were determined in order to achieve the primary objective of the study, and are as follows:

- To determine the relationship between the types of information sources and the creation of business knowledge by means of a literature review.
- To conduct a literature review on external-formal business information sources and ways in which they could be found useful to prospective entrepreneurs.
- To conduct a literature review on external-informal business information sources and ways in which they could be found useful to prospective entrepreneurs.
- To conduct a literature review on the definition of a business opportunity.

- To obtain insight into the methods utilised to screen business opportunities by means of a literature review.

1.3.2.2 Empirical objectives

The following empirical objectives were determined in order to achieve the primary objective of the study, and are as follows:

- To determine the perceptions of the prospective entrepreneurs on the level of importance of the sources of information.
- To investigate the utilisation of external-formal information sources by prospective entrepreneurs to create knowledge.
- To investigate the utilisation of external-informal information sources by prospective entrepreneurs to create knowledge.
- To assess the types of business information sources preferred by prospective entrepreneurs.
- To examine the influence of the perceptions of the prospective entrepreneurs on the importance of the information sources on the extent to which the prospective entrepreneurs utilise the sources of information.

1.4 SCOPE OF THE STUDY

1.4.1 Field of the study

The main focus of this study falls under the discipline of entrepreneurship with specific reference to the utilisation of information sources by prospective entrepreneurs to screen business opportunities.

1.4.2 Industry under which the study is conducted

This study will be done at an institution of higher education in the Southern Gauteng region of South Africa. The location of the main campus of the institution is at Vanderbiljpark with its satellite campuses located at Sebokeng, Daveyton, Secunda

and Upington. The main focus is on the students enrolled in entrepreneurship as a module at the main campus of the institution and not on the institution itself.

1.5 RESEARCH METHODOLOGY

The research of this study will comprise of two parts, the literature review and the empirical study.

1.5.1 Literature review

The literature review will be conducted on information sources and the creation of knowledge by prospective entrepreneurs to screen business opportunities. According to Lindblom (2008:530), information sources are classified into three categories, namely:

- Format: documentary versus oral information; textual versus audio-visual; electronic versus paper-based information.
- Status: personal versus impersonal; published/open versus unpublished/secret or confidential information; and
- Location: which is internal versus external information.

Lindblom (2008:531) further argues that not all of the three categories are important, but only Status and Location are important for the business. Given the fact that the focus of this study is mainly on prospective entrepreneurs, only the external information sources of status and location dimensions will be investigated. Both collaboratively constitute the external-formal and external-informal information sources (refer to table 1.1).

Table 1.1: Types of information sources a prospective entrepreneur can utilise

Location of information sources	Status of information sources	
	Formal	Informal
External	External-formal (EF)	External-informal (EI)
	Customers & suppliers Publications Electronic information services Market research organisations Business statistics offices	Personal advisers Trade contacts Professional associates Unofficial personal networks Social and family contacts

Source: Lindblom (2008:531)

To build up a theoretical background of this study, dissertations, reports, journals, books and the internet will be utilised.

1.5.2 Empirical study design

The empirical study design of this study will consist of the research approach followed, the measuring instrument, the target population, the sample frame and sampling method, the sample size, the gathering of data and statistical analysis.

1.5.2.1 Research approach

According to Maree and Pietersen (2007:145), a quantitative research design is a process that is systematic and objective in the way of using numerical data which is taken from a selected sub-group of a certain population whose findings are then generalised to the entire population. The research design used in this study will be the quantitative-descriptive research design since objective numerical data will be used. The reason for the adoption of the quantitative research design rather than the qualitative research design is that more respondents are selected and the collection of data by means of structured questionnaires seems more convenient for the study. Secondly, the focus of this study is to determine the cause of the low entrepreneurial activities in South Africa in relations to the use of information sources (Bryman, Bell, Hirschsohn, Dos Santos, Du Toit, Masenge, Van Aardt, and Wagner, 2014:23).

1.5.2.2 Measuring instrument

The structured questionnaire utilised in this study to measure the utilisation of information sources by prospective entrepreneurs was adapted from the questionnaire developed by Lindblom (2008:532). The questionnaire comprises of six parts, namely:

- Section A

This section of the questionnaire assesses the data regarding the general demographic information of the respondents.

- Section B

This section comprises ten items aimed at determining the perceived level of importance of the external-formal sources of information.

- Section C

This section comprises eight items aimed at determining the perceived level of importance of external-informal sources of information.

Section A and Section B are both completed by means of the Likert Scale having a collection of statements and respondents are required to indicate at what degree do they agree or disagree with the statement. The Likert Scale with the following five points will be used: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and 5 = Strongly Agree.

- Section D

This section comprises twelve items utilised to determine how frequent the prospective entrepreneur has utilised the external-formal sources of information in the past.

- Section E

Section E comprises eight items aimed at determining how frequent the prospective entrepreneur has utilised the external-informal sources of information in the past.

Section D and Section E are both completed by means of the Likert Scale having a collection of sources of information which a prospective entrepreneur can utilise to screen business opportunities. The Likert Scale with the following five points will be used: 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often and 5 = Always.

- Section F

This section has 20 items aimed at determining the preferred sources of information by the prospective entrepreneurs. It has a collection of both external-formal and external-informal types of sources of information. The respondent has to indicate which of these sources of information would he/she utilised if he/she had access to all of them. This section is completed by means of the Likert Scale having a collection of sources of information and respondents are required to indicate to what degree do they agree or disagree as to the preferred source of information. The Likert Scale with the following five points will be used: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and 5 = Strongly Agree.

1.5.2.3 Target population

The target population will comprise of all students who are currently registered with the Vaal University of Technology and are currently enrolled in entrepreneurship as one of the modules in their curriculum at the main campus of the institution. This will make them eligible to be seen as prospective entrepreneurs since the main aim of the entrepreneurial modules at the Vaal University of Technology is to up-skill individuals into becoming entrepreneurs.

1.5.2.4 Sample frame and sampling method

The sample frame will comprise of the ITS-generated class list of students in all the Faculties of The Vaal University of Technology who do entrepreneurship as a subject. A probability sampling procedure will be utilised in this study. According to Bryman *et al.* (2014:20), a probability sample is the method used if the researcher seeks to generate a representative sample. Probability sampling is a favourable approach for this study as inferential statistics can be utilised to establish meaningful conclusions and each person has a known probability of being selected (Maree & Petersen 2007:172; Strydom, 2005:198). A systematic random sampling method will be used. Classes of students enrolled for entrepreneurship as one of their modules will be selected randomly and thereafter every student in the ITS class list will be selected. According to Maree and Petersen (2007:175), systematic sampling is still seen as random.

1.5.2.5 Sample size

From the total population of students of 770 ($N = 770$), questionnaires were distributed to 350 students ($n = 350$). According to Welman, Kruger and Mitchell (2005:71), if random sampling method is employed in selecting the sample, the sample size of a population of 500 units can be 200 and there is no need to exceed a sample size of 500 no matter the size of the population.

1.5.2.6 Data gathering

Delpont (2005:166) identify four categories of data-collection methods a researcher using a quantitative approach can utilise. These data-collection methods are questionnaires, checklists, indexes and scales. For the purpose of this study, questionnaires were handed to students during their entrepreneurship periods by their respective lecturers to complete the questionnaires and submitted them immediately after class. These questionnaires were only available in a hard copy format and a letter explaining the purpose of the study was attached to each questionnaire. This letter assured the respondents about the confidentiality of their

responses, and were reminded that they have the right not to participate should they prefer to do so.

1.5.2.7 Statistical analysis

The Statistical Package for Social Sciences (SPSS) version 24.0 was used to analyse the data. Descriptive statistics was used to analyse the composition and characteristics of the sample, and organising and summarising data into meaningful tables and figures. This was then converted into frequency distribution tables by forming classes for ease of interpretation. Once data was prepared, it was subjected to statistical analysis using the reliability test, the means, Pearson correlation and the regression analysis. These techniques were selected because of their ability to give a clear interpretation for data analysis and are considered appropriate for quantitative data (Naidoo & Botha 2012:9223).

1.5.2.7.1 Validity

Commonly used techniques to assess the validity of the measuring instrument which are the face validity and content validity were used in this study. Face validity was used to assess the operationalisation of a construct subjectively so that it meets the criterion of the content validity (Drost, 2011:116). Content validity was utilised to determine the appropriateness and comprehensiveness of the content and format of the questionnaire. For face validity, the measuring instrument was given to three experts in entrepreneurship. To ensure proper validation, the measuring instrument was accompanied by the purpose of the study and the literature review. The reviewers were requested to check the questionnaire grammar, relevance and the flow of the constructs. Their corrections were effected before the measuring instrument was administered to the respondents.

1.5.2.7.2 Reliability

Cronbach's alpha coefficients were used to measure the internal reliability of the instrument. Maree (2010:216) recommended that in most applications a reliability coefficient of 0.70 is regarded as acceptable, however Matsheke and Dhurup

(2017:276) indicated that a Cronbach alpha coefficient value of 0.6 to 0.7 is regarded as acceptable and a value of 0.8 and above is regarded as good. This study has, therefore, followed the same guidelines.

1.6 LIMITATIONS OF THE STUDY

According to Katono (2013:203), for the findings to be more generalisable there was a need for a larger sample size.

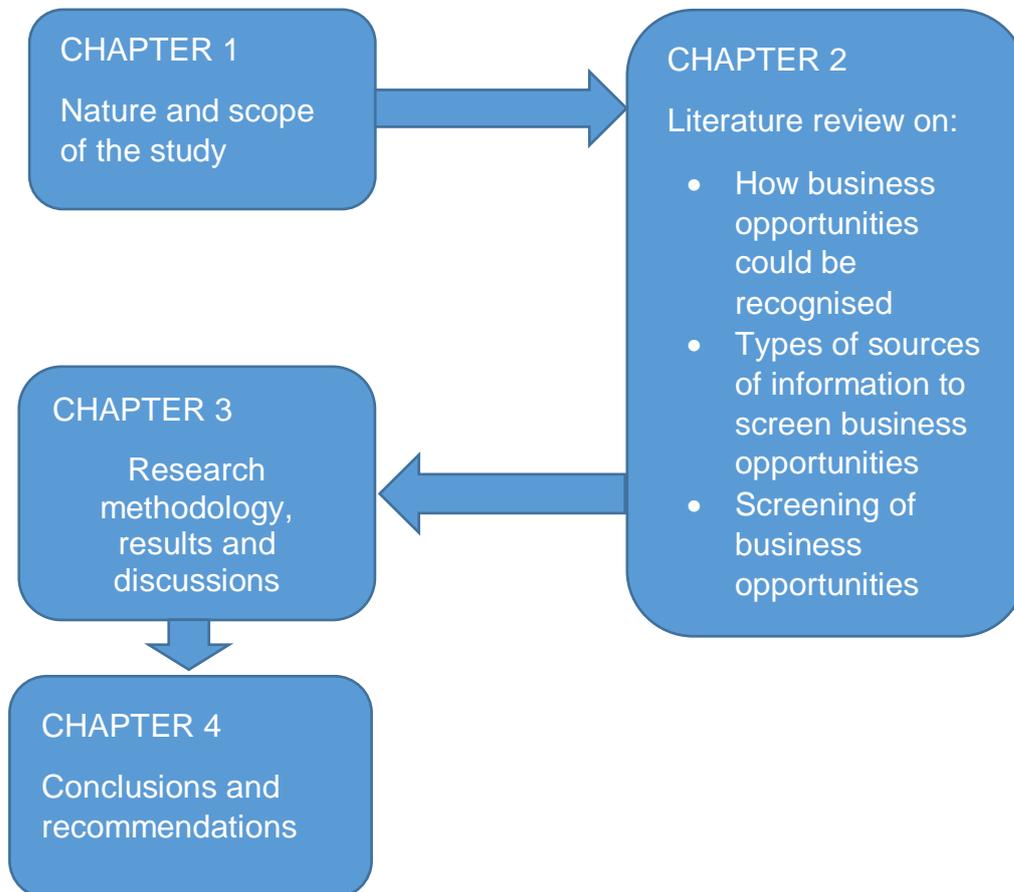
The purpose of this study was not to generalise the findings to a larger population outside the selected one, it is only meant to help understand the phenomenon under investigation in its context. Hence the reason why this study is conducted only in one institution of higher education in the Southern of Gauteng region of South Africa.

In addition, this study was not aimed at assessing the quality of the information provided by the sources under discussion. An important issue which is not part of this study, is to investigate barriers which could limit the accessibility of these information sources, since they might have a direct influence into the intentions of the prospective entrepreneurs to utilise them.

1.7 LAYOUT OF THE STUDY

The layout of the study is graphically depicted in Figure 1.1

Figure 1.1: The graphical layout of the study per chapter.



Source: Own compilation.

The section below gives a summary of the content covered in every chapter of this study as graphically depicted above.

Chapter 1: The nature and scope of the study

Topics covered in this chapter are the problem statement which explains the reason why this study is undertaken, the primary and secondary research objectives, the scope of the study, the research methodology, the limitations of the study and the layout of the study.

Chapter 2: Literature review

This chapter will comprise of a literature review on what a business opportunity is and how business opportunities are screened to determine the success of the business. The Timmons Model of the entrepreneurial process will be used as an alignment between the business opportunities and the information sources. A literature review on different types of information sources and their contributions towards a successful screening of business opportunities will also be discussed.

Chapter 3: Research methodology, results and discussions

Chapter 3 will provide information regarding the research methodology which will be followed to do the empirical study. The tools and the systems utilised to collect the data and to analyse it will be explained. The presentation and discussion of the results of the study will also be covered in this chapter.

Chapter 4: Conclusions and recommendations

In this chapter the findings of the study will be discussed. The conclusions will be drawn from the literature study and from the results of the empirical research. The conclusions will be such that they provide a response to the problem statement and objectives as stated in chapter 1. Recommendations on how the utilisation of the sources of information can be enhanced will be made. Lastly the objectives of the study will be evaluated to see if they have been met or not and recommendations on research to be done in the future will be made.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Information has become an important and valuable commodity (Bistan, Kovanic & Kovanicova, 2015:2458). According to Baltzan (2015:7), since we are living in the information age, college students' startups are becoming more and more heard about. Examples of such are the multimillion-dollar companies such as Facebook started by Mark Zuckerberg, Dell Computers started by Michael Dell and Microsoft founded by Bill Gates. All these founders were college students.

If students could get access to relevant information sources, this could empower them to be able to identify business opportunities like the three business founders mentioned above.

In this chapter factors that play a role in the recognition of new business opportunities are discussed. The differences between data, information and knowledge will be looked at and the different types of information sources will be explained. The use of information to screen business opportunities by means of the Timmons model of the entrepreneurial process and the screening process will be discussed. Lastly the competitive processing of information will be briefly discussed.

2.2 FACTORS THAT PLAY A ROLE IN THE RECOGNITION OF NEW BUSINESS OPPORTUNITIES

Previous studies have examined numerous factors which play a role in the recognition of business opportunities, but only three have been perceived as the most important ones and received special attention (Baron, 2007:171; Baron, 2006:104). These factors are briefly discussed below.

2.2.1 Engaging in an active search for business opportunities

According to Baron (2006:104), with respect to an active search for business opportunities access to key business information is crucial. Information can be acquired through reading, or listening to and observing other people or by means of sensory stimulation (Lindblom, 2008:530). Dyer, Gregersen and Christensen (2008:319) postulate that the more one spends time in searching and assimilating information the greater are the chances that he will serendipitously discover a business opportunity. According to Okello-Obura, Minishi-Majanja, Cloete and Ikoja-Odongo (2008:4), despite the importance of key business information the developing countries' entrepreneurs suffer inadequacies in the provision of key business information and it is often cumbersome to access, limited in scope and is not provided in an integrated manner.

