The Personality of an Entrepreneur: A Psychobiography of Steve Jobs

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By

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INTEGRATIVE SUMMARY

There has been a growing interest in successful entrepreneurs. Research on entrepreneurship has focused on the identification of personality variables that would assist in the prediction of entrepreneurial success. The present study moves away from attempting to predict entrepreneurial success and instead focuses on exploring and describing the personality of a successful entrepreneur.

A psychobiographical case study was adopted by the researcher to explore and describe the extent to which Steve Jobs demonstrated the entrepreneurial characteristics identified by Rauch and Frese (2007). A personality trait approach to entrepreneurship was adopted in the study. The study also attempted to explore the socio-cultural and economic context within which Jobs practised his entrepreneurial activities. Jobs was a successful entrepreneur who co-founded Apple and founded NeXT and Pixar, which were all companies that transformed various technological industries. His entrepreneurial orientation allowed him to produce innovative products that transformed society in various sectors which included personal computing, mobile phones, music, retail stores and films (Isaacson, 2011).

A qualitative approach was adopted in the study. The data collection and analysis was guided by the three linked sub-processes proposed by Miles and Huberman (2002) which involved data reduction, data display and conclusion drawing and verification. The findings of this study showed that Jobs demonstrated, at varying levels, all the entrepreneurial characteristics identified by Rauch and Frese (2007) which included a need of achievement, risk-taking, innovativeness, autonomy, locus of control and self-efficacy. The researcher however noted that the desire for autonomy, risk-taking, innovativeness and self-efficacy were the most dominant characteristics driving his entrepreneurial orientation.

The research thesis adopted the structure of a teaching case which can be used to explore and discuss the personality trait perspective to entrepreneurship in a classroom setting. The findings of the study can be recognised as positively contributing to the growing field of psychobiographical research on exceptional individuals, including entrepreneurs. The study can be considered as a foundation for future studies which will add to the body of knowledge relating to entrepreneurship and personality.

ACKNOWLEDGEMENTS

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PREFACE

I.   Background

Entrepreneurs are seen as important drivers of economic growth and development in modern society (Honig & Samuelsson, 2012). According to Reynolds, Bygrave and Autio (2004), economic development is mostly attributed to entrepreneurial activity because entrepreneurs focus on the growth of their ventures which in turn leads to job creation and employment.

The work on entrepreneurship continues to grow. Gartner (1990) argues that there are many diverse definitions of entrepreneurship that attempt to fully describe the phenomenon. According to Kuratko and Hodgets (1995:16) entrepreneurship is an "interdisciplinary field" which is highlighted in the multitude of definitions aimed at understanding the phenomenon. Gartner (1990) also argues that definitions of an entrepreneur depend on the perspective and theoretical orientation being considered. Although entrepreneurs are mainly associated with the world of business, the context in which entrepreneurs exist is highly differentiated with specialised domains focusing on variables as diverse as gender, family and ethnicity (Carter and Dylan-Jones, 2000; Gartner, 1990).

The development of entrepreneurship theory has evolved over time with different perspectives being put forward (Cope, 2005). The dominant perspectives of entrepreneurship include economic, behavioural, sociological and personality perspectives (Bridge, O'Neill & Crome, 1998; Stokes, Wilson and Mador, 2010). The present study will focus on the personality perspective of entrepreneurship. Fillis and Rentschler (2010) propose that entrepreneurship