A Psychobiographical Analysis of the Personality Traits of Steve Jobs's Entrepreneurial Life

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Abstract

There has been increasing interest in the attributes of successful entrepreneurs. Increasingly, too, research on entrepreneurship has focused on the identification of personality traits conducive to entrepreneurial success. The present study moves away from predicting entrepreneurial success and instead focuses on exploring and describing the personality traits of a successful entrepreneur, namely Steve Jobs. A psychobiographical case study design and qualitative approach were employed to explore the extent to which Steve Jobs displayed the personality traits identified by Rauch and Frese (2007). Data collection and analysis were guided by three linked sub-processes proposed by Miles and Huberman (2002), which include (a) data reduction, (b) data display and (c) conclusion drawing and verification. The findings of this study show that, over the course of the subject's life, the personality traits identified by Rauch and Frese (2007) as conducive to successful engagement in entrepreneurial activities were displayed, namely need for achievement, risk-taking, innovativeness, autonomy, internal locus of control, and self-efficacy. In so far as it can be argued that these personality traits inherently predisposed Steve Jobs to achieve the success he displayed as an entrepreneur, the findings of this study affirm the relevance of the personality trait perspective in describing and understanding the life course of successful entrepreneurs.

Introduction and Rationale

At a time when people around the world were striving to build digital economies, Steve Jobs became a symbol of innovativeness. He co-founded Apple and transformed the company into the world's largest company by market value (Isaacson, 2011). Apple became a company that was characterised by innovativeness combined with extraordinary technological engineering. Jobs was able to create value in the digital world by combining his entrepreneurial creativity with technological expertise (Isaacson, 2011).

Jobs was regarded as an exceptional entrepreneur whose passion for perfection revolutionised various industries, including personal computers, animated movies, music, phones, tablet computing and digital publishing, and set the standard for future innovations (Isaacson, 2011). It can be argued that it was Jobs's personality that shaped his approach to business and, in turn, the innovative products that he produced. According to Isaacson (2011) Jobs's extraordinary life story is filled with valuable lessons regarding entrepreneurship, innovation and leadership. Rauch and Frese (2007) posit that specific personality traits predispose entrepreneurs to engage successfully in entrepreneurial activities. This study sought to explore the extent to which Jobs demonstrated the entrepreneurial personality traits identified by Rauch and Frese (2007). To this end, a single case psychobiographical design was employed. The design allowed for an in-depth exploration of Jobs's lived experience as an entrepreneur. Over the past few decades, there has been

increasing interest by researchers (Bareira, 2001; Jacobs, 2004; McLeod, 1994; Runyan, 1988) in studying the lives of exceptional individuals by means of psycho-biography in order to gain an in-depth understanding of these individuals' lives. Psychobiographical research allows the researcher to trace the patterns of an individual's development throughout his or her life course, and thereby allows the researcher to gain a holistic understanding of the subject (Jacobs, 2004). This study sought to contribute towards an understanding of the personality traits that underpinned Jobs's entrepreneurial activities. Moreover, the study sought to contribute towards illuminating the value of psychobiographical research in understanding the behaviour, experiences and life choices of entrepreneurs.

Steve Jobs's Personal and Career Development

Steven Paul Jobs was born in 1955 in San Francisco, California, to parents Abdulfattah Jandali and Joanne Schieble (Isaacson, 2011; Ziller, 2011). Jandali was born in Syria into an Arab Muslim family. He was sent to study at the University of Wisconsin where he met Joanne and developed a relationship with her. When she fell pregnant and wanted to be married to Jandali, her father was not happy and informed her that he would cut her off from the family. Joanne decided to give birth and put the child up for adoption (Isaacson, 2011). When Jobs was born, Paul and Clara Jobs adopted him and raised him in San Francisco. Jobs attended Reed College in 1972 and dropped out that same year because he wanted to go on an enlightenment trip to India. He stayed in India for seven months, and whilst there he studied Zen Buddhism (Isaacson, 2011). In 1976, Jobs and Steve Wozniak co-founded Apple and successfully created a personal computer which they called *Apple I*. Thereafter, Jobs and Wozniak proceeded to create and successfully sell more personal computers, in the process gaining both fame and wealth (Ziller, 2011). In 1985, Jobs resigned from Apple and thereafter founded NeXT and Pixar (Ziller, 2011). In 1997, he returned to Apple to build and transform the company he had co-founded. Throughout his entrepreneurial life, he was instrumental in transforming several industries, such as personal computing, music, animated motion pictures and mobile phones. In 2011, Jobs passed away from cancer at the age of 56 years (Isaacson, 2011).