2.2.2 Entrepreneurial alertness to business opportunities

Entrepreneurial alertness is a concept originated from the theories of Kirzner (1973) and has been perceived as being playing a key role in the discovery and evaluation of business opportunities by individuals, groups and firms (Simsek, Lubatkin, Veiga & Dino, 2009:810). Valliere (2013:432) postulate that though Kirzner (1979) defines entrepreneurial alertness as "the ability to notice without search opportunities that have hitherto been overlooked", other theorists view alertness as being composed of three distinct elements which are: "scanning and search for new information, association and connection of that information with existing knowledge, and evaluation and judgment". Uy, Chan, Sam, Ho and Chernyshenka (2015:117) do accept the notion that an individual who is high in entrepreneurial alertness may recognise opportunities without a thorough search. However, Uy *et al.* (2015:117) also emphasise that individuals who are high on entrepreneurial alertness do search for and notice changes in the environment and adjust their existing mental framework which does not match with the current information available.

2.2.3 Prior knowledge of a market, industry or customers as basis for business opportunity recognition

According to Cohen and Winn (2007:36), the market has its own imperfections and these imperfections can only be addressed by the market actors. Cohen and Winn (2007:30) argue that market imperfections are sources of business opportunities. Supporting this notion, Corbett (2007:99) argues that an individual's knowledge about existing markets, and the way he can serve that market, and knowledge about the problems of customers influence the opportunities one can discover in that market. According to Wiklund and Shepherd (2003:1309), knowledge of the market enables an organisation to be proactive which is the posture of anticipating and acting on wants and needs of the future in the marketplace, thereby creating a first-mover advantage vis-a-vis the competitors.

For the purpose of this study the focus will be mainly on active search for information and moderately on entrepreneurial alertness.

2.3 DIFFERENCES AMONG DATA, INFORMATION AND KNOWLEDGE

Most of the time people use the terms data, information and knowledge interchangeably (Melkas & Harmaakorpi, 2008:108). To enhance comprehension of the concept "information", it would be useful to distinguish between data and information and further explain two more concepts which are closely related to them which are "business intelligence" and "knowledge". The researcher will use more prominent scholars to define these key terms.

- **Data**

According to Van Der Walt and Fox (2015:166), data consist of discrete facts which are without judgement and context. It is raw and unsummed material which goes into a process to produce information. Data does not only imply numbers but also words and images which are inputs to some operational process. According to Melkas and Harmaakorpi (2008:108), data is the factual content of information and it should be put into a meaningful context to produce information. According to

Johannessen, Olaisen and Olsen (2002:1100), data is systematising and structuring of facts, and these facts are then given a code.

- **Information**

The meaning of information has been an issue for a number of decades, with its initial appearance sometime between 1372 and 1382 (Case, 2012:46). In the last five decades consensus regarding the definition of information has never been reached, but for the purpose of this study, information would mean data endowed with meaning, relevance and purpose (Van der Walt & Fox, 2015:166; Baltzan 2015:8). In other words information is actually data which is processed so that meaning is deduced from it. It is only by this processed data that people would make decisions (Child, Ithriq & Merali, 2014:816). Vaghely and Julien (2010:75) alluded that “information is that which alters mental representation”, meaning that Information has the capability of altering the receiver’s understanding. It enables managers to interpret and understand events in the organisation and in the business environments.

- **Knowledge**

Vaghely and Julien (2010:74) define knowledge as information that comes with insights, experience, intuition, judgement and values. Johannessen, Olaisen and Olsen (2002:1100) define knowledge “as systematising and structuring of information for one or more purposes”. Knowledge is seen as a high value of information which is readily available to be applied in decision making and action. It is the knowledge that enables individual to take action. The knowledge base usually expands through the interaction with other people.

Knowledge is further divided into explicit, tacit and self-transcending (Melkas & Harmaakorpi, 2008:109). According to Scharmer (2001:68), self-transcending knowledge is the “ability to sense the presence of potential, to see what does not yet exist”. Van Der Walt and Fox (2015:168) describe tacit knowledge as knowledge which is internalised and it is closely related to learning-by-doing. They explain

explicit knowledge as knowledge which is externalised by means of written documents, for instance by books.

- **Business intelligence**

Baltzan (2015:10) identifies another concept called business intelligence which is information collected from a number of sources such as customers, competitors, suppliers, business partners and those organisations that analyse relationships, patterns and trends for strategic decision-making purposes. Aruldoss, Travis and Venkatesan (2014:831) describe business intelligence (BI) as an “integrated set of tools used to support the transformation of data into information to support decision-making”. According to Eidizadeh, Salehzade and Esfahani (2017:252), business intelligence is a new approach in organisational architecture which is defined based on the speed at which the information is analysed so as to take accurate and intelligent business decisions in the minimum possible time that includes a collection of functional and analytical programmes.

Green (2007:19) contends that business intelligence is not a single entity, it is constituted by business information. According to Green (2007:18), a business has eight value drivers when cross-pollinated they produce three major components to business intelligence within a business enterprise.

- **Relationship intelligence**

This deals with understanding how the interactions between knowledgeable workers influence the performance of the organisation.

- **Competence intelligence**

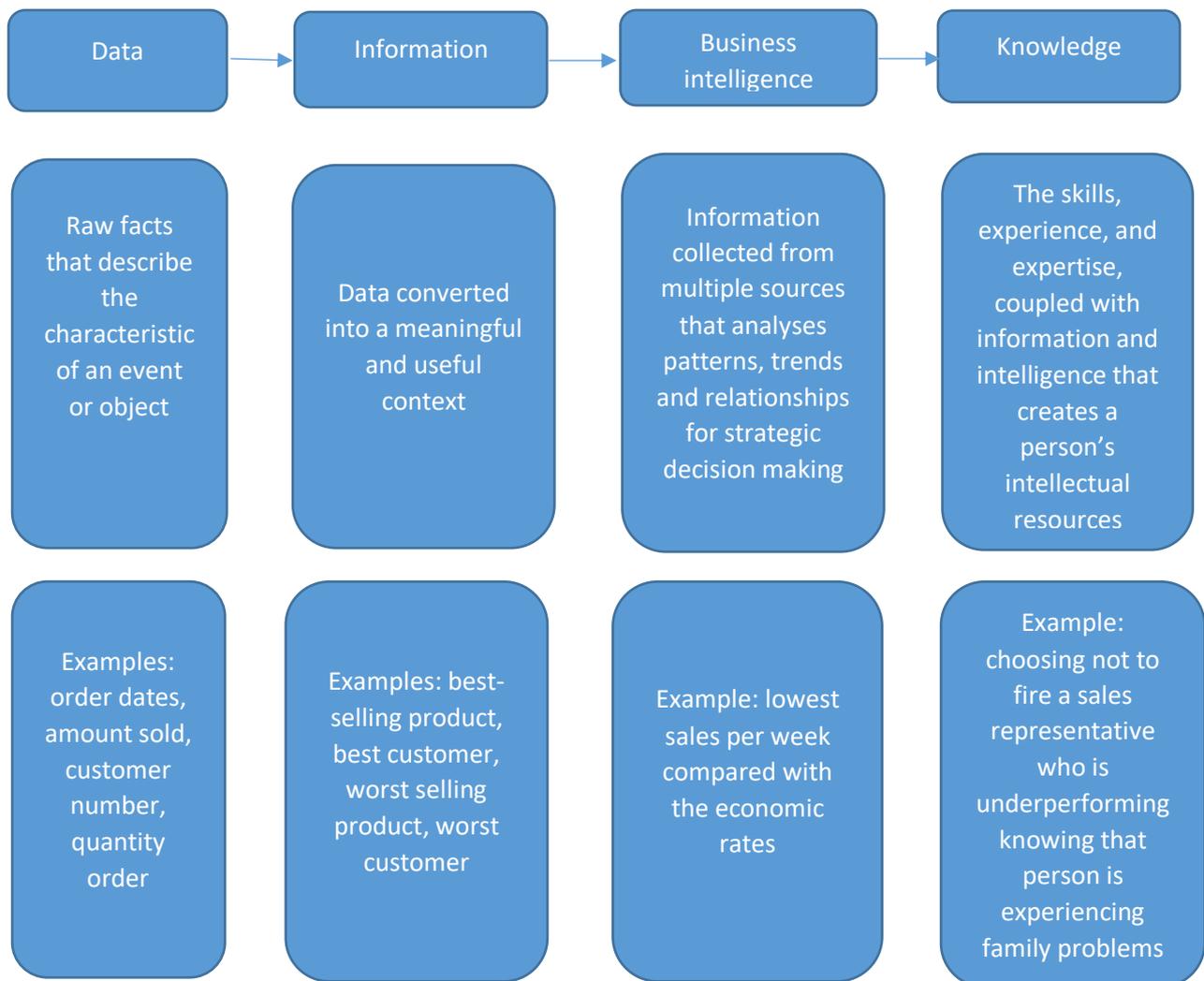
Refers to understanding of how the abilities/proficiency of knowledgeable workers influence the organisational performance.

- **Structure intelligence**

Refers to understanding how an organization’s infrastructure environment influences organisational performance.

Figure 2.1 below provides basic differences and examples of data, information, business intelligence and knowledge.

Figure 2.1: Differences among data, information, business intelligence and knowledge



Source: Baltzan (2015:8)

2.4 DIFFERENT TYPES OF INFORMATION SOURCES

Many authors define an entrepreneur as someone who identifies a gap or problem in the market and find ways to close the gap or to solve the problem (Van Aardt & Massyn, 2014:52). Solving a problem will require some certain amount of effort into gathering necessary information, process the information and then draw conclusions as to how to best solve the problem. Prospective entrepreneurs would most probably use the external information sources since the business is not yet in operations unless if they worked for an organization before in which gaps were identified thus triggering a business opportunity for the would-be entrepreneur (Franco & Filson, 2006:841).

Discussed below, are numerous information sources a would-be entrepreneur can utilise.

2.4.1 External-formal sources of information

According to Linblom (2008:531), external-formal information sources are those that have been formally published. Below is the list of the external-formal sources adapted from Spinelli and Adams (2016:128) and Bothma, Cosijn, Fourie and Penzhorn (2014:20).

- Key customers

Key customers are those that would buy from an organisation on regular basis. According to Morse (2015:102), one can provide unanticipated solutions to his customers' problems from the knowledge one acquires from being around the markets where the customers operate. Another technique to help an entrepreneur to be relevant to his customers is "co-creation". Co-creation can be found very useful for a business to produce something of value for the customers. Jouny-Rivier, Reynoso and Edvardsson (2017:85) define co-creation as "firms', customers' and other engaged actors' activities and interactions to integrate and operate on available resources to arrive at an intended value-in-context". This means that engaging customers when developing a new service or product may help the

organisation create that which would be useful to customers and may help the business to acquire competitive advantage over its rivals thus increasing sales (Sashi, 2012:256). Further, information gathered from the buying trends of one's key customers can help an entrepreneur to become proactive in the market in which he/she is operating or intends to operate in. They can even inform you as to what the customers really need. This information can help you as an entrepreneur to customise the service or product to suit their special needs thus enabling the business to improve its market competitiveness (Liu, Xu, Sun, Yang & Mo, 2013:1).

- Journal articles

In the study conducted by Nicholas, Williams, Rowlands and Jamali (2010:498), journals articles were rated high in terms of their importance as a source of valuable information. In contrast, company managers do not agree with the statement above. They argue that the academic journals are most of the time impractical for the business world (Bennett, 2007:703). However, in the study conducted by Nicholas *et al.* (2010:498), more than 50% of respondents in the fields of agricultural and biological sciences indicated that they use academic articles every working day of their lives and are therefore very important for them.

- Magazine articles

The articles in magazines are written for the general public and are not like the academic articles which are peer reviewed. In addition to the ordinary magazines which are usually utilised for gossip columns, are the professional magazines. Example of such, is the economist news magazine which once publicized that the peak oil era is declining in 2012 (Becken, 2014:125). Professional magazines are practitioner-oriented magazines whose main objective is to inform certain groups of professionals on certain managerial topics (Nijholt, Heusinkveld & Benders, 2014:473). They are written in a manner that makes them attractive to people. Even though this kind of articles are not recommended for academic purposes they can be very useful for an entrepreneur who is looking to start an entrepreneurial venture as

argued by Bennett (2007:704) that marketing managers are voracious readers of marketing magazines to get information regarding what is happening in the market.

- Consumer expenditures

According to Daskalopoulou and Petrou (2006:766), consumers' expenditures are viewed as an allocation choice problem that is determined by their perceptions of how fair is the price of a product or service underlying a specific transaction. The reports generated by, for instance, the Euromonitor, New Strategist publications and the United States Consumer Expenditure survey can provide valuable information regarding the spending behaviour of consumers (Kim, 2013:77). The researcher can search information relating to a specific product and the region where such product is mostly demanded.

- Projections and forecasts

These information sources deal with forecasting as to what would happen in the future based on the current trends of a certain issue or phenomenon and suggest as to what might occur in the future. Example of such are: ProQuest, InforTech Trends, RDS Business Reference Suite and the Value Line Investment Survey (Spinelli & Adams, 2016:128).

- Trade associations

Trade associations are formal organisations with members from different companies and represent business interests in a specific context (Lawton, Rajwani & Minto, 2017:1). According to Yen, Chen, Shen and Lin (2014:47), these members are mostly Chief Executive Officers (CEO's) of other firms because of the first-hand information they possess. There is an argument though based on the agency perspective that this might distract the directors from their internal responsibilities (Yen *et al.*, 2014:47). Kahl (2017:1) postulates that the trade associations are involved, intensely so, in identifying new trends providing meaning on current events and write reports, proceedings and articles which eventually contribute to the

broader market discourse. Kahl (2017:1) further mentions that this discourse encapsulates the communication between the participants of the market by means of variety of mediums which could be by verbal exchange or written text, visual images, and even by product design. The trade associations also play role in disseminating and exchanging information within a given industry (Rajwani, Lawton & Phillips, 2015:225).

- Consulting firms

According to Back, Parboteeah and Nam (2014:391), consulting firms can provide important information and knowledge and also the legitimacy to innovations decisions by means of support and confirmation. Back *et al.* (2014:391) further argue that when a business is short of necessary information, knowledge, or a protection regime for innovation, the use of consulting firms can be very effective in driving innovation. In addition consulting firms frequently undertake industry studies then publicize the information to the general public, especially in such fields as software and computers. Competitors would use the same design consultants, since they could be a useful source of information (Spinelli & Adams, 2016:129).

- Market research organisations

Market research organisations do some market research projects just like those that do market studies. These firms could provide an invaluable information relating to the market you would want to operate in. Javalgi, Martin and Young (2006:15) postulate that market research plays a crucial role in managing information and to market orientation. Lamb, Hair, McDaniel, Boschoff, Terblanche, Elliot and Kloper (2014:170) further support the latter statement by alluding that marketing research also help the managers to understand the dynamics of their target market. Even though an entrepreneur may need to further analyse the information from the marketing research firms to suit its own specific needs, it is worked out in such a way that it becomes easy to make sense out of it.

- The Internet

The Internet is a valuable interactive information sharing platform which facilitates flexible non-linear search for up-to-date product information and assistance with shopping comparison (Vijayasathy, 2002:412). According to Bothma, Cosijn, Fourie and Penzhorn (2014:24), many people regard the Internet as the ultimate source of information but in reality, there are quite a number of other information sources which could be very useful for an individual than the Internet. The Internet has really influenced our lives within a very short period of time. Libraries has been enabled by the Internet to make numerous of high quality sources of information available to a number of people. However, it is important to be cautious when using the internet since there is a number of suspicious information on the internet.

- Reverse engineering

According to Anwer and Mathieu (2016:166), reverse engineering in mechanical design can be defined as “the process that initiates the redesign process wherein a product is predicted, observed, disassembled, analysed, tested, ‘experienced’, and documented in terms of its functionality, form, physical principles, manufacturability, and assemblability”. In the case of emerging economies re-verse engineering enables firms to acquire and update their knowledge from technologies of the overseas countries then put effort on improving their own indigenous innovations (Zhang & Zhou, 2016:217). This means that examining how a product was made can enable one to build on that and produce an improved version of that product. According to Li, Li, Tang and Du (2017:39), even though reverse engineering is mainly used for manufacturing of new products and parts design, it has also been introduced in surface modelling for repairing damaged mechanical parts. A would-be-entrepreneur can also utilise this technique to start a refurbishing business.

- Conference proceedings

Conferences could also be a useful source of information. There are many academic conferences where individuals would present their research papers (Bothma *et al.*,

2014:35). Bothma *et al.* (2014:35) further alluded that the full text of the papers presented at the conference is usually made available to individuals who need them. These papers can be a valuable source of information. There are also a number of organisations which would organise business conferences with an aim of bringing together business people and would-be business owners so that a platform for information sharing is created.

2.4.2 External-informal sources of information

The following external-informal information sources are adapted from Spinelli and Adams (2016:126).

- Customers

According to Heyer (2007:91), customers can be a very good source of information regarding who currently competes or once competed in the marketplace. They can therefore give information relating to their products. Morse (2015:102) argues that customers would opt to buy something if they get something of value and which fills a certain need. Customers are the ones who know how their needs can be fulfilled. They can provide information as to which products are mostly preferred and can thus suggest areas of improvement on the existing products (Sashi, 2012:255).

- Competitors

According to Lamb *et al.* (2015:144), it is crucial that one has information regarding his current competitors. Examination of existing products and services provided by the competitor one can identify areas of improvement and produce similar products with better features to compete with in the market (Spinelli & Adams, 2016:127).

- Former employers (Source firms)

According to Campbell, Ganco, Franco and Agarwal (2012:65), labour turnover puts a source firm in a disadvantageous position since the employees leaving the

organisation may enable the competition or a spin-out by the information and knowledge they acquired while working for the firm. According to Nikolowa (2014:70), a spin-out is a new independent venture established by an ex-employee who had an idea and left the source firm to start his own. Spin-outs are more harmful to the source firm since they result in greater replication and transfer of complementary assets from the source firm (Campbell, Ganco, Franco & Agarwal, 2012:70). Sometimes it may happen that some of the gaps in the market were identified while individuals are performing their day to day activities, like some experimental results which were not that attractive for the former employer to develop and commercialize them.

- Professional contacts

According to Choo (2000:397), information professionals possess tacit knowledge which is very important for the organisation. Professionals such as the patent attorneys, venture capitalists, accountants, commercial bankers and any other professionals who are exposed to a number of commercial data can be found useful to an opportunity seeker (Spinelli & Adams, 2016:127).

- Networking

According to Martinez and Aldrich (2011:10), entrepreneurs' abilities to identify business opportunities and to establish innovative ventures depend partly on the social networks they create. Fernandez-Perez, Alonso-Galicia, Fuentes-Fuentes and Rodriguez-Ariza (2013:293) argue that social networks consist of actors which could be individuals or organisations, and the linkages between these actors provide important channels for the acquisition of important information. Fernandez-Perez *et al.* (2011:294) further alluded that social networks as providers of information, can motivate people to start business ventures. Networking is another mechanism which can be very useful for entrepreneurs to generate new business ideas. It also help to create valuable contacts with important people. Networking usually requires that people themselves should make a deliberate initiative on an informal basis and may require considerable amount of effort and time (Kim, 2013:121). There are also

organized networks in South Africa aimed at facilitating the process of making contacts with new people.

- Social capital

Shi, Shepherd and Schmidts (2015:814) acknowledge the fact that there is no consensus reached so far regarding the definition of social capital, but most of the researchers agree on general terms that it is a set of resources which are based on relationships and networks. Sengupta (2010:325) postulates that social capital is the relationship one may have with other players in the arena of work which could be friends, colleagues as well as general contacts. According to Sengupta (2010:327), social capital is important since personal contacts can enable one to get information before it could be received by others. Informal discussions with friends has contributed a lot in assisting people to come up with new business ideas. According to Martinez and Aldrich (2011:11), some people get exposed to new business opportunities by the ties they have with their friends. New business ideas could get generated amid general friends' talks which are not even related to business. One could identify problematic areas which need solution, and an alert person would be able to see a business opportunity in that.

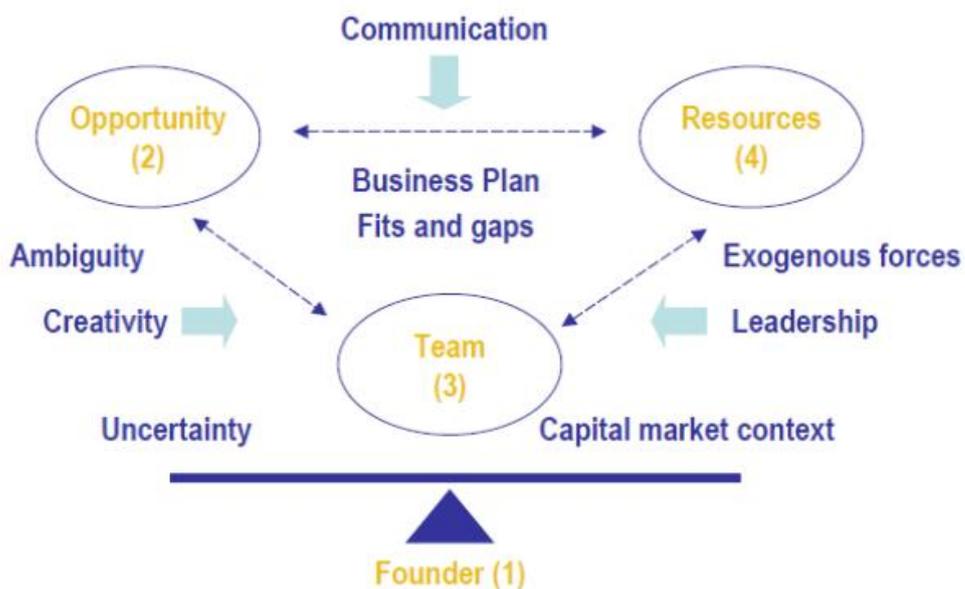
- Employees

Urbancova and Linhartova (2011:84) argue that turnover means that one organisation may gain new information by employing a knowledgeable ex-employee of another organisation. Meaning employees who once worked for a competitor or potential competitor may be a very useful source of information for another organisation even to a new venture. Before ex-employees could be utilised a number of ethical issues need to be taken into consideration. Should there be legal issues involved, the competitor will have to prove that a company employed their ex-employee with intentions of getting specific trade secrets of the competitor (Spinelli & Adams, 2016:129).

2.5 THE USE OF INFORMATION TO SCREEN BUSINESS OPPORTUNITIES

To explain how information could be utilised by prospective entrepreneurs, the researcher makes use of the Timmons Model of the entrepreneurial process. According to Bosch, Tait and Venter (2017:81), the Timmons Model firstly scrutinises the founder of the entrepreneurial venture, as well as the team and the networks as a source of information which can assist the founder in exploiting opportunities then selecting one opportunity from a multiple of opportunities and lastly finding and controlling the resources. Figure 2.2 below provides a diagrammatical illustration of the Timmons Model of the Entrepreneurial process.

Figure 2.2: The Timmons Model of the Entrepreneurial process



Source: Bosch *et al* (2017:81)

- **The founder**

In the Timmons Model of the entrepreneurial process the founder of the entrepreneurial venture is located at the bottom of the model. Meaning that the founder has to find some way of balancing the opportunity, team and the resources for the venture to succeed (Venter, 2017:81). The founder will be able to do so if

he/she proactively search for additional information more frequently and from a wide variety of sources (Tang, 2015:1173). Varis and Littunen (2010:128) contend that it has become a common thing in the contemporary knowledge-based economy which is characterised by uncertainty, an increasing amount of complexity and the change that is so accelerating, that the ability of the businesses to adapt in their external environment will somehow capacitate them to be innovative and upgrade their products so that they remain competitive. The study conducted by Maheeran, Muhammad, Muhamad, and Taib (2009:1118) on “environmental scanning and investment decision quality” revealed that the extent of environmental scanning for economy and competition data affect the quality of investment decision directly, but this is reliant upon the entrepreneur’s ability to convert the data into useful information. For the entrepreneur to say there is definitely a need for a certain product or service there should be information gathered either accidentally or by means of a formal market research process. Spinelli and Adams (2016:85) alluded that the balancing act of the entrepreneur requires a continual assessment and evaluation, continually revising his strategies and tactics making this whole process an experimental approach.

- **Opportunity**

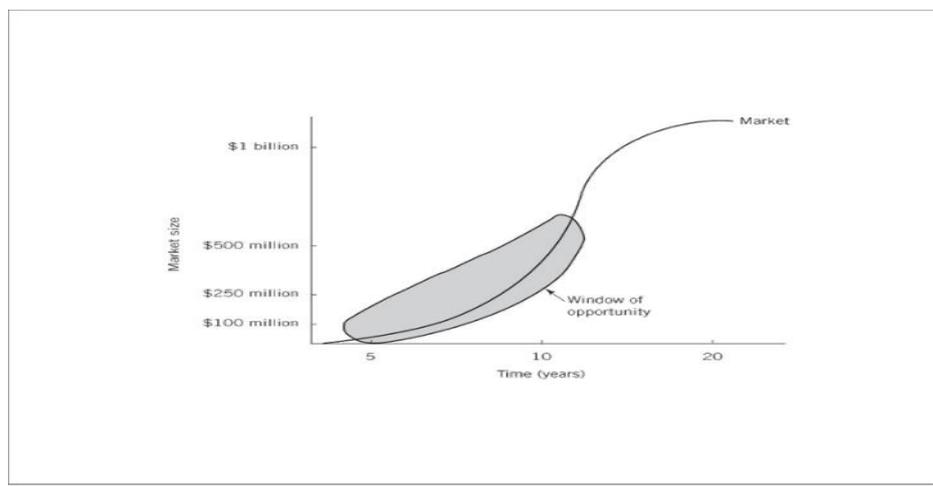
It is important to note that not just any idea is a viable business opportunity. According to Urban (2015:163), some of the features which can be used to assess high potential opportunities could include:

- An attractive market
- High profitability
- Cost competitiveness and access to the necessary capital
- Strategic fit with the environment
- Few or no fatal flaws
- The ability of the entrepreneur to leverage the opportunity
- Matched with a strong management team

One crucial factor that needs mentioning is the “window of opportunity”. Co, Groenewald, Mitchell, Nayager, Van Zyl, Visser, Train and Emanuel (2013:69)

describe the window of opportunity as the limited period of time in which the new idea remains a viable business opportunity. The founder of an opportunity has to be informed as to when his idea should be put in the market since the window of opportunity will eventually close up and the situation will re-stabilize at its earlier equilibrium (Tongur & Engwall, 2017:3). According to Urban *et al.* (2015:153), individuals will be more likely to capitalize on changes and shifting conditions by identifying and take advantage of opportunities to the extent to which they consider the availability and amount of information they can access and also the timing of the change. Discerning that will help maximize the founder's returns. Figure 2.3 shows a graphical illustration of the window of opportunity.

Figure 2.3: The window of opportunity

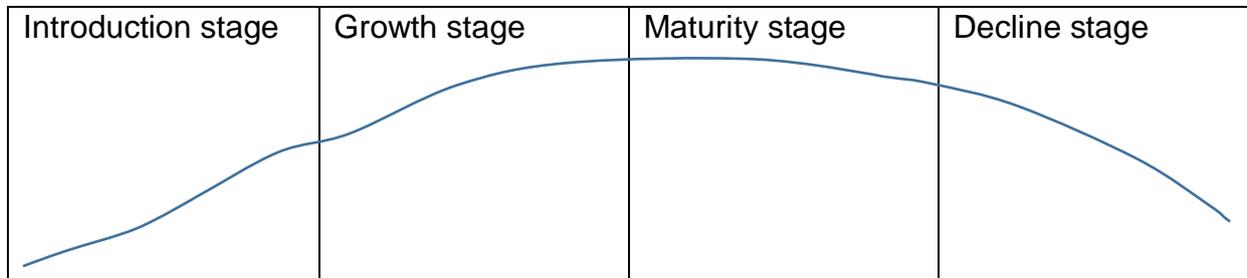


Source: Co *et al.* (2006:69)

The ability to effectively launch a new-product positively impacts on customer loyalty, market share and sales volume (Bodlaj, 2014:247). New product entry timing is considered a key factor in determining the performance of new products (Koksal, 2014:28). Koksal (2014:28) further argues that “early entry creates an entry barrier for competing products and generates positive consumer behaviour towards pioneering new products. The tool which can help an entrepreneur to trace the market acceptability of a product is the product life-cycle. According to Lamb *et al.* (2015:318), understanding the product's stage on the product life-cycle curve will

enable the entrepreneur to develop strategies which are appropriate to each product stage. Figure 2.4 below provides an illustration of a typical product life-cycle.

Figure 2.4: Product life-cycle



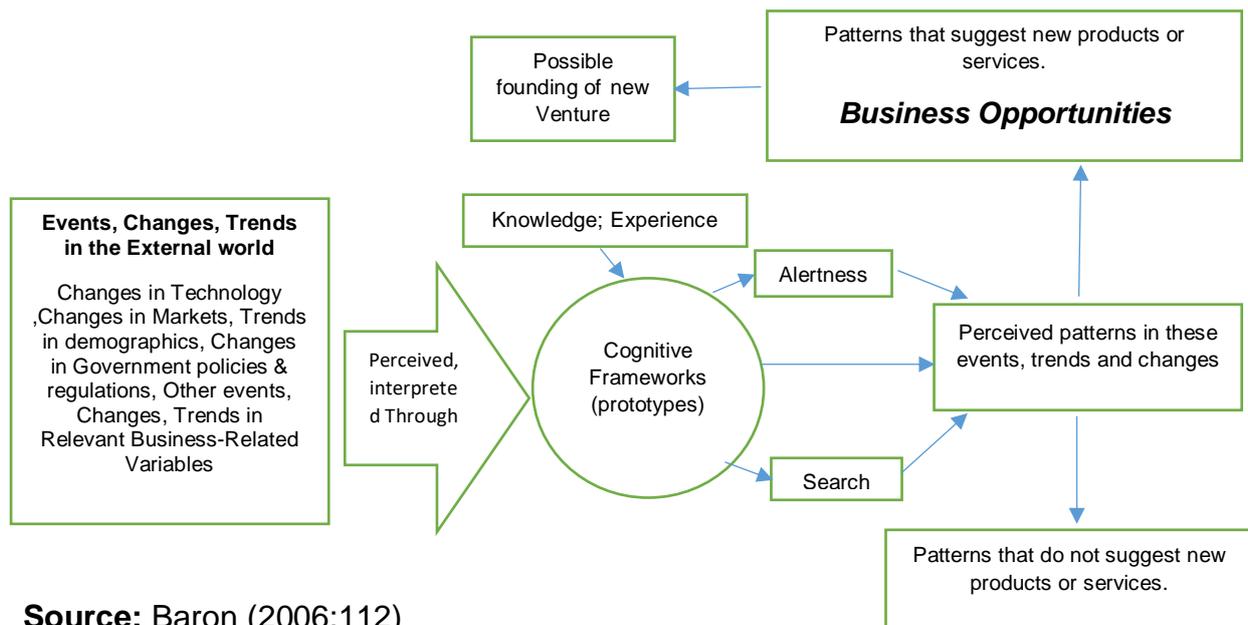
Source: Lamb *et al.* (2015:319)

The strategies will enable the product to survive and to claim a considerable portion of the market-share.

According to the cognitive approach to opportunity recognition and evaluation, the entrepreneur has a preferred way of gathering, processing and evaluating information (Van Aardt, 2014:65). Baron (2006:112) argues that if opportunity recognition is indeed a cognitive process which involves the recognition of complex patterns the question one should ask is how the recognition of these patterns happen. To answer this question, the author uses the models of pattern recognition and conclude by saying all have one thing in common. Baron (2006:112) suggests that individuals will notice various events in the external world like changes in the economic, political, technological, market, and trends in the demographics then utilise the cognitive framework which they have developed overtime through experience to determine if these events are related in any manner. According to Vaghely and Julien (2010:76), an opportunity requires a mixture of creativity, innovation and the market information. This implies that the identification of an opportunity, to a certain degree, is linked with gathering and competitively processing of information.

Figure 2.5 below shows a graphical illustration of the potential role of pattern recognition in opportunity recognition.

Figure 2.5: The potential role of pattern recognition in opportunity recognition



Source: Baron (2006:112)

- **Resources**

“Natural resources are becoming increasingly scarce and environmental damage is increasing day by day” (Miaoa, Fang, Suna & Luoc, 2017:153). Since resources are becoming increasingly scarce and limited, the entrepreneur must have capabilities to produce more with just adequate resources. According to Wang and Wu (2011:708), the resource-based view of the firm is the most popular perspective in explaining the performance of the business. The resource-based perspective claims that the sustainable competitive advantage of a business comes from its heterogeneous resources (Wang & Wu, 2011:708). For an entrepreneur to be perceived as being productive, must produce more with less inputs.