Theoretical Foundations

There are various perspectives, or schools of thought, that can be used to better understand the behaviour of entrepreneurs. These perspectives include the economic, behavioural, sociological, and personality perspectives (Bridge, O'Neill, & Cromie, 1998; Stokes, Wilson, & Mador, 2010). In the present study, the personality perspective was used to explore the personality traits displayed by Steve Jobs in the course of his life in relation to his various entrepreneurial endeavours. The personality perspective on entrepreneurship proposes that it is the personality of the entrepreneur which determines entrepreneurial activity (Bridge et al., 1998; Frese, 2009). The personality perspective is focused on understanding the role of the particular personality of the entrepreneur throughout the entrepreneurial process (Frese, 2009). According to Stokes et al. (2010), the personality perspective posits that certain individuals possess a distinctive range of stable and enduring traits that predispose them to engage effectively in entrepreneurial activity. There are three main approaches to this perspective, these being the psychodynamic, the social cognitive, and the trait perspectives (Bridge et al., 1998; Chell, 2008).

Psychodynamic Perspective

The psychodynamic perspective focuses on motivation and unconscious drives as the central components in entrepreneurial activity. Bridge et al. (1998) point to the psychodynamic approach to entrepreneurship as based on three basic premises: (1) that most behaviour is caused by a driving force within a person which is goal directed, (2) that behaviour has its origin in the unconscious, and (3) that early childhood experiences are crucial in the development of personality. According to Kets de Vries (1977), the entrepreneur is viewed as a deviant of sorts in society, and this deviant behaviour emerges from attitudes reactively shaped by a background of socio-economic or environmental deprivation. The dynamics of this background may derive from authoritative figures early in life that are perceived as over-controlling and dominating. As a result of these experiences, individuals develop a suppressed dislike of authoritative figures and control. This may lead to challenges in identity formation and career orientation, a process that can be accentuated by the inadequacy of prevailing role models. Together, these characteristics identified by Kets de Vries (1977) are set to produce an aggressive, self-orientated approach to social behaviour in the form of entrepreneurial activity. Entrepreneurs therefore seek to integrate their suppressed and lacking personal needs with those of a venture which has been structured around their desires (Kets de Vries, 1977).

Social Cognitive Perspective

The social cognitive perspective on entrepreneurship asserts that the personality and behaviour of the entrepreneur stems from both social interactions and personal characteristics (Chell, 2008). The approach suggests that individuals change throughout their life, with their interactions with specific reference groups in different social contexts shaping their personalities (Chell, 2008). The perspective acknowledges the formative nature of early life experiences in creating basic drives, but also places equal emphasis on the way adulthood itself may shape entrepreneurial ideas and ambitions (Chell, 2008). While personality changes throughout the life course of the indiviual, the meaning of, and desire to, enter into self-employment is dependent on the individual's life stage

(Chell, 2008). This perspective acknowledges the importance of learning through reinforcement and observation for the entrepreneur whose behaviour and personality are constructed by his or her social context in the process of interaction with others.

Personality Trait Perspective

The personality trait perspective on entrepreneurship explores the personality traits of entrepreneurs and how these may influence entrepreneurial activity. Traits are defined as enduring characteristics of an individual that can serve an explanatory role in accounting for observed consistencies or regularities in behaviour (Weiten, 2011). Baum, Frese, and Baron (2007) view entrepreneurship as fundamentally personal, since entrepreneurs are, at an individual level, predisposed by personal and psychological characteristics to act in a specific manner. The personality traits of the entrepreneur thus influence the entrepreneurial actions and decisions taken by him or her. These traits predispose the entrepreneur to engage in entrepreneurial activity and to exploit opportunities optimally in contrast to other people with the same skills and knowledge (Carter & Jones-Evans, 2006).

Obschonka, Silbereisen, and Schmitt-Rodermund (2012) posit that specific personality traits differentiate between entrepreneurs and non-entrepreneurs. Based on their extensive empirical work in the area, Rauch and Frese (2007) suggest that the specific personality traits that characterise successful entrepreneurs include a high need for achievement, an internal locus of control, risk-taking, self-efficacy, autonomy and innovativeness. These traits are interrelated in their influence on the entrepreneurial activities pursued by entrepreneurs. From a personality development perspective, it is noted that individuals are born with specific traits which predispose them to act in a specific manner (Weiten, 2011). The present study explores how the traits proposed by Rauch and Frese (2007) manifested in the entrepreneurial life of Steve Jobs.

Research Aims

The aim of the study was to explore and describe the extent to which Jobs demonstrated the personality traits identified by Rauch and Frese (2007). The research sought to add to the growing field of psychobiography research on extraordinary individuals, including various entrepreneurs. More particularly, the study aimed to further the research on entrepreneurship by providing valuable insight into the personality of entrepreneurs.

Methodology

The present study of Steve Jobs can be described as life history research (Runyan, 1988; Yin, 2003). The study employed a single-case research design which can be described as qualitative and morphogenic in nature. This design allows for an in-depth analysis of phenomena and takes into consideration the surrounding socio-cultural context and other relevant contextual factors (Elms, 1994). The study was conducted within the interpretative qualitative paradigm, which was adopted to facilitate an intention to "describe" and to "comprehend" human behaviour holistically (Babbie & Mouton, 2006). The research design adopted enabled the study of Jobs to be structured using biographical data as the means by which his entrepreneurial life and traits were explored. In this vein, a psychobiographical case research approach was followed in the study. Psychobiographical research attempts to achieve in-depth understanding of a specific individual's life (McLeod, 1994; Runyan, 1988). Psychobiography is defined as the systematic use of psychological constructs to analyse and describe a life in a coherent and illuminating manner. A psychobiographical study allows the researcher to describe the entire life course of an individual using an overarching theoretical framework. More particularly, it allows a researcher to trace patterns of an individual's development throughout his or her life course, and thereby allows the researcher to achieve a holistic understanding of the subject and his or her behaviour (Jacobs, 2004).

Sampling Procedures

Steve Jobs was selected purposively as a worthy case for the psychobiography based on his extraordinary entrepreneurial achievements and the global significance of his life. Babbie and Mouton (2011) define purposive sampling as the deliberate selection by the researcher of a particular subject or population using a non-probability technique. In purposive sampling, the judgement of the researcher is critical in determining the attributes desired to ensure the richness of the data (Strydom & De Vos, 1998). In conducting psychobiographical studies, one of the main criteria for selecting a specific subject is the subject's significance and exceptional behaviour or achievements (Howe, 1997).

Data Collection Procedures

According to Yin (1994) there are mainly six sources of information (or data) that can be employed in case study research: documentation, interviews, archival records, participant observations, direct observations, and physical artefacts (Yin, 2003). In this study, data was collected through the use of source documentation in the form of multiple published biographies (such as those by Beahm, 2011; Isaacson, 2011; Lashinsky, 2012; Ziller, 2011). The published biographies were deemed useful because they provided a wide array of detailed information on various aspects of Jobs's personal and entrepreneurial life. Yin (2003) regards the use of data from published sources as advantageous in that it allows the researcher to use the data at any given time and according to his or her own timeframe. It is also possible to corroborate documented information by referring to the other sources. The use of multiple authors further minimises the risk of author bias, which could provide an inaccurate account of the subject (Yin, 2003).