- **Entrepreneurial team**

Harper (2008:617) defines an entrepreneurial team as “two or more individuals who jointly establish a business in which they have an equity and are present at the pre-startup phase of the firm”. In the study conducted by Vogel, Puhan, Shehu, Kliger and Beese (2014:604), the authors found that when venture capitalists make the investment decisions, among other things, consider the way the entrepreneurial team is composed. The more heterogeneous the team is, the more favourable it is to the venture capitalists’ decisions to invest in the venture. This means that when the entrepreneurial team has a diverse span of skills and experiences the higher the

chances that the venture will survive and this gives the new venture some additional value (Der Foo, Wong & Ong, 2005:286). Furthermore, an entrepreneurial team with an excellent management record puts more value on the venture. This means that the founder must be informed as to how good is his team. This could be done by making sure that the entrepreneurial team possesses relevant qualifications and also the amount of experience they possess in the field in which the business will be operating.

2.6 BUSINESS OPPORTUNITY SCREENING PROCESS

Given the fact that not any idea is an entrepreneurial opportunity but only those new products or services which meet the market needs and can be sold at a price higher than their cost of production (Kuckertz, Kollmann, Krell & Stockmann, 2016:78), an entrepreneur will have to do a thorough opportunity screening. This will help a prospective entrepreneur to make an informed decision regarding the new venture in mind (Van Aardt, 2015:64). Any new product or service before it could be introduced in the market, it should undergo the screening process (Lebambo, Sambo & Van Der Berg, 2017:16; Co *et al.*, 2013:68;). Koksai (2014:21) argues that the products a company wants to sell are very important since “they are the engine of sales, market share and profitability and, consequently, the survival of a company”.

The screening process comprises of the characteristics of successful products or services, the viability of products or services, marketability, the entrepreneur and the entrepreneurial team and the resources. The above elements are discussed below.

2.6.1 Characteristics of successful products or services

This element of the screening process stresses that it is important to identify the characteristics or attributes of a product or service before it can be introduced into the market. This will help the would-be entrepreneur to avoid unnecessary costs and possibly propel the business to fortune. According to Koksai (2014:27), for a new product to win a competitive advantage in the market should be:

- Superior or unique in terms of meeting customer needs

- Of higher quality
- Offering several unique features or attributes
- Providing superior price/performance characteristics, and delivers good value for money.

2.6.2 Viability of products or services

According to Venter (2017:84), a viability study of a new product or service is investigating whether the new business idea will achieve a profit and increase the wealth of the entrepreneur. Another crucial factor to investigate, as alluded by Van Aardt (2015:71), is whether the product will really work, is it legal to produce, is the design flexible, is the product reliable and safe, is the material used durable and is the maintenance of the product easy and inexpensive? A positive answer to these questions would suggest that the new product idea in question is viable.

2.6.3 Marketability

According to Gosling, Richard and Seo (2016:409), “understanding market boundaries provides not only the means to explore the scope and scale of a market but also provides a theoretical context for what happens within markets and a framework for analysis of how markets emerge, evolve, and decline”.

This element of the screening process provides the scope and the scale of the market and is divided into customers, competitors, suppliers and marketability of the new product or service. These four categories are discussed below.

- **Customers**

The power balance between the providers of products and customers has changed in favour of the customers (Heinonen & Strandvik, 2017:1). To assess the business opportunity as far as customers are concerned, the prospective entrepreneur should have valuable information as to who are his customers and find ways to establish relationships with his customers as this may result in greater operational efficiency

and new product success (Krolkowski & Yuan, 2017:53). According to Zimmer, Arsal, Al-Marzouq Moore and Grover (2010:395), firms that can gather information to better know their customers' have a better chance to survive in today's market place. For any business to succeed customer needs must be satisfied if not, a customer might be dissatisfied and stop buying from you (Bonfanti, 2015:889). Knowing your customers will enable you to better meet your customers' needs.

- **Competitors**

According to Heinonen and Strandvik (2017:1), the business environment and markets in almost all the industries are undergoing a dramatic change. This change is mostly caused by the increasing amount of competition globally (Heinonen & Strandvik, 2017:1). Ignoring gathering information relating to the competitors or potential competitors is one blunder which could have a considerable influence on the success of the new venture. It is important to know the people you are competing with and what are their strategies. Longenecker, Petty, Palich, Hoy, Radipere and Phillips (2017:180) postulate that the more an entrepreneur know about the competitors' key management personnel, the better he can anticipate the actions they might take. According to Co *et al.* (2006:73), to successfully perform a competitive analysis one should investigate the following:

- Who would the competitors of the business be?
- What resources do they control?
- How are they likely to respond when the new business enters the market?
- Will your product provide a competitive advantage as opposed to theirs or not?
- Is there any chance that the competitors would react to a new entrant and if so how?
- Will the competitive advantage gained by introducing the new product or service be maintained or not?
- What pricing strategies would be used compared to those of the competitors?

- **Suppliers**

The performance of a business depends both on its own efforts, resources and skills and on those of other connected firms like its suppliers (Dawsona, Young, Murrayc & Wilkinsond, 2017:1). Suppliers are very important for a new venture. They can have a considerable influence on the competitive advantage of a venture. The would-be entrepreneur should have all necessary information pertaining to his suppliers. According to Van Aardt (2015:71), questions which need to be addressed in this regard are the following:

- Do the existing suppliers have exclusive contracts with the existing businesses?
- Will the venture require a specific supplier?
- Is there any supplier who provide the required product or service for the new venture?
- Will this supplier add a competitive advantage to the planned venture with regard to quality and time?
- Where the suppliers located? Are they local, national or international?

- **Marketing of product or service**

According to Lamb *et al.* (2015:5), marketing is defined as “the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offering that have value for customers, clients, partners and society at large”. Among other things, an entrepreneur needs to know as to how will he inform his potential customers about his new product or service. The questions which need answers in this regard are the following:

- How much will have to be spent on advertising and selling of the new product or service?
- Regarding the market share, how much will the business capture?
- Which advertising media will be utilized, will these be the same as those utilized by the competitors?
- Is the location of the new business playing a vital role in selling the new product or service?

- Will the selling of the product or service going to be influenced by seasonal changes or by the market trends?

2.6.4 The entrepreneur and the entrepreneurial team

When conducting a feasibility study of a venture, one needs to investigate whether the prospective entrepreneur and the team have the relevant skills and experience (Venter, 2017:84). From an entrepreneur vantage point, the would-be entrepreneur should have a better understanding as to the profile of the entrepreneurial team to make his venture succeed. Venter (2017:84) further indicates that the passion of the entrepreneur to venture into that kind of business plays a key role as well as his communication and interpersonal skills to make the prospective venture to succeed.

2.6.5 Resources

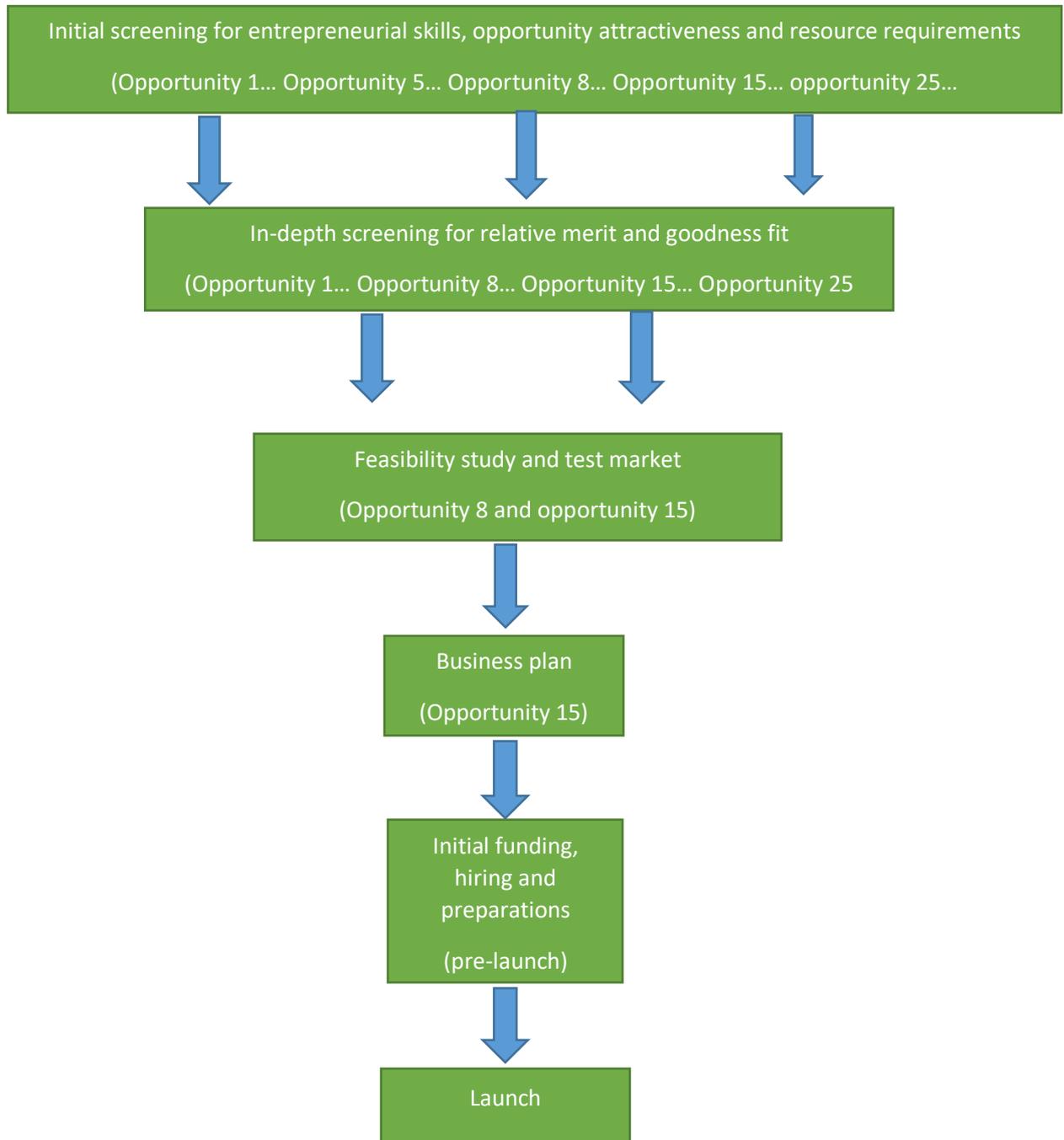
According to Fredriksson, Wanstrom and Medbo (2014:311), component availability is essential for a business and this makes the materials planning (MP) process to be crucial since its main aim is to procure the right materials, at the right time and at minimum cost. The resources are the last element of the entrepreneurial process which needs the attention of the prospective entrepreneur since they are the ones to enable the entrepreneur to produce or deliver the service. The entrepreneur should possess capabilities to organise the business resources even by means of networking with the external environment (Pickernell, Packham, Jones, Miller & Thomas, 2010:184). This is very crucial since it has a direct influence on the competitive advantage of the venture.

2.7 OPPORTUNITY SCREENING FUNNEL

Most of the times an opportunity seeker may generate a number of business ideas which will need a thorough screening by means of an opportunity screening funnel (Harper, 2005:127). This implies that at first there could be many ideas a person identifies in the market but since not every business idea is a viable business opportunity, an entrepreneur will have to screen them until one most promising business idea is selected.

Figure 2.6 below gives an illustration of how business opportunities would undergo the screening process until only one business opportunity is identified.

Figure 2.6: Opportunity screening funnel



Source: Harper (2005:127)

2.8 COMPETITIVE INFORMATION PROCESSING AND RESPONSES

Managing information well is crucial for any business to be successful in a long-term (Jagersma, 2011:137). Organisations have got information assets which can provide a lot of opportunities for the entrepreneur but actually few of the business owners are noticing these opportunities. Information literacy is, therefore, one important factor to consider when dealing with information. Bothma *et al.* (2014:12) argue that since we are living in a complex world that is full of information, one need to have skills to make sense out of the abundance of information by competitively processing it. According to Bothma *et al.* (2014:10), information literacy is defined as the ability to know when information is needed, the ability to find that information and to be able to evaluate the information gathered and utilise it. Jagersma (2011:137) further contends that the increase in the variety, fragmentation and complexity of information can actually help to improve radically the quality of decision making processes in businesses only if the information overload can be avoided.

2.9 CONCLUSION ON LITERATURE STUDY

To conclude, information is found to be one most important commodity in this information age. Every individual has to be informed as to what is happening within his immediate surrounding and beyond. Information is not only important for individuals which are not entrepreneurial alert, but also to those who can easily sport an opportunity in the market. As argued before by Uy *et al.* (2015:117) that individuals who are high on entrepreneurial alertness do search for and notice changes in the environment and adjust their existing mental framework which does not match with the current information available. This will then trigger a business opportunity an individual can exploit. According to the screening process discussed in this study information will help the prospective entrepreneur, out of all the opportunities sported in the market, to scale them down until he is only left with those which has a high potential to help the entrepreneur to generate an income and make profit.

2.10 SUMMARY

In this chapter, three factors that play a role in the recognition of business opportunities were explained, namely: engaging in an active search for business opportunities, entrepreneurial alertness to business opportunities and the prior knowledge of the industry, market or customers. Furthermore, differences among data, information and knowledge were explained. Since the focus of this study was to determine the extent to which the prospective entrepreneurs utilise the information sources, the literature review on different types of sources of information was conducted. In an attempt to explain how these sources of information can be utilised to screen business opportunities the Timmons model of the entrepreneurial process was used. The business opportunities' screening process was also discussed. To illustrate how the screening process is done an opportunity screening funnel was utilised.

It should be noted though, that for any entrepreneurial venture to be successful both entrepreneurial competence and commitment are very important factors that need to be strongly present (Urban *et al.* 2013:123). Entrepreneurial competence of an individual is the ability to identify the business opportunity to be exploited. According to Venter *et al.* (2015:59), entrepreneurial competencies and entrepreneurial commitments are the present value of future behaviour of the entrepreneurial venture.

CHAPTER 3

RESEARCH METHODOLOGY, RESULTS AND DISCUSSIONS

3.1 INTRODUCTION

In chapter two both the external-formal and external-informal sources of information were explained. How the information gathered from the sources of information can be utilised in identifying a business opportunity was explained by means of the Timmon's entrepreneurial model as well as the screening process of business opportunities. The chapter concludes by bringing into the picture the importance of competitively processing the information gathered so that it becomes useful for identifying viable business opportunities.

The purpose of this study is to investigate the extent to which the prospective entrepreneurs utilise the information sources to screen business opportunities. To be able to do that, this chapter will explain the research design and methodology utilised. The sampling design, measuring instrument, method of data collection and the statistical analysis is discussed. The reliability and validity issues are also explained.

3.2 RESEARCH PARADIGM

According to Bryman *et al.* (2014:19), a paradigm is "a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done and how results should be interpreted". There are numerous types of paradigms at the disposal of a researcher to use as a guide for a study. In this study the researcher has adopted the positivism paradigm to provide guidance in philosophical assumptions about research also in the selection of participants, data collection, measuring instrument and statistical analysis. Positivism is related more closely to conducting a quantitative research (Erisson & Kovalainen 2008:19; Welman *et al.*, 2005:6). The quantitative paradigm takes scientific explanation to be nomothetic by means of measuring the social world objectively and

testing hypotheses (Masadeh, 2012:130; Martin, 2007:63). By contrast, the qualitative research approach is a paradigm derived from an anti-positivistic, interpretative approach, which is aimed at understanding social life and the meaning that people attach to it (Hossain, 2011:144).

3.3 RESEARCH APPROACH

According to Adams, Khan and Raeside (2014:6), there are mainly two domains of research frequently observed in the literature, which are the quantitative and qualitative research approaches. The quantitative research approach is a type of research which is “based on the measurement of quantity or amount” (Rohilla, 2010:40), whereas qualitative research aims at “discovering underlying motives of human behaviour” (Rohilla, 2010:41; Khanzode, 2009:5). Table 3.1 below shows differences between the quantitative and qualitative research in terms of principal orientation to the role of theory in relation to research, epistemology and ontology.