Data Extraction and Analysis

The analysis of case study data entails the process of examining, extracting, categorising, and tabulating or in some other way organising or compiling the information regarding the case (Yin, 2003). The analysis of the data should be guided by the objectives of the study and the theoretical constructs underpinning the study (Yin, 2003), and endeavour to have a coherent approach that will enable the researcher to identify what to analyse in order to fully realise the research objectives (Yin, 2003). In the present study, the analysis of the data extracted was guided by the application of the three linked steps proposed by Miles and Huberman (2002). These steps entail data reduction, data display, conclusion drawing and verification. Data reduction involves the process of reducing large amounts of data to more focused and detailed components. It is aimed at focusing, sorting, and discarding irrelevant data so that sound conclusions can be drawn (Miles & Huberman, 2002). The process of data reduction commences from the initial choice of the conceptual framework adopted by the researcher and the formulation of the research objectives of the study (Biggs, 2007; Miles & Huberman, 2002). It is suggested by Miles and Huberman (2002) that, throughout the process of data reduction, data should be repeatedly examined and summarised, leading to well-structured and coherent research conclusions. The second step proposed by Miles and Huberman (2002), data display, entails the structured presentation of the data obtained by the researcher in a manner which will allow the researcher to draw sound conclusions. When researchers are presented with large amounts of data, they may be biased towards the data that appears most interesting (Miles & Huberman, 1994).

In order to mitigate some of the shortcomings in data analysis, Miles and Huberman (2002) suggest that the researcher should use well-constructed matrices or charts to display the data in a way that enables the information to be concise and easily accessible. A good display of the data allows for immediate focus on all salient aspects of the data. Miles and Huberman (2002) argue that the optimal use of data display is part of the analytical process in the study. The selection and construction of a relevant matrix is therefore essential. In the present study, the researcher's efforts to remain systematic and consistent during the process of data analysis were aided by the use of a conceptual matrix (presented in Table 1). The conceptual matrix is depicted through a lifespan timeline which segments the life of the research subject into three periods. These periods served as a guideline for categorising the relevant data pertaining to the research subject. The data presented included the periods when Jobs in the course of his entrepreneurial activities displayed various of the personality traits proposed by Rauch and Frese (2007). A limitation of intersecting the lifespan timeline with the theoretical framework proposed by Rauch and Frese (2007) was, however, that it did not fully enable the exploration of

traits that emerged during the periods of childhood and adolescence. Nonetheless, the process of sorting the data into life periods over the lifespan of the research subject provided a consistent method for utilising the data to explore the entrepreneurial personality traits of the subject. Throughout the study, attention was given to relevant events in the subject's life that illuminated the various personality traits which impacted his entrepreneurial endeavours.

Conclusion Drawing and Verification

The final step in the data analysis process proposed by Miles and Huberman (2002) is conclusion drawing and verification. This process requires that the researcher interpret and draw meaning from the data presented in the descriptive frameworks (Stroud, 2004). Miles and Huberman (1994) maintain that the drawing of tentative preliminary conclusions is a necessary part of the process of analysis, with verification of the conclusions drawn able to occur as the detailed analysis progresses. Throughout the study, the researcher revisited the data displayed in the descriptive matrix to draw and verify conclusions. In this regard, the iterative process allowed the researcher to highlight and capture important aspects of the data.

Quality Issues

Miles and Huberman (1994) suggest that qualitative studies have guidelines for guarding against possible misinterpretations and drawing invalid conclusions. In qualitative research, sound and meaningful interpretation of data can only be achieved if the research conforms to quality indicators such as credibility, dependability, trustworthiness and conformability (Reige, 2003).

In the present study, credibility and dependability were addressed by adopting the guidelines for data analysis proposed by Miles and Huberman (2002). Moreover, issues of credibility were addressed in the study by the use of only published material to obtain data. To ensure dependability, the data was recorded chronologically in order to ensure that the subject's life course could be followed and studied in the same sequence it unfolded. A conceptual matrix (presented in Table 1) was used to ensure dependability. The issues of conformability and trustworthiness were addressed through the use of multiple sources of primary and secondary data. The use of this data was aimed at ensuring that conclusions would be drawn from the data in a logical and, unbiased manner.

Ethical Considerations

Babbie and Mouton (2011) emphasise the need for ethical considerations to be acknowledged as central to the research process. Ethically sound conclusions should be drawn by the researcher (Terre Blanche, Durrheim, & Painter, 2006). Ethical considerations and best practices in psychobiographical research adhered to in the study

focused on (1) the researcher's horizon of understanding, (2) accurate and balanced assessment, (3) specifying the operating research paradigm, (4) theoretical specificity and flexibility, (5) embedding the study in an appropriate socio-cultural and historical context, (6) understanding iteration and triangulation in data collection and analysis, (7) thick description and verisimilitude, and (8) the consideration of alternative explanations in the process of interpretation. On the other hand, Elms (1994) posits that the ethical considerations that need to be taken into account in psychobiographical research relate to the issue of the quality of the research material – in other words, whether the researcher should use only archival material, or use only material deemed acceptable by the subject's family, or may use any other kind of material freely available to the researcher. Elms (1994) further stresses that all the personal information sourced by the researcher should be treated and documented both honestly and with due respect. Accordingly, the object of psychobiographical research is upheld as being to enrich our understanding of human behaviour to the benefit of society in an ethical and constructive manner.

Before the researh study commenced, ethical approval was obtained by the researchers from their institution. During the research process, the researcher earnestly handled all the data in a manner that was not intended to bring harm to, or tarnish the image or name of, Jobs. The researcher used only the material and data available in the public domain and interpreted the data in an honest, respectful manner (Babbie & Mouton, 2011).

Findings and Discussion

The entrepreneurial life of Jobs in the context of the personality traits identified by Rauch and Frese (2007) will be presented in this section. These personality traits include: need for achievement, propensity for risk-taking, innovativeness, autonomy, internal locus of control, and self-efficacy. Incidences in which these traits were displayed by Jobs during his entrepreneurial endeavours will be discussed. A global summary of the findings is presented in Table 1, which depicts those personality traits which were displayed by Jobs.

Personality traits	Childhood and School Years (1955–1972)	Early Career (1973–1984)	Late Career (1985–2011)
Need for achievement			
Risk-taking			
Innovativeness			
Autonomy			
Locus of control			
Self-efficacy			

Table 1:   Matrix of Personality Traits over the Periods of Steve Job's Life

In Table 1, it should be noted that any cells for a specific period which are not shaded indicate that insufficient data was found by the researcher to support the presence of the particular traits concerned during that period.

Need for Achievement
Successful entrepreneurs have been found to have a high need for achievement, and they continually strive to do things better and to overcome obstacles. Individuals with a strong need for achievement have a desire to solve problems, set challenging targets and strive for those

targets (Rauch & Frese, 2007). The achievement motive can be described as an aspiration to perform at a high standard of excellence, or to be successful in competitive situations (Rauch & Frese, 2007).

From an early age, Jobs displayed a determined drive to succeed in mastering challenging tasks. At Monta Loma Elementary, he was initially disinterested in school, but later gained interest due to the efforts of his teacher, Mrs Hills. In 1967, at the age of 12, Jobs demonstrated his need for achievement and determined response to

challenges by completing a complex project that entailed constructing a frequency counter machine.

At Apple, NeXT and Pixar, Jobs constantly demanded excellence from his engineers. He was passionate about making exceptional products which consumers would delight in. He knew what he wanted in his products and would not stop until he had achieved his vision (Beahm, 2011; Isaacson, 2011). At Apple, he demonstrated his need for achievement by pursuing various challenging projects aimed at perfecting the functionality of personal computers. These projects included *Apple III, Macintosh* and the *Lisa* project (Ziller, 2011). With the *Apple III* (which was released in 1980) Jobs wanted to compete with IBM in the highly competitive business segment, which demonstrated his aspiration to make Apple the predominant company in the computing industry (Beahm, 2011; Isaacson, 2011).

In 1981, with the *Macintosh project*, Jobs demonstrated a strong need for achievement when he hard-pressed the team by setting high goals which they eventually met. After resigning from Apple in 1985, at NeXT he continuously strove to create hardware and software products which were aimed at dominating the computing industry and surpassing strong competitors such as Microsoft, Apple and Hewlett-Packard. At Pixar, Jobs also demonstrated a high need for achievement in his entrepreneurial activities and led the company to become the most successful movie animation studio in the world (Isaacson, 2011; Ziller, 2011).

After his return to Apple in 1996, Jobs demonstrated his need for achievement by transforming the company into producing competitive products. As the CEO, he managed to drive growth and market share at Apple, rapidly making it the predominant company in various industries (Isaacson, 2011).