Table 3.1: Fundamental differences between quantitative and qualitative research approaches.

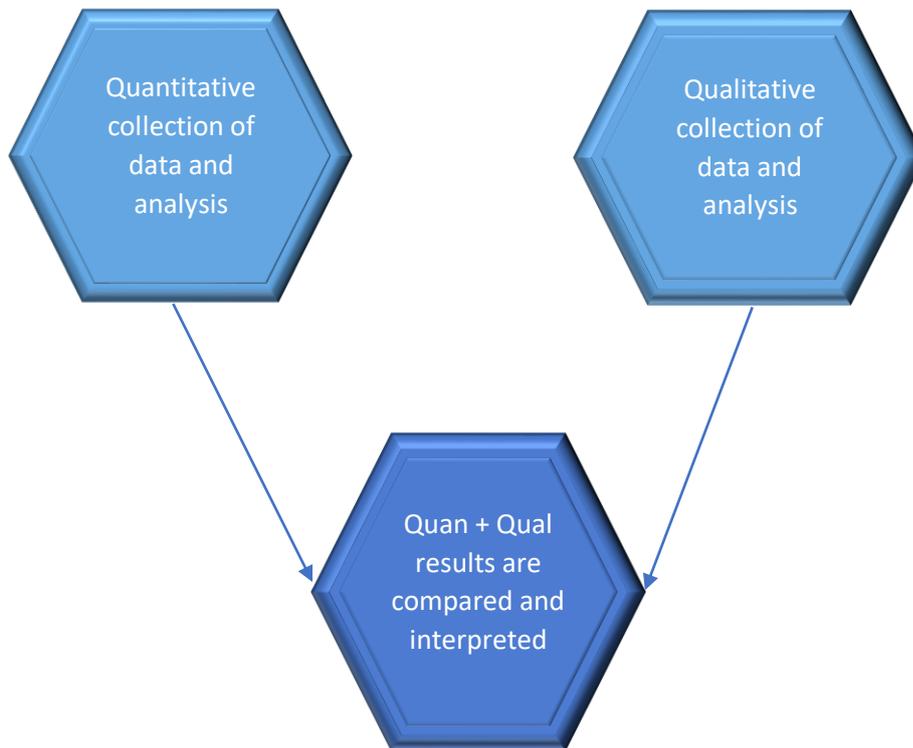
Areas	Quantitative	Qualitative
Principal orientation to the role of theory in relation to research	Deductive, empirical testing of theory	Inductive, generation of theory from data
Epistemological orientation	Natural science model, in particular positivism	Interpretivist
Ontological orientation	Objectivism	Constructionist

Source: Bryman *et al.* (2014:31)

Arguably, Leppink (2017:98) postulates that there is a growing number of researchers who prefer to use the mixed-methods of research since they believe that it is better than using a quantitative or qualitative approach separately. The mixed-research method is one that combines both the quantitative and qualitative methods (Bryman *et al.*, 2014:31; Jonsen & Jehn, 2009:125). The deployment of complementary research methods is invigorated under the assumption that the weaknesses inherent in one approach will be counterbalanced by the strength of the

other (Jonsen & Jehn, 2009:125; Jack & Raturi, 2006:345). Figure 3.1 below provides an illustration how the mixed-method approach could be utilised to study the same phenomenon.

Figure 3.1: Mixed-methods research.



Source: Ivankova, Creswell and Clark (2016:319)

For this study, the quantitative research approach was adopted. The rationale behind the adoption of this research approach by the researcher is based on the fact that it allows a large scale of data collection. Secondly, it is suitable for this study since the focus of the study is to determine the cause relating to the low entrepreneurial activities in South Africa (Bryman *et al.*, 2014:23).

3.4 DATA GATHERING

A researcher using a quantitative approach can utilise the questionnaires, checklists, indexes and scales to gather the data for his study (Delpont, 2005:166). For the purpose of this study questionnaires were utilised to gather the data from the selected sample.

3.4.1 Measuring instrument

The structured questionnaire utilised in this study to measure the utilisation of information sources by prospective entrepreneurs was adapted from the questionnaire developed by Lindblom (2008:532). The Cronbach's alpha of his measuring instrument amounted to 0.7 which proves to be reliable according to Maree (2010:216). Since Lindblom (2008:532) developed the instrument to measure the utilisation of information sources by people who are already entrepreneurs, this study has customised the instrument to suit the respondents at the institution of higher education who are not yet entrepreneurs. For better understanding of the empirical results, the measuring instrument discussed in Chapter one is revisited and comprises of six sections, namely:

- Section A

This section of the questionnaire was used to assess the data regarding the general demographic information of the respondents. This section includes the gender, age category, nationality, marital status and the year of study of the respondent. The purpose of this section was for statistical analysis and to use the groupings for comparison purposes.

- Section B

This section comprises of ten statements aimed at determining the perceived level of importance of the external-formal sources of information.

- Section C

This section has eight items aimed at determining the perceived level of importance of external-informal sources of information.

Both section A and B are completed by means of the Likert Scale having a collection of statements and respondents are required to indicate at what degree do they agree or disagree with the statement. The Likert Scale with the following five points will be used: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and 5 = Strongly Agree.

- Section D

This section has twelve items utilised to determine how frequent the prospective entrepreneur has utilised the external-formal sources of information in the past.

- Section E

Section E has eight items utilised to determine how frequent the prospective entrepreneur has utilised the external-informal sources of information in the past.

Both section D and E are completed by means of the Likert Scale having a collection of sources of information which a prospective entrepreneur can utilise to screen business opportunities. The Likert Scale with the following five points will be used: 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often and 5 = Always.

- Section F

This section has 20 items aimed at determining the preferred sources of information by the prospective entrepreneur. It has a collection of both external-formal and External-Informal types of sources of information. The respondent has to indicate which of these sources of information would he/she utilised if he/she had access to all of them. This section is completed by means of the Likert Scale having a collection of sources of information and respondents are required to indicate to what

degree do they agree or disagree as to the preferred source of information. The Likert Scale with the following five points will be used: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and 5 = Strongly Agree.

3.4.2 Target population

According to Awang (2010:56), the target population “is the element in general population that you want to cover in the study”. The target population of this study comprises of all full-time students who are currently registered with the Vaal University of Technology situated in the Southern Gauteng region of South Africa and are currently doing or did entrepreneurship as one of the modules in their curriculum at the main campus of the institution. The Vaal University of Technology has three satellite campuses. Namely, Apington campus, Ekurhuleni campus and the Secunda campus. Students in the satellite campuses were excluded because the main objective of the satellite campuses were to assist the working people and the farmers who could not attend at the main campus. Also, the part-time students attending at the main campus were excluded since they are also working or they already have businesses of their own. Students enrolled for a module in entrepreneurship are eligible to be taken as prospective entrepreneurs since the main aim of the entrepreneurial modules at the Vaal University of Technology is to up-skill individuals into becoming entrepreneurs. Table 3.2 below provides a detailed head count of all the students enrolled for entrepreneurship in 2017.

Table 3.2: Head count of students enrolled for a module in entrepreneurship from all faculties of the institution.

Course	Number enrolled	Number selected
Analytical Chemistry	30	15
Biomedical	84	30
Biotechnology	159	63
Business Administration (BA)	7	1
Cost and Management Accounting	113	35
Financial Information Systems (FIS)	45	5
Information Technology	117	57
Internal auditing	82	0
Public Relations	60	0
Labour Relations	30	10
Non-destructive testing (NDT)	43	5
Total	770	221

Source: Own compilation.

3.4.3 Sample frame and sampling method

Once the target population has been specified, the researcher should decide if the information would be collected from the entire population (N) or on a sub-set of the population (n) only (Mbundu, 2011:42). Rohilla (2010:117) argues that given the size of the population it may be impossible to select all elements of the population to conduct a study. Therefore, selecting a representative sample may be the only way a researcher can acquire the information needed (Rohilla, 2010:117). Before a sample is drawn from the population, a sample frame must be identified. A sampling frame is the list of elements or units in the population from which the sample may be drawn (Adams *et al.*, 2014:73; Bryman *et al.*, 2014:170). Sampling is divided into probability and non-probability samples. According to Welman *et al.* (2005:56), in the case of probability sampling any element of the population has a fair chance of being selected whereas in the case of non-probability sampling there is no probability that an element of the population being investigated could be selected.

For this study the sample frame comprises of the Integrated Tertiary Software system (ITS) generated class list of students in all the Faculties of The Vaal University of Technology who are enrolled for entrepreneurship as a subject. A probability sampling procedure was utilised in this study. According to Bryman *et al.* (2014:20) a probability sample is the method used if the researcher seeks to generate a representative sample. Probability sampling is a favourable approach for this study as inferential statistics can be utilised to establish meaningful conclusions and each person has a known probability of being selected (Maree & Petersen 2007:172; Strydom 2005:198). A systematic random sampling method was used. Classes of students enrolled for entrepreneurship as one of their modules were selected randomly. Students in the selected classes were therefore selected for this study.

3.4.4 Sample size

Leedy and Ormrod (2010:214) recommended that should the population size be about 1 500 at least 20% should be sampled. Welman *et al.* (2005:71) argue that if a random sampling method is employed in selecting the sample, the sample size of a population of 500 ($N = 500$) units can be 200 ($n = 200$). From the total population of students of 770 ($N = 770$), questionnaires were distributed to 233 respondents ($n = 233$). From the 233 distributed questionnaires 12 of the questionnaires were spoiled and only 221 questionnaires were considered for data analysis.

3.4.5 Statistical analysis

The Statistical Package for Social Sciences (SPSS) version 24.0 was used to analyse the data. The frequency distributions analysed were presented in table formats for ease of interpretation. To measure the central tendency the means values were used and the standard deviation to show how the distribution of data was.

3.4.5.1 Validity

For face validity, the measuring instrument was given to three experts in entrepreneurship. To ensure proper validation of the, the measuring instrument was accompanied by the purpose of the study and the literature review. The validators were requested to check the questionnaire grammar, relevance and the flow of the constructs. Their corrections were effected before the measuring instrument could be administered to the respondents.

3.4.5.2 Reliability

Cronbach's alpha coefficients were used to measure the internal reliability of the instrument. Maree (2010:216) recommended that in most applications a reliability coefficient of 0.70 is regarded as acceptable. According to Lindblom (2008:532), for a new scale a Cronbach's Alpha value of 0.6 is acceptable. This study has, therefore, followed the same guidelines.

3.5 DEMOGRAPHIC INFORMATION OF THE RESPONDENTS

Section A of the measuring instrument assessed the demographic information of the students. In this section students had to indicate their gender, age group, nationality, marital status and their year of study at the university.

3.5.1 The gender of the respondents

The purpose of this question was to determine the gender of the respondent so as to make comparison between the gender of students. Table 3.3 below shows the gender and percentages of the students.

Table 3.3: Gender classification of students

Gender	Frequency	Percent	Cumulative percent
Male	91	41.2	41.2
Female	130	58.8	100.0
Total	221	100.0	

Source: Own compilation

- **Analysis of results**

Most of the respondents were females amounting to 130 and constituting 58.8% of the respondents. The male counter parts amounted to 91 and constituting 41.2% of the entire respondents. The main reason for this is that in most of the classes female students outnumber the male students.

3.5.2 The age groups of the respondents

The purpose of this question was to determine the age of the respondents so as to be able to perform comparisons between their age groups.

Table 3.4: Age groups classification of students

Age group	Frequency	Percent	Cumulative percent
18-20	51	23.1	23.1
21-25	152	68.8	91.9
26-29	16	7.2	99.1
36 and older	2	.9	100.0
Total	221	100.0	

Source: Own compilation

- **Analysis of results**

The largest age group of the students participated in this study is the 21 to 25 years group with 152 respondents constituting 68.8% of the participants. Followed by the 18 to 20 years age group with 51 participants, constituting 23.1% of the participants, and the 26 to 29 age group constituted only 7.2% of the participants with only 16 respondents. The smallest age group is the 36 years and older group with only 2 participants constituting 0.9% of the participants.

3.5.3 Ethnicity of the students

The aim of this question was to determine the ethnicity of the students who participated in the study so as to assist the researcher to do comparison between the ethnicities of the students.

Table 3.5: The ethnicity groupings of the students

Ethnicity	Frequency	Percent	Cumulative percent
African	217	98.2	98.2
Asian	3	1.4	99.5
European	0	0	99.5
Other	1	0.5	100.0
Total	221	100.0	

Source: Own compilation

- **Analysis of results**

Most of the respondents in this study were Africans with 217 participants constituting 98.2% of the entire sample. Only 3 participants were Asians constituting 1.4% and the smallest group was the “other” with only 1 participant constituting only 0.5% of the entire participants. The “other” group was meant to accommodate any other ethnicity not included in the measuring instrument.

3.5.4 The marital status of the students

The purpose of this question was to determine the marital status of the students so as to determine the respondents level of obligations regarding their marital status.

Table 3.6: The marital status of the students

Marital status	Frequency	Percent	Cumulative percent
Single	213	96.4	96.4
Married	8	3.6	100.0
Divorced	0	0.0	
Widow	0	0.0	
Total	221	100.0	

Source: Own compilation

- **Analysis of results**

Most of the respondents are single with 213 participants constituting 96.4% of the entire sample and only 8 of the participants were married constituting only 3.6% of the respondents.

3.5.5 The year of study of the students

The aim of this question was to determine the year of study of the students. This will help the researcher to do some comparison between their year of study which could shed light as to the reason of level of utilisation of the sources of information by the students.

Table 3.7: The year of study of the students

Year of study	Frequency	Percent	Cumulative percent
1st year	34	15.4	15.4
2nd year	109	49.3	64.7
3rd year	75	33.9	98.6
B-tech	2	0.9	99.5
M-tech	1	0.5	100.0
Total	221	100.0	

Source: Own compilation

- **Analysis of results**

Most of the participants in this study were students in the second year of study with 109 participants constituting 49.3% of the respondents. The students in the third year of study were 75 constituting 33.9% of the respondents. The students who are in the first year of study were 34 constituting 15.4% of the sample. Followed by B-tech students with only 2 participants constituting 0.9% of the participants and only one M-tech student participated in the study constituting 0.5% of the sample.

3.6 RELIABILITY OF THE MEASURING INSTRUMENT

According to Lotz and Van Der Merwe (2013:24), the Cronbach alpha coefficients should be calculated to assess the internal consistency of the items measuring the variables under investigation. The Cronbach alpha coefficients ideally should be above 0.7 (Pallant, 2007:95), however Lotz and Van Der Merwe (2013:24) argue that if the Cronbach alpha coefficient is not under 0.6 the proposed instrument is still considered as being reliable. According to Field (2009:675), the small number of items may cause the Cronbach alpha coefficient to be low even if the scale is reliable.

Table 3.7 below shows the variables of the measuring instrument utilised in the study with their respective Cronbach alpha coefficients values.

Table 3.8: Cronbach Alpha coefficients of the constructs

Constructs	Cronbach Alpha coefficients
Perception of level of importance of the external-formal information sources	0.798
Perception of level of importance of the external-informal information sources	0.610
Level of utilisation of external-formal information sources	0.875
Level of utilisation of external-informal information sources	0.813
Preference on different types of sources of information	0.868

Source: Own compilation

- **Analysis of results**

The Cronbach alpha coefficient values of the measuring instrument of this study are all beyond 0.7 except for the “perception of level of importance of the external-informal sources of information” which is 0.610. According to Lotz and Van Der Merwe (2013:24), a Cronbach alpha coefficient of 0.6 is still considered as being reliable. Field (2009:675) argues that a scale may have a Cronbach alpha value which is lower than 0.7 because of a small number of items of that scale but still regarded as reliable. The construct “perception of level of importance of the external-informal information sources” had only eight items. This could be the reason why it had a Cronbach alpha of 0.610.

3.6.1 Assessment of the perceptions of students on the level of importance of the external-formal sources of information

Section B of the measuring instrument was aimed at assessing the perception of the students on the level of importance of the external-formal sources of information. This construct has ten statements. These statements were put on a Likert scale of 1 = Strongly disagree, 2 = disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree.

- **Results obtained**

The results obtained from the data analysis are tabulated in a numerical descending order from the highest to the lowest mean of the statements of the section (refer to table 3.9).

Table 3.9: Perceptions on the level of importance of the external-formal sources of information

	Statement	\bar{x}	s	n
B1	Customers are a very important source of information for the identification of business opportunities.	4.43	.907	221
B5	It is very important for a person aspiring to be an entrepreneur to gather information by investigating how other products were made to identify viable business opportunities.	4.37	.899	221
B2	Market research companies are very useful for providing important information on business opportunities.	4.20	.849	221
B7	Published documents and reports released by statistical organisations are very important for identification of new business opportunities.	3.98	.977	221
B6	Magazine and journal articles can be very useful in identifying gaps in the market.	3.91	1.058	221
B10	Conference proceedings can be a very important source of information for prospective entrepreneurs.	3.90	1.087	221
B4	Published projections and forecast data are very important source of information for a prospective entrepreneur.	3.86	.881	221
B3	Consumer expenditure reports are a very important source of information for identification of business opportunities.	3.82	.941	221

	Statement	\bar{x}	s	n
B9	Consulting firms are very important source of information for prospective entrepreneurs.	3.72	1.074	221
B8	Trade associations provide very useful information for anyone who intends to start a business.	3.59	1.100	221
Grand mean		3.979	0.977	

Source: Own compilation

- **Analysis of results**

Concerning the “perceptions of the students on the level of importance of the external-formal sources of information” the means were interpreted as follows: $\bar{x} \geq 4.5$ = strongly agree; $3.5 \leq \bar{x} < 4.5$ = agree; $2.5 \leq \bar{x} < 3.5$ = neutral; $1.5 \leq \bar{x} < 2.5$ = disagree and $\bar{x} < 1.5$ = strongly disagree.

The grand mean for the perceptions of the students on the importance of the external-formal sources of information is $\bar{x} = 3.979$. This means that the students perceive the external-formal sources of information as being important. All of the statements of the measuring instrument had means which fall within the range of: $3.5 \leq \bar{x} < 4.5$ thus making each of the external-formal sources of information individually perceived as being important.

3.6.2 Assessment of the perceptions of students on the level of importance of the external-informal sources of information

Section C of the measuring instrument is aimed at assessing the perceptions of students regarding the level of importance of the external-informal sources of information. A student would rank the sources of information on a five-point Likert scale where 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree.

- **Results obtained**

The results obtained from the data analysis are tabulated in a numerical descending order from the highest to the lowest mean of the statements of the section (refer to table 3.10).

Table 3.10: Perceptions on the level of importance of the external-informal sources of information

	Statement	\bar{x}	s	n
C3	Observing competitors' activities provides important business information to prospective entrepreneurs	4.43	2.740	221
C2	Customers are very important sources of business information that helps upcoming entrepreneurs to identify business opportunities	4.29	.946	221
C4	Information gathered while a person is working for a company can provide a very important business information to identify viable business ideas	4.16	.957	221
C5	Social networks provide one with better chances to identify competitive business ideas	3.98	1.031	221
C7	Professional contacts a person has with e.g. lawyers, accountants and venture capitalists can be important sources of information on identifying viable businesses	3.82	1.097	221
C8	Ex-employees can be useful information sources for prospective entrepreneurs	3.71	1.182	221
C6	Informal discussions with my classmates are very important in identifying business opportunities	3.44	1.117	221
C1	The opinions of my friends and family are important sources of information on starting new businesses.	3.40	1.316	221
Grand mean		3.903	1.298	

Source: Own compilation

- **Analysis of results**

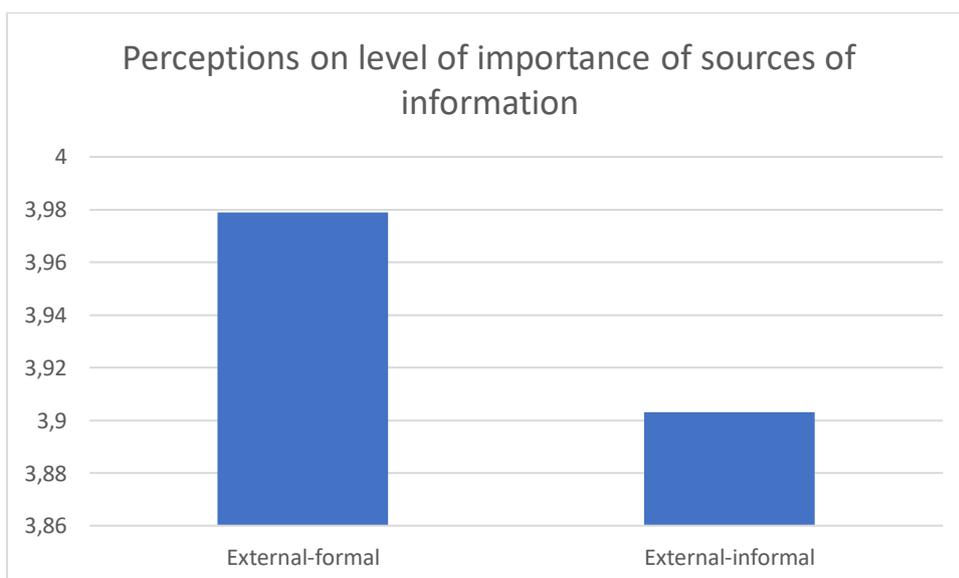
Concerning the “perceptions on the level of importance of the external-informal sources of information” the means were interpreted as follows: $\bar{x} \geq 4.5$ = strongly agree; $3.5 \leq \bar{x} < 4.5$ = agree; $2.5 \leq \bar{x} < 3.5$ = neutral; $1.5 \leq \bar{x} < 2.5$ = disagree and $\bar{x} < 1.5$ = strongly disagree.

The grand mean of the students' perceptions on the level of importance of the external-informal sources of information is $\bar{x} = 3.903$. This means that the students perceived the external-informal sources of information as being important as well. Of all the external-informal sources of information the "opinions one would get from family members and friends" and the "informal discussions with classmates" took a neutral stance with $\bar{x} = 3.40$ and $\bar{x} = 3.44$ respectively.

3.6.3 Graphical comparison on perceptions of students regarding the importance level of the sources of information.

To compare between external-formal and external-informal sources of information in terms of their perceived level of importance their means were used. Even though both the external-formal and the external-informal sources of information were considered to be important by the prospective entrepreneurs, a slight difference was observed between the two. Figure 3.2 below provides a graphical depiction of the slight difference on the perceptions of the prospective entrepreneurs regarding the level of importance of the external-formal and the external-informal sources of information.

Figure 3.2: Comparison between external-formal and external-informal sources of information regarding their level of importance



Source: Own compilation

3.6.4 Assessing the level of utilisation of external-formal information sources

The purpose of Section D was to determine the extent to which the external-formal sources of information are utilised by the students in attempting to search for business opportunities. A respondent had to indicate on a five-point Likert scale how often he/she had utilised the external-formal sources of information before. Where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = always.

- **Results obtained**

The results obtained were tabulated below in the descending order from the highest to the lowest mean of the section statements.

Table 3.11: The level of utilisation of external-formal information sources

	Statement	\bar{x}	s	n
D10	The Internet	4.43	.898	221
D11	Studying how a product was made	3.86	1.133	221
D3	Magazine and journal articles	3.48	1.093	221
D1	Key-customers	3.38	1.152	221
D9	Market research firms	3.35	1.309	221
D2	Market research companies	3.33	1.162	221
D5	Data on consumer expenditure	3.30	1.263	221
D4	Statistics organisations data	3.28	1.166	221
D12	Conference proceedings	3.27	1.258	221
D6	Projections and forecast data	3.22	1.188	221
D8	Consulting firms	3.09	1.210	221
D7	Trade associations	3.07	1.245	221
Grand mean		3.421	1.173	

Source: Own compilation

- **Analysis of results**

Concerning “assessing the level of utilisation of external-formal information sources” by the prospective entrepreneurs, the means were interpreted as follows: $\bar{x} \geq 4.5 =$

always; $3.5 \leq \bar{x} < 4.5$ = often; $2.5 \leq \bar{x} < 3.5$ = sometimes; $1.5 \leq \bar{x} < 2.5$ = seldom and $\bar{x} < 1.5$ = never.

The grand mean of the construct indicates that students do sometimes make use of the external-formal sources of information with $\bar{x} = 3.421$ except for the “Internet” and “studying how a product was made” since their means are within the range of $3.5 \leq \bar{x} < 4.5$. This means that the prospective entrepreneurs out of all the external-formal sources of information they often make use of the Internet and studying how a product was made.

3.6.5 Assessing the level of utilisation of external-informal information sources

The purpose of this Section E was to determine the extent to which the external-informal sources of information is utilised by the students. A respondent would have to rank their utilisation of the sources of information on a five-point Likert scale, where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = always.

- **Results obtained**

The results obtained were tabulated below in the descending order from the highest to the lowest mean of the section statements (refer to table 3.12).

Table 3.12: The level of utilisation of external-informal information sources

	Statement	\bar{x}	s	n
E5	Social networks	3.99	1.110	221
E1	Information from customers	3.63	1.154	221
E2	Competitor information	3.57	1.216	221
E3	Your friends and family members informal opinions	3.50	1.075	221
E4	Your classmates	3.28	1.135	221
E8	People who once worked for an employer	3.26	1.180	221
E7	Professional contacts such as lawyers, accountants and venture capitalists	3.08	1.308	221
E6	Information gathered from former employers	3.00	1.195	221
Grand mean		3.415	1.172	

Source: Own compilation

- **Analysis of results**

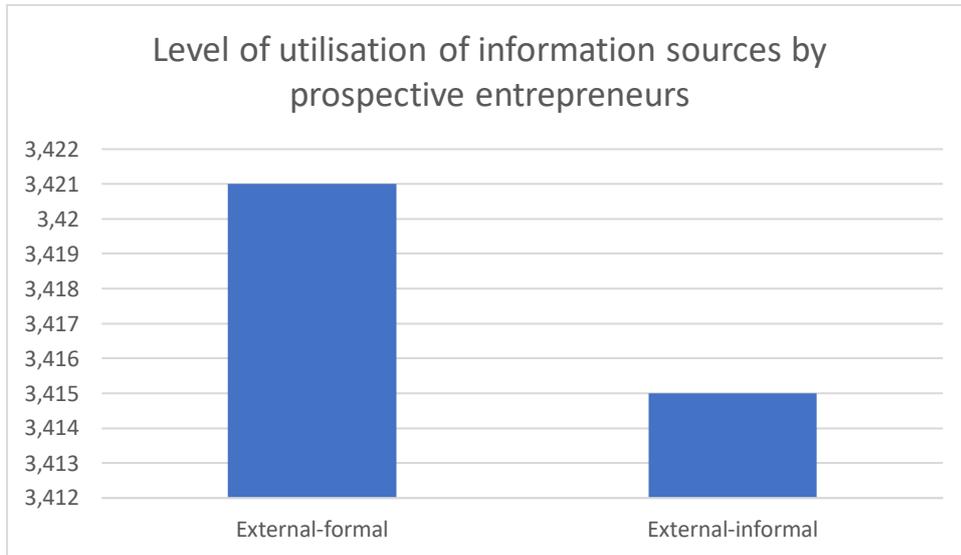
Concerning “assessing the level of utilisation of external-informal information sources” by the prospective entrepreneurs, the means were interpreted as follows: $\bar{x} \geq 4.5$ = always; $3.5 \leq \bar{x} < 4.5$ = often; $2.5 \leq \bar{x} < 3.5$ = sometimes; $1.5 \leq \bar{x} < 2.5$ = seldom and $\bar{x} < 1.5$ = never.

The grand mean of the level of utilisation of the external-informal sources of information is $\bar{x} = 3.415$. This indicates that the prospective entrepreneurs do sometimes utilise the external-informal sources of information, except for “social networks” with $\bar{x} = 3.99$, the “information from customers” with $\bar{x} = 3.63$, the “competitor information” with $\bar{x} = 3.57$ and “the friends and family members’ opinions” with $\bar{x} = 3.50$. The means of these four sources of information fall within the range of $3.5 \leq \bar{x} < 4.5$ meaning that they are often utilised by the prospective entrepreneurs than the rest of the other external-informal sources of information.

3.6.6 Graphical comparison on level of utilisation of information sources by the prospective entrepreneurs

To compare between the external-formal and external-informal sources of information in terms of their level of utilisation by the prospective entrepreneurs their means were used. Although both the external-formal and external-informal sources of information are utilised “sometimes” by the prospective entrepreneurs, a slight difference was observed. The results obtained from the statistical analysis shows that the external-formal sources of information are utilised slightly more than the external-informal sources of information. Figure 3.3 below provides a graphical depiction of this difference.

Figure 3.3: Level of utilisation of information sources by prospective entrepreneurs



Source: Own compilation

3.6.7 Assessing the preference of students on different types of sources of information

The aim of Section F was to determine the preferred sources of information by the students. A respondent had to rank the sources of information according to the level of his/her preference on a five-point Likert scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree.

- **Results obtained**

The results obtained were tabulated below in the descending order from the highest to the lowest mean of the section statements (refer to table 3.13).

Table 3.13: Preferred types of sources of information

	Statement	\bar{x}	s	n
F10	The Internet	4.40	.863	221
F13	Information from customers	4.23	1.014	221
F17	Social networks	4.17	.924	221
F2	Market research companies	4.14	.962	221
F1	Key-customers	4.09	1.041	221
F14	Competitor's information	4.08	.947	221
F11	Studying how a product was made	4.07	1.085	221
F9	Market research firms	4.05	1.037	221
F4	Statistics organisations data	3.93	1.036	221
F20	People who once worked for an employer	3.91	1.058	221
F19	Professional contacts like patent attorneys, accountants and venture capitalists	3.84	1.032	221
F5	Data on consumer expenditure	3.82	1.074	221
F8	Consulting firms	3.80	1.109	221
F3	Magazine and journal articles	3.78	1.105	221
F12	Conference proceedings	3.77	1.096	221
F6	Projections and forecast data	3.74	1.043	221
F18	Information gathered from former employers	3.72	1.069	221
F15	Your friends and family members informal opinions	3.66	1.126	221
F16	Your classmates	3.65	2.276	221
F7	Trade associations.	3.62	1.135	221
Grand mean		3.923	1.041	

Source: Own compilation

- **Analysis of results**

With regard to the interpretation of “preferred types of sources of information” the means were interpreted as follows: $\bar{x} \geq 4.5$ = strongly agree; $3.5 \leq \bar{x} < 4.5$ = agree; $2.5 \leq \bar{x} < 3.5$ = neutral; $1.5 \leq \bar{x} < 2.5$ = disagree and $\bar{x} < 1.5$ = strongly disagree.

The grand mean of students on preferred type of sources of information is $\bar{x} = 3.923$. This indicate that students would like to make use of all the sources of information if they had a chance of accessing all of them with an aim of identifying business

opportunities. The highly preferred sources of information are the Internet, information from customers, social networks and market research firms with means of $\bar{x} = 4.40$, $\bar{x} = 4.23$, $\bar{x} = 4.17$ and $\bar{x} = 4.14$ respectively. The lowly preferred sources of information are the trade associations with $\bar{x} = 3.62$.

3.7 CORRELATION ANALYSIS

According to Maree (2016:264), the correlation coefficient is a “measure of the strength of the linear relationship between two quantitative variables”. The correlation analysis (Table 3.13) shows the strength and direction of association among the constructs under consideration in this research study which are the perceived level of importance of external-formal sources of information (LIEF), the perceived level of importance of external-informal sources of information (LIEI), the level of utilisation of the external-formal sources of information (UEF) and the level of utilisation of the external-informal sources of information (UEI). A bivariate, two-tailed Pearson Correlation Analysis was undertaken at a significance level of $p < 0.05$ to establish the level of association between the associations.

Table 3.14: Correlation analysis

Constructs	N	LIEF	LIEI	UEF	UEI
LIEF	221	1.000	.508**	.258**	.305**
LIEI	221	.508**	1.000	.323**	.384**
UEF	221	.258**	.323**	1.000	.704**
UEI	221	.305**	.384**	.704**	1.000

**Correlations are significant at the 0.05 level (2-tailed)
LIEF = Level of importance of external-formal sources of information
LIEI = Level of importance of external-informal sources of information
UEF = Extend of utilisation of external-formal sources of information
UEI = Extend of utilisation of external-informal sources of information

Source: Own compilation

- **Analysis of results**

There was a strong positive correlation between UEF and UEI ($r = 0.704$; $p < 0.05$). This implies that when the prospective entrepreneurs' utilisation of the external-formal sources of information increases, the utilisation of the external-informal sources of information will also increase and vice-versa.

There was a strong positive correlation between LIEF and LIEI ($r = 0.58$; $p < 0.05$). This indicates that as the prospective entrepreneurs perceive the external-formal sources of information to be important the external-informal will also be perceived as being important by the prospective entrepreneurs.

There was a medium positive correlation between LIEI and UEI ($r = 0.384$; $p < 0.05$). The correlation results indicate that the more the external-informal sources of information are perceived to be important, the more they will be utilised by the prospective entrepreneurs. The lesser they are perceived to be important the lesser they will be utilised by the prospective entrepreneurs.

There was a medium positive correlation between LIEI and UEF ($r = 0.323$; $p < 0.05$). The correlation results indicate that when the external-informal sources of information is perceived to be important that will have a medium positive influence onto the utilisation of the external-formal sources of information.

There was a medium positive correlation between LIEF and UEI ($r = 0.305$; $p < 0.05$). This implies that when the external-formal sources of information are perceived to be important that will have a medium positive influence on the utilisation of the external-informal sources of information.

There was a weak positive correlation between LIEF and UEF ($r = 0.258$; $p < 0.05$). Between the perceived level of importance of the external-formal sources of information and the utilisation of the external-formal sources of information, there is a weak positive correlation. This means that LIEF has a slight influence on UEF.

3.8 REGRESSION ANALYSIS

Since positive associations existed between the perceived level of importance of external-formal (LIEF) sources of information, the perceived level of importance of external-informal (LIEI) sources of information and the level of the utilisation of both the external-formal (UEF) and the external-informal (UEI) sources of information, it was deemed necessary to establish whether LIEF and LIEI dimensions predicted the utilisation of the sources of information (UEF & UEI). This was achieved through application of the regression analysis procedure. Regression analysis is a statistical process for estimating predictive relationships amongst variables (Petersen & Maree, 2016:269). To test predictive relationships, perceived level of importance of external-formal (LIEF) sources of information, the perceived level of importance of external-informal (LIEI) sources of information were used as independent variables and the level of the utilisation of both the external-formal (UEF) and the external-informal (UEI) sources of information dependent variable. The results of the regression analysis are reported in table 3.14 and table 3.15 below.

Table 3.15: Regression Model 1 Summary

Model summary	Beta	T	Sig.
Dependent variable- UEF			
LIEF	0.127	1.714	.088
LIEI	0.258	3.494	.001
R ² 0.108 p<0.05			

The analysis of Regression Model 1 shows that LIEF was statistically insignificant in predicting UEF (B=0.127; t=1.714; p=0.088). This demonstrates that LIEF does not predict UEF in screening of viable business ideas, while LIEI was statistically significant in predicting UEF (B=0.258; t=4.494; p=0.001). This demonstrates that LIEI predicts UEF in screening of viable business ideas.

Table 3.16: Regression Model 2 summary

Model summary	Beta	T	Sig.
Dependent variable- UEI			
LIEF	.149	2.070	.040
LIEI	.309	4.296	.000
R ² 0.156 p<0.05			

The Regression Model 2 analysis shows that LIEF was statistically significant in predicting UEI (B=0.149; t=2.070; p=0.040). This demonstrates that LIEF does predict UEI in screening of viable business ideas, and LIEI was shown to be statistically significant in predicting UEI (B=0.309; t=4.296; p=0.000). This demonstrates that LIEI predicts UEI in screening of viable business opportunities.

3.9 CONCLUSION

The both categories of the sources of information are found to be important by prospective entrepreneurs. The external-formal sources are found to be more important than the external-informal sources of information since the grand mean of the external-formal sources is higher than that of external-informal sources of information. The regression analysis results indicated that only the LIEI has a predictive influence on both the UEF and UEI. LIEF has a predictive influence only on UEI.

The section below gives a summary of the whole empirical results founded in this study.

3.10 SUMMARY

This chapter indicated the research approach followed which was the quantitative research approach. The method used to gather the data was a structured questionnaire. The measuring instrument utilised comprised of section A aimed at determining the demographic profile of the respondents. Section B aimed at assessing the extent to which the prospective entrepreneurs perceive the external-

formal sources of information important and Section C aimed at assessing the extent to which the external-informal sources of information are perceived important by the prospective entrepreneurs. Section D and E were aimed at assessing the extent to which the prospective entrepreneurs utilise both the external-formal and external-informal sources of information and lastly Section F aimed at determining the preferred types of sources of information by the prospective entrepreneurs.

The grand mean for Section B was $\bar{x} = 3.979$ indicating that the respondents considered the external-formal sources of information important in screening business opportunities. The grand mean for Section C was $\bar{x} = 3.903$ indicating that the external-informal sources of information are also regarded as being important to identify and screen business opportunities but not as important as the external-formal since its grand mean is greater than that of Section C. Both Section D and E indicated that the prospective entrepreneurs sometimes do make use of both the external-formal and external-informal sources of information with grand means of $\bar{x} = 3.421$ and $\bar{x} = 3.415$ respectively. Section F results indicated that the prospective entrepreneurs would most probably utilise all of the sources of information at their disposal should they have access to all of them with the grand mean of $\bar{x} = 3.923$.

The Pearson correlation analysis was conducted and the results showed a positive correlation among all the variables under investigation. This necessitated that the regression analysis be conducted to determine the predictive influence of the LIEF and LIEI since they were combined as the independent variables on UEF and UEI as they were utilised as the dependent variables. The results indicated that only the LIEI has a predictive influence on both the UEF and UEI. LIEF has a predictive influence only on UEI.

The discussion of the empirical results, recommendation and conclusion to the study will be discussed in the Chapter 4 of the study.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

4.1 INTRODUCTION

The purpose of this chapter of the study on investigating the utilisation of sources of information by the prospective entrepreneurs to screen business opportunities, is to give practical recommendations on how utilisation of the sources of information can be enhanced. These recommendations will be based on the results obtained from the empirical study reported in Chapter 3.

This chapter comprises of four sections. The first section will be based on conclusions taken from the results obtained from the empirical study in Chapter 3, followed by the recommendations on the results. The third section will focus on the critical evaluation of the primary and secondary objectives of the study and the last section provides suggestions for future research.

4.2 CONCLUSIONS

The conclusions made here are based on the demographic profile of the respondents, the perceived level of importance of both the external-formal and the external-informal information sources which can be utilised by the prospective entrepreneurs to screen business opportunities. The reliability of the measuring instrument by means of the Cronbach alpha coefficients and lastly the extent to which the sources of information are utilised and the preferences of the prospective entrepreneurs on the different types of sources of information.

4.2.1 Demographic profile of the respondents

- **Gender:** Of the 221 respondents 130 were females which constituted 58.8% and the males were 91 constituting 41.2% of the respondents.
- **Age category:** Most of the respondents fall under the age category of 21 years to 25 years totalling to 152 and constituting 68.8% of the respondents.

The second large group is the 18-20 years old totalling to 51 respondents constituting 23.1%. The third group followed was the 26-29 years with 16 respondents constituting 7.2% and the smallest group is the 36 years and older with only 2 respondents constituting only 0.9%.

- **Nationality:** The largest group of nationality partaken in this study were Africans totalling to 217 respondents and constituting 98.2% of the respondents. The main reason for this is that the Vaal University of Technology mostly has black students and very few of the other nationalities enrolled with it. Three of the respondents are Asians constituting 1.4%. There was one under the other category constituting 0.5% and none of the Europeans partaken in this study.
- **Marital status:** Most of the participants were single totalling to 213 respondents constituting up to 96.4% of the respondents followed by the married participants totalling to eight constituting 3.6% of the respondents and there were no participants who are divorced or widowed.
- **Year of study:** The largest group participated in this study are the second years totalling to 109 participants constituting 49.3% of the respondents. This group was followed by the third years totalling to 75 participants constituting 33.9%. The first years were 34 making 15.4% of the respondents. The B-tech students were only two making 0.9% and M-tech students only 1 participated constituting 0.5%.

4.2.2 The reliability of the measuring instrument utilised

To measure the reliability of the measuring instrument utilised in this study the Cronbach alpha coefficients were calculated. According to Field (2009:679), a value of Cronbach alpha of 0.7 is considered to be good. All the constructs had a good value of Cronbach alpha except for “the perceived level of importance of the external-informal (LIEI) sources of information” construct. This construct had a low value of Cronbach alpha coefficient of 0.610 but was considered in this study since according to Lotz and Van Der Merwe (2013:24), a Cronbach alpha coefficient of 0.6 can be regarded as being reliable (Watkins & Gioia, 2015:102). The perceived level of importance of the external-formal (LIEF) sources of information had a Cronbach

alpha of 0.798. The level of utilisation of the external-formal (UEF) had a Cronbach alpha of 0.875. The level of utilisation of the external-informal (UEI) sources of information had a Cronbach alpha of 0.813. lastly the preferred sources of information (PSI) had a Cronbach alpha of 0.868. Since all of the other four constructs were considered as being reliable as well given the fact that their Cronbach alpha values were above 0.7 (Pallant, 2007:95). The measuring instrument was, therefore, considered reliable.

4.2.3 Conclusion on the perceived level of importance of sources of information

The main focus of this study was to investigate the utilisation of information sources to screen business opportunities by the prospective entrepreneurs. To conduct this study effectively, Section B and Section C of the measuring instrument were aimed at determining the perceptions of the prospective entrepreneurs regarding the importance of the sources. The researcher had an opinion that the extent to which a prospective entrepreneur would utilise a source of information would most probably depend on how it is perceived important.

Section B had ten statements and Section C had eight statements. A five-point Likert Scale was used on both sections. If a respondent strongly disagrees with the statement would rate it 1 and if strongly agrees would rate it 5. An average rating of $2.5 \leq \bar{x} < 3.5$ was used as a benchmark so that recommendations on the empirical study are based on it (Chere, 2014:71; Enslin, 2010:98).

- External-formal sources of information

The external-formal sources of information are perceived as being important by the prospective entrepreneurs since the construct had a grand mean of $\bar{x} = 3.979$. The highly rated statements were B1 with $\bar{x} = 4.43$ which stated that customers are a very important source of information, B5 which stated that gathering information on how other products were made is important with $\bar{x} = 4.37$ and B2 which stated that the market research firms are important with $\bar{x} = 4.20$. All other statements were rated above the neutral mark of $2.5 \leq \bar{x} < 3.5$. The results indicated that the external-formal

sources of information are important for one to utilise if in the mission of starting an entrepreneurial venture. These findings contradict the findings of Lindblom (2008:533). According to Lindblom (2008:533), the K-retailers considered the external-informal sources of information more important to them hence they utilised more of them than the external-formal sources of information.

- External-informal sources of information

Section C which was investigating the perception of the prospective entrepreneurs on the importance of external-informal sources of information had a grand mean of $\bar{x} = 3.903$. This means that the prospective entrepreneurs perceive the external-informal sources of information to be important as well. The highly ranked statements were C3 which stated that competitor information is important with $\bar{x} = 4.43$, C2 which stated that customers informal information is important to screen business opportunities with $\bar{x} = 4.29$ and C4 stating that information a person gathers while working for an employer is important with $\bar{x} = 4.16$. The rest of the statements were rated higher than the neutral mark of $2.5 \leq \bar{x} < 3.5$ other than statement C6 and C1 stating that information gathered from classmates and friends is important. These two statements took a neutral stance. These findings are not in consistence with the findings of Shokane (2001:66). According to the findings of Shokane (2001:66), the entrepreneurs at Acornhoek considered the external-informal sources of information important for them more than the external-formal sources of information.

When comparing the grand means of both external-formal and external-informal sources of information, the external-formal sources of information were rated more important than the external-informal sources of information.

4.2.4 Conclusion on the extent to which sources of information are utilised by the prospective entrepreneurs

Sections D and E of the questionnaire were the main focus of the study. Section D had twelve statements and Section E had eight statements. These statements were rated on five-point Likert scale with 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = always. Section D was assessing the extent to which the external-formal

sources of information are utilised by prospective entrepreneurs and Section E was assessing the extent to which the external-informal sources are being utilised by the prospective entrepreneurs.

- External-formal sources of information

This construct had a grand mean of $\bar{x} = 3.421$ meaning that the external-formal sources of information are sometimes utilised by the prospective entrepreneurs. This means that prospective entrepreneurs are not much active searchers of business information in the external-formal sources. Statements D10 and D11 had higher ratings of $\bar{x} = 4.43$ and $\bar{x} = 3.86$ respectively. This means that if they do search for business opportunities they utilise mostly the Internet and studying how a product is made. These findings confirm the findings of the study conducted by Franco, Haase, Magrinho and Silva (2011:277) on the sources of information mostly used by the Portuguese entrepreneurs. In their study they found that the Portuguese entrepreneurs mostly make use of the external-formal sources of information especially the “Internet” and “specialised publications”. However, this contradicts the findings by Lindblom (2008:533) that most of the K-retail entrepreneurs mostly utilised the external-informal sources of information. However, the findings of these researchers agree on the fact that the entrepreneurs mostly prefer to utilise the external sources of information.

- External-informal sources of information

This construct had a grand mean of $\bar{x} = 3.415$ meaning that the external-informal sources of information are also utilised sometimes by the prospective entrepreneurs. The information sources the prospective entrepreneurs often utilise are: social networks with an average mean of $\bar{x} = 3.99$ and information from customers with an average mean of $\bar{x} = 3.63$. According Franco *et al.* (2011:277), the information from customers is mostly utilised by the Portuguese entrepreneurs as well. This study, therefore, confirms their findings. The competitor information had a mean average of $\bar{x} = 3.57$. This also confirms Franco *et al.* (2011:277) findings. According to them the competitors’ information will equip an entrepreneur with knowledge regarding what

happens in that market. This will help the entrepreneur to craft a strategy with a competitive advantage in that market. The last external-informal source of information often utilised by the prospective entrepreneurs are friends and family members with a mean of $\bar{x} = 3.50$. The rest of the other external-informal sources of information are utilised sometimes.

4.2.5 Conclusion on the preferred types of sources of information

This section of the measuring instrument was meant to determine the types of sources of information the prospective entrepreneurs prefer to utilise if they had any easy access to all of them. The grand mean of this construct was $\bar{x} = 3.923$. All of the statements of this construct had average means higher than $2.5 \leq \bar{x} < 3.5$, meaning that they would love to make use of all of the sources of information. F1 to F12 were statements focused on the external-formal sources of information whereas F13 to F20 were focused on the external-informal sources of information. The average mean of F1 to F12 was $\bar{x} = 3.93$ and the average mean of F13 to F20 was $\bar{x} = 3.91$. The average means of the external-formal and external-informal sources of information indicate that prospective entrepreneurs prefer to use the external-formal sources of information more than the external-informal sources of information. These findings contradict with the findings of Lindblom (2008:533). According to the study conducted by Lindblom (2008:533), most of the entrepreneurs prefer to utilise the external-informal sources of information more than the external-formal sources of information because they are always ready and easy to access.

According to the findings of this study, the most preferred external-formal source of information is the Internet. These findings confirm the findings by Majid and Kanagasabai (2006:28). According to their findings, students mostly prefer to use the Internet as a source of information to do their projects. The findings of the study conducted by Bennett (2006:713) also confirms the latter by indicating that Internet is the source of information mostly preferred by managers to make business decisions.

4.3 CONCLUSION ON CORRELATIONS AND REGRESSION ANALYSIS

The Pearson correlation analysis was undertaken on all the variables and they all showed a positive correlation. This necessitated adoption of the Regression analysis to determine if the perceptions on the level of importance of the sources of information would predict their utilisation.

The Regression analysis of Model 1 summary showed that the perception on the level of importance of the external-formal sources (LIEF) was statistically insignificant in predicting UEF (B=0.127; t=1.714; p=0.088). This demonstrates that LIEF does not predict the utilisation of the external-formal (UEF) sources of information in screening of business opportunities, while the perception on the level of importance of the external-informal (LIEI) sources of information proved to be statistically significant in predicting UEF (B=0.258; t=4.494; p=0.001).

The Regression Model 2 analysis showed that LIEF was statistically significant in predicting UEI (B=0.149; t=2.070; p=0.040). This demonstrates that LIEF does predict UEI in screening of viable business opportunities, also LIEI was found to be statistically significant in predicting UEI (B=0.309; t=4.296; p=0.000).

4.4 RECOMMENDATIONS

Given that this study's main focus was on investigating the extent to which both external-formal and external-informal sources of information are utilised, recommendations are therefore, based on the enhancement of the utilisation of these sources.

4.4.1 External-formal sources of information

The grand mean of Section D was $\bar{x} = 3.421$. This indicates that external-formal sources of information in aggregate are not utilised that much. To enhance utilisation of these types of sources of information since we are living in the information age (Baltzan, 2015:7), this study recommends that students who are enrolled for entrepreneurship should be made aware of the various types of formal sources of

information which can help in screening of business opportunities. They also need to be taught how to search for valuable information and how to competitively process this information (Bothma *et al.*, 2014:12). This can be done by introducing a section on information literacy in the syllabus of the students.

4.4.2 External-informal sources of information

Section E had a grand mean of $\bar{x} = 3.415$. This also indicates that the external-informal sources of information are not utilised at their utmost level. Students need to be made aware of the importance of the informal sources of information. How these sources of information can be utilised effectively need to be taught as well. This can also be done by introducing a section on information literacy in the syllabus of the students.

4.4.3 Information literacy students' conferences

The most popular way of conveying information on many issues this days is to host conferences. Conferences at the same time encourage networking. It serves as an eye opener on many issues. The researcher, therefore, recommends that students' conferences on information literacy should be held at the institutions of higher learning. Prominent experts on this field could be invited to come address the students. Different types of information sources can be explained as to what kind of information can be obtained from them.

4.4.4 Entrepreneurship students' conferences

The Department of Higher Education of South Africa has introduced an entrepreneurial week this year (2017). This initiative is aimed at encouraging students to become more and more involved in entrepreneurial activities. During the entrepreneurial week an entrepreneurship students' conference can be hosted. Prominent entrepreneurs can be invited so that they share their experiences with the students. During the proceedings of the conference all speakers should be encouraged to stress the importance of the sources of information. Depending on their different fields of operations, they should highlight sources of information which

helped them during their start-up phase, planning phase and operations phase. They should also indicate what kind of information they will find in all the information sources they have indicated.

4.4.5 Teaching methods that encourage active search for information

Lecturers should adopt a teaching method that encourages active search for information. The assignments given to students should be entrepreneurial focused. Students should be told what type of information sources should be consulted and the type of information they will get from them. As students are working on their assignments they will be forced to utilise those sources of information. According to Biggs and Tang (2011:27), this kind of teaching encourages deep learning by the students.

4.4.6 Business simulation computer programs

A business simulation is a computer program that uses real world business dynamics. Teams of students are exposed to situations and challenges that a business may face in real life situation. Students who are competing in a business simulation are provided with a few sources of business information such as: the competitors' information, breaking news on events around the world which may impact on the normal operations of the business, suppliers' information and customers' information. Students will have to utilise the sources of information given to them to make decisions to optimise their organisations' key performance areas. The researcher recommends that the institutions of higher learning should start making use of these business simulation computer programs. Students will start recognising how important the sources of information are.

4.5 CRITICAL EVALUATION OF THE STUDY

This section evaluates the success of the study in meeting the primary and the secondary objectives of the study listed in section 1.3

4.5.1 Primary objective revisited

The primary objective of the study was to investigate the use of information sources by prospective entrepreneurs to create knowledge which will in turn enable them to screen business opportunities.

This objective was achieved by formulating the secondary objectives.

4.5.2 Secondary objectives revisited

In order to achieve the primary objective of the study, the secondary objectives were formulated and were divided into theoretical and empirical objectives.

4.5.3 Evaluation of the theoretical objectives

The following theoretical objectives were formulated in Chapter one of this study and were as follows:

- To determine the relationship between the types of information sources and the creation of business knowledge by means of a literature review.
- To conduct a literature review on external-formal business information sources and ways in which they could be found useful to prospective entrepreneurs.
- To conduct a literature review on external-informal business information sources and ways in which they could be found useful to prospective entrepreneurs.
- To conduct a literature review on the definition of a business opportunity.
- To obtain insight into the methods utilised to screen business opportunities by means of a literature review.

The first theoretical objective was achieved by means of literature review in Chapter two in section 2.3 and section 2.5

The second and the third objectives were both achieved by conducting a literature review on external-formal and external-informal sources of information in Chapter two section 2.4.

The fourth objective was reached by the definition of business opportunity addressed in Chapter two section 2.5.

The last theoretical objective was achieved by the screening process discussed in section 2.5 of Chapter two.

4.5.4 Evaluation of the empirical objectives

The following empirical objectives were formulated in Chapter one of this study and were as follows:

- To determine the perceptions of the prospective entrepreneurs on the level of importance of the sources of information.
- To investigate the utilisation of external-formal information sources by prospective entrepreneurs to create knowledge.
- To investigate the utilisation of external-informal information sources by prospective entrepreneurs to create knowledge.
- To assess the types of business information sources preferred by prospective entrepreneurs.
- To examine the influence of the perceptions of the prospective entrepreneurs on the importance of the information sources on the extent to which the prospective entrepreneurs utilise the sources of information.

The first four objectives of the empirical objectives were all achieved by conducting the statistical analysis in Chapter three section 3.6 of this study.

The last empirical objective was achieved by conducting the regression analysis in section 3.8 of Chapter three.

4.6 SUGESTIONS FOR FURTHER RESEARCH

The scope of this study was limited to the students enrolled for entrepreneurship with the Vaal University of Technology in the Southern Gauteng region of South Africa, it is therefore, not a true reflection of all students enrolled with other universities in

South Africa. There could be many other environmental factors at those universities that can contribute significantly towards the extent to which students would utilise the sources of information.

Secondly, this study did not pay attention to differences in ethnicity which could have a significant influence to the extent to which the sources of information could be utilised. This also could be a future research area.

Furthermore, this study did not take the qualitative factors into considerations. The information contained in various sources may differ in terms of the integrity of the information contained in them which may have an influence on the screening process of the business opportunities. Further research could focus on the qualitative factors of the sources of information.

4.7 SUMMARY

Conclusions of the empirical results obtained in Chapter three of this study were drawn in more details in this Chapter. The biographical profile of the respondents was addressed first and thereafter, conclusions on the constructs of the measuring instrument were drawn. All of the constructs had Cronbach Alpha coefficients above 0.7 except for Section C of the questionnaire which had a Cronbach's alpha of 0.610. The measuring instrument was therefore proven to be reliable.

The conclusions drawn from the previous sections led to recommendations on how utilisation of information sources by the students could be enhanced.

Lastly the critical evaluation of the study was undertaken by assessing if all the research objectives formulated in Chapter one were achieved. Sections from Chapter two and three were quoted to indicate how these objectives were met.

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APPENDIX A: THE MEASURING INSTRUMENT

QUESTIONNAIRE

INVESTIGATING THE UTILISATION OF INFORMATION SOURCES BY PROSPECTIVE ENTREPRENEURS TO SCREEN BUSINESS OPPORTUNITIES

This questionnaire examines the extent to which diverse types of business information sources are perceived as important and the level at which they are utilised by prospective entrepreneurs in screening business opportunities. By completing this questionnaire, you will assist various stakeholders to understand better the importance of the various types of information sources and their level of utilisation. There are no right or wrong answers. Your responses are anonymous and will be treated with strict confidentiality.

SECTION A: GENERAL DEMOGRAPHIC INFORMATION

In this section we would like to find out a little more about the background characteristics of respondents. Please place a cross (x) in the appropriate block.

A1	Your gender	Male			Female	
A2	Age category	Between 18 - 20 years	Between 21-25 years	Between 26-29 years	Between 30-35 years	36 years and older
A3	Nationality	African	Asian	European	Other	
A4	Marital status	Single	Married	divorced	widow	
A5	In which year of study are you?	1 st year	2 nd year	3rd year	B-tech	M-Tech

SECTION B: EXTERNAL-FORMAL SOURCES OF INFORMATION

In this section we intend to find out your perceptions regarding the importance of various formal sources of information. Please place a cross (x) in the appropriate block.

Questions								
B1	Customers are a very important source of information for the identification of business opportunities.	Strongly disagree	1	2	3	4	5	Strongly agree
B2	Market research companies are very useful for providing important information on business opportunities.	Strongly disagree	1	2	3	4	5	Strongly agree
B3	Consumer expenditure reports are a very important source of information for identification of business opportunities.	Strongly disagree	1	2	3	4	5	Strongly agree
B4	Published projections and forecast data are very important source of information for a prospective entrepreneur.	Strongly disagree	1	2	3	4	5	Strongly agree
B5	It is very important for a person aspiring to be an entrepreneur to gather information by investigating how other products were made to identify viable business opportunities.	Strongly disagree	1	2	3	4	5	Strongly agree
B6	Magazine and journal articles can be very useful in identifying gaps in the market.	Strongly disagree	1	2	3	4	5	Strongly agree
B7	Published documents and reports released by statistical organisations are very important for identification of new business opportunities.	Strongly disagree	1	2	3	4	5	Strongly agree
B8	Trade associations provide very useful information for anyone who intends to start a business.	Strongly disagree	1	2	3	4	5	Strongly agree
B9	Consulting firms are very important source of information for prospective entrepreneurs.	Strongly disagree	1	2	3	4	5	Strongly agree

B10	Conference proceedings can be a very important source of information for prospective entrepreneurs.	Strongly disagree	1	2	3	4	5	Strongly agree
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SECTION C: EXTERNAL-INFORMAL SOURCES OF INFORMATION

In this section we intend to find out your perceptions regarding the importance of various informal sources of information. Please place a cross (x) in the appropriate block.

Questions								
C1	The opinions of my friends and family are important sources of information on starting new businesses.	Strongly disagree	1	2	3	4	5	Strongly agree
C2	Customers are very important sources of business information that helps upcoming entrepreneurs to identify business opportunities	Strongly disagree	1	2	3	4	5	Strongly agree
C3	Observing competitors' activities provides important business information to prospective entrepreneurs	Strongly disagree	1	2	3	4	5	Strongly agree
C4	Information gathered while a person is working for a company can provide a very important business information to identify viable business ideas	Strongly disagree	1	2	3	4	5	Strongly agree
C5	Social networks provide one with better chances to identify competitive business ideas	Strongly disagree	1	2	3	4	5	Strongly agree
C6	Informal discussions with my classmates are very important in identifying business opportunities	Strongly disagree	1	2	3	4	5	Strongly agree
C7	Professional contacts a person has with e.g. lawyers, accountants and venture capitalists can be important sources of information on identifying viable businesses	Strongly disagree	1	2	3	4	5	Strongly agree
C8	Ex-employees can be useful information sources for prospective entrepreneurs	Strongly disagree	1	2	3	4	5	Strongly agree

SECTION D: EXTERNAL-FORMAL SOURCES OF INFORMATION

Please indicate how often you have utilised the following external and formal sources of information in attempting to identify the viable business opportunities. Please place a cross (x) in the appropriate block.

Questions		Never	Seldom	Sometimes	Often	Always
D1	Key-customers	1	2	3	4	5
D2	Market research companies	1	2	3	4	5
D3	Magazine and journal articles	1	2	3	4	5
D4	Statistics organisations data	1	2	3	4	5
D5	Data on consumer expenditure	1	2	3	4	5
D6	Projections and forecast data	1	2	3	4	5
D7	Trade associations	1	2	3	4	5
D8	Consulting firms	1	2	3	4	5
D9	Market research firms	1	2	3	4	5
D10	The Internet	1	2	3	4	5
D11	Studying how a product was made	1	2	3	4	5
D12	Conference proceedings	1	2	3	4	5

SECTION E: EXTERNAL-INFORMAL SOURCES OF INFORMATION

Please indicate how often you have utilised the following external and informal sources of information in attempting to identify the viable business opportunities. Please place a cross (x) in the appropriate block.

Questions		Never	Seldom	Sometimes	Often	Always
E1	Information from customers	1	2	3	4	5
E2	Competitor information	1	2	3	4	5
E3	Your friends and family members informal opinions	1	2	3	4	5
E4	Your classmates	1	2	3	4	5
E5	Social networks	1	2	3	4	5

E6	Information gathered from former employers	1	2	3	4	5
E7	Professional contacts such as lawyers, accountants and venture capitalists	1	2	3	4	5
E8	People who once worked for an employer	1	2	3	4	5

SECTION F: EXTERNAL-INFORMAL AND FORMAL SOURCES OF INFORMATION

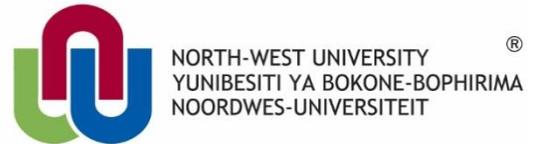
Please indicate which of the following sources of information you would utilise if you had a fair chance of accessing all of them. Please place a cross (x) in the appropriate block.

Questions								
F1	Key-customers	Strongly disagree	1	2	3	4	5	Strongly agree
F2	Market research companies	Strongly disagree	1	2	3	4	5	Strongly agree
F3	Magazine and journal articles	Strongly disagree	1	2	3	4	5	Strongly agree
F4	Statistics organisations data	Strongly disagree	1	2	3	4	5	Strongly agree
F5	Data on consumer expenditure	Strongly disagree	1	2	3	4	5	Strongly agree
F6	Projections and forecast data	Strongly disagree	1	2	3	4	5	Strongly agree
F7	Trade associations.	Strongly disagree	1	2	3	4	5	Strongly agree
F8	Consulting firms	Strongly disagree	1	2	3	4	5	Strongly agree
F9	Market research firms	Strongly disagree	1	2	3	4	5	Strongly agree
F10	The Internet	Strongly disagree	1	2	3	4	5	Strongly agree
F11	Studying how a product was made	Strongly disagree	1	2	3	4	5	Strongly agree
F12	Conference proceedings	Strongly disagree	1	2	3	4	5	Strongly agree

F13	Information from customers	Strongly disagree	1	2	3	4	5	Strongly agree
F14	Competitor's information	Strongly disagree	1	2	3	4	5	Strongly agree
F15	Your friends and family members informal opinions	Strongly disagree	1	2	3	4	5	Strongly agree
F16	Your classmates	Strongly disagree	1	2	3	4	5	Strongly agree
F17	Social networks	Strongly disagree	1	2	3	4	5	Strongly agree
F18	Information gathered from former employers	Strongly disagree	1	2	3	4	5	Strongly agree
F19	Professional contacts like patent attorneys, accountants and venture capitalists	Strongly disagree	1	2	3	4	5	Strongly agree
F20	People who once worked for an employer	Strongly disagree	1	2	3	4	5	Strongly agree

Please accept my sincere gratitude for answering this questionnaire.

APPENDIX B: ETHICAL CLEARANCE (NWU)



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25 April 2017

ETHICAL CLEARANCE

This letter serves to confirm that the research project of **MATSHEKE, MJ** has undergone ethical review. The proposal was presented at a Faculty Research Meeting and accepted. The Faculty Research Meeting assigned the project number **EMSPBS16/11/25-01/35**. This acceptance deems the proposed research as being of minimal risk, granted that all requirements of anonymity, confidentiality and informed consent are met. This letter should form part of your dissertation manuscript submitted for examination purposes.

Yours sincerely

A handwritten signature in black ink, appearing to read 'CJ Botha'.

Prof CJ Botha

Manager: Research - NWU Potchefstroom Business School

Original details: Wilma Pretorius(12090298) C:\Documents and Settings\Administrator\My Documents\Briewe MBA\2017\

APPENDIX C: ETHICAL CLEARANCE (VUT)

APPENDIX D: PLAGIARISM CONFIRMATION