Risk-taking
According to Rauch and Frese (2007), entrepreneurs have a greater propensity and disposition to take risks than do non-entrepreneurs. Risk-taking entails weighing up the perceived probability of receiving the rewards or penalties associated with the outcome of a proposed endeavour (Stokes, Wilson, & Mador, 2010). Risk-taking is closely related to the notion of tolerance of ambiguity. From a young age, Jobs demonstrated a propensity for risk-taking – for example, when he dropped out of college at the age of seventeen with no job or degree. Afterwards, he took up employment at Atari, and after a year he took another risk by resigning and going to India. As a 21 year old entrepreneur, Jobs demonstrated a propensity for risk-taking when he co-founded a company without any experience or capital. He sold his most valuable possession at the time (his Volkswagen bus) to raise capital to start Apple and pursue his vision of revolutionising the computer industry (Isaacson, 2011). After being stripped of his power

at Apple in 1985, Jobs took yet another risk by resigning and leaving the company to start his own companies, NeXT and Pixar, in which he demonstrated a high level of tolerance of ambiguity (Isaacson, 2011; Ziller, 2011). At NeXT, Jobs continued to take risks by investing in the innovative development of new computers. Some of the risks he took at NeXT failed, such as the inclusion of a high-capacity optical reader in the NeXT computer, which in turn slowed the machine. The computer, in turn, performed poorly in the market (Isaacson, 2011). While at Pixar, Jobs displayed a propensity for risk-taking by pioneering a new field which included the introduction of computer animated films to the market. Jobs, for example, created the first computer animated movie, *Toy Story*. The creation of this movie was a huge risk, because it had never been done before and no-one knew if it would be successful. The risk paid off, however, when *Toy Story* was a success earning $350 million and receiving various awards (Isaacson, 2011).

In 1997, when Jobs became the interim CEO at Apple, he downsized the workforce and eliminated more than three-quarters of the products in development. This risk paid off when Apple recorded its first profits since 1995. Jobs continued to take risks by ensuring that Apple produced more innovative products that did not exist in the market. In 1998, the *iMac* was released as the first personal computer which did not use floppy disks, but CD-ROMs. The risk paid off when the market responded positively (Isaacson, 2011; Ziller, 2011). Jobs further demonstrated a high propensity for risk-taking in 2001 when he opened the online *iTune Music* stores, which represented a new innovation to the music and retail stores industries. In general, the products and services Jobs continued to create demonstrated a high propensity for risk-taking given that Jobs believed in creating ground-breaking innovative products for the market (Isaacson, 2011; Lashinsky, 2012).

Innovativeness
Innovative products or services are a result of creative thinking in entrepreneurs, which requires a mixture of diverse thinking styles and tolerance of contradictions and paradoxes (Rauch & Frese, 2007). As a very young entrepreneur, Jobs assisted Wozniak in creating the *Apple I* and *Apple II* computers. The *Apple I* was the first personal computer invented in the world. The *Apple II* was the first all-in-one computer with colour graphics. Early in his career at Apple, Jobs continued to create more technologically advanced computers designed to target different segments of the market such as schools, businesses and personal usage. At Apple, Jobs provided wide scope for his engineers to contribute innovative ideas (Beahm, 2011; Isaacson, 2011; Ziller, 2011).

At NeXT, Jobs demonstrated a very high level of innovativeness by designing new hardware and software for computers. He successfully created the first personal computer with a high quality sound system that could

send emails with audio attachments, the *NeXT Computer* (Isaacson, 2011). At NeXT, he continued to produce technologically advanced computers such as *NeXTcube, NeXT computer, NeXTstation, NeXTstep OS* and the *NeXTstation colour*. The *NeXT computer* became the world's first web server when it was used by Timothy Berners-Lee, the father of the internet, while he was designing the World Wide Web (Ziller, 2011). At Pixar, Jobs created a company that pioneered the creation of animated films such as *Toy Story*, *A Bug's Life*, *Finding Nemo* and *Cars*. When he returned to Apple in 1996, he displayed a high propensity for innovative vision by ensuring that the products were minimal and focused. Jobs's creative abilities were demonstrated by his knack for combining the arts and the sciences (Beahm, 2011; Isaacson, 2011).

After 1997, successful innovations at Apple increased, which began to transform the music, mobile phone, tablet computing, retail store and personal computing industries (Isaacson, 2011). After his return to Apple, Jobs continued to demonstrate his great propensity for innovativeness through creating products and services such as the *iMac, iBooks, iPhone, iPad, iPod* and the *iTunes Music* stores. The *iPod* and *iTunes Music* stores changed the music and retail store industries. So, too, the *iPhone* transformed the phone industry, whilst the *iPad, iMac* and *iBooks* totally transformed the computing industry (Isaacson, 2011; Lashinsky, 2012; Ziller, 2011).

Autonomy
Autonomy is the desire to be independent and in control of one's activities. Entrepreneurial orientation is driven by the desire for independence, which in turn results in venture creation (Hisrich & Peters, 2002; Rauch & Frese, 2007). From a young age, Jobs demonstrated a strong desire for autonomy and independent thought. In an electronics course at Homestead High School, Jobs demonstrated a need for autonomy when he opted to follow his own independent ideas which conflicted with his teacher's authoritarian approach. Thereafter, Jobs took the course for only one year (Isaacson, 2011). In 1972, after dropping out of Reed College, Jobs started working for Atari, but later left the company to create his own company, Apple. At Atari, the fierce need for autonomy displayed by Jobs resulted in conflict with other senior employees. In 1976, when Jobs co-founded Apple, the company embodied his propensity for autonomy and independent thinking (Isaacson, 2011; Ziller, 2011).

Jobs displayed his desire for autonomy in 1985 when he experienced a power struggle with the then CEO of Apple, John Sculley. Jobs felt that Sculley was stifling his creative ideas and did not focus on making sound innovative products. His attempt to organise a coup to remove Sculley was unsuccessful and his strong desire for autonomy eventually forced him to resign from Apple and start his own new companies. At these new companies, Jobs possessed the independence he desired to experiment innovatively and produce new products (Isaacson, 2011; Ziller, 2011).

In 1996, when Jobs returned to Apple, he was employed in an advisory position to the then CEO, Gil Amelio. Jobs was initially satisfied with the limited control he possessed. However, as time progressed, he desired greater autonomy and control. After Amelio's resignation in 1997, Jobs was asked to become CEO of Apple. Jobs, however, preferred to be appointed as an interim CEO because he still wanted to independently run his own company, Pixar (Isaacson, 2011). Throughout his career, it can be noted that Jobs demonstrated a high need for autonomy and control (Ziller, 2011).

Locus of Control
According to Rauch and Frese (2007), successful entrepreneurs display an internal locus of control. Entrepreneurs who demonstrate an internal locus of control trust that their actions can determine outcomes in their environment (Baum et al., 2007). In 1981, when Jobs took over the Mac team, he informed the team that it did not need to do market research or conduct focus groups. Instead, the team was tasked with showing the market what it needed. In this respect, Jobs believed that he could control the markets and that the failure of his products would be as a result of his own deficient efforts. After resigning from Apple in 1985, Jobs still continued to believe that he would be able to produce technological products which would significantly change and influence markets. He founded NeXT and Pixar believing that the core for success at these companies would lie in his own ability to create sound innovative products (Isaacson, 2011; Ziller, 2011).

When Jobs returned to Apple in 1997 he still believed that he was able to determine outcomes in the external environment by being visionary and creating innovative products which he perceived the market needed. He did not attribute the success or failure of the company to luck, fate or chance. He attributed the success of Apple to the exceptional internal attributes of the company that allowed it to focus on a few streamlined and sound products that enhanced user experience (Isaacson, 2011). He therefore demonstrated a level of internal locus of control throughout his career at Apple, NeXT and Pixar.

Self-efficacy
According to Rauch and Frese (2007), entrepreneurs are more highly predisposed to self-efficacy than are non-entrepreneurs. Self-efficacy is the individual's belief in personally being able to perform a given task effectively (Bandura, 1997). Entrepreneurs with self-efficacy will persistently pursue an activity irrespective of whether the required resources are available or not, and they also handle rejection constructively (Rauch & Frese, 2007). A year after co-founding Apple, at the age of 22 years,

Jobs again demonstrated self-efficacy by approaching different companies and persuading them to invest in Apple. Eventually Jobs managed to convince Mike Markkula to invest in Apple. In this regard, Jobs had the self-confidence to lead a company that would transform the computing industry. In his early days at Apple, Jobs continued to display a high level of self-belief in the success of his ideas when he led the company into various projects: *Lisa, Apple II, Apple III* and *Macintosh*. In all of these projects, Jobs believed in his ability to produce innovative products that would add value to society (Ziller, 2011).

At NeXT and Pixar, Jobs demonstrated a high level of self-efficacy when he persevered in his belief that these companies would be successful and have a strong stake in the market. At NeXT, Jobs had the self-belief that products such as the *NeXT computer* and *NeXTcube* would transform the computer industry (Isaacson, 2011). At Pixar, in 1991, Jobs demonstrated self-efficacy in his ability to create computer animated films. Although Pixar had experienced a slow start, Jobs continued investing large sums of money into the company, and by the end of 1991 Jobs had invested $50 million in Pixar – a company he had bought for $5 million. Pixar only became profitable for Jobs in 1995 after the successful release of *Toy Story* (Isaacson, 2011).

In 1997, Apple showed a loss of $1,04 billion and was less than ninety days from being insolvent, but Jobs had the self-efficacy to transform the company. A year after his return in 1998, Apple's share price began to increase and, in that year, the company made a profit of $309 million. Afterwards, Jobs continued to display a high level of self-efficacy by leading challenging and innovative projects (Isaacson, 2011; Ziller, 2011).

Conclusion and Limitations

The findings of this study show that, throughout Steve Jobs's life, he had demonstrated the personality traits and characteristics identified by Rauch and Frese (2007) as predisposing certain individuals to engage successfully in entrepreneurial activities, namely a need for achievement, propensity for risk-taking, innovativeness, desire for autonomy, internal locus of control, and self-efficacy.

The study's findings thus affirm the relevance of the personality trait perspective in describing and understanding successful entrepreneurs. It can be noted that the entrepreneurial activities engaged in by Jobs were guided and underpinned by the personality traits he had displayed from a young age up until the time of his death as the CEO of Apple. This further indicates that these traits inherently predisposed him to achieve entrepreneurial success (Baum et al., 2007). The findings of the study show how Jobs's personality traits shaped his approach to business and predisposed him to take risks by creating innovative products that revolutionised various industries (Isaacson, 2011). Much can therefore be learnt from the entrepreneurial life of Jobs about the influence of personality traits on entrepreneurship.

Although the findings of the study are limited to the personality trait perspective on entrepreneurship (Rauch & Frese, 2007), the researchers acknowledge that there are various other approaches – such as the psychodynamic (Kets de Vries, 1977) and the social cognitive perspectives (Chell, 2008) – that could have been applied. A further limitation of the study is the exclusive reliance on archival data which is historical in nature. While these limitations of the study are acknowledged by the authors, it is believed that the systematic, rigorous and ethical analysis of the data served to generate sound insights of value in understanding and explaining the interrelatedness of the personality traits consistently displayed by Steve Jobs over the course of his lifespan and the extraordinarily successful course of his entrepreneurial life.

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Currently Head of the Department of Industrial and Organisational Psychology at Nelson Mandela University in Port Elizabeth, he was previously employed at the University of Port Elizabeth, the University of the Free State, Fort Hare University, and Rhodes University, all in South Africa.

Professor Van Niekerk obtained a BA Theology, BA Honours (Psychology), and an MA (Industrial Psychology) at the University of Stellenbosch, an MA (Clinical Psychology) and DPhil (Psychology) at the University of Port Elizabeth, and an MEd (General Education Theory and Practice) at Rhodes University.

While his teaching interests span a range of modules including psychological assessment, organisational development, career management, personality psychology, psychotherapy, and psychopathology, his research focus is more specifically on psychobiography, particularly in the fields of personality, career, and leadership development.

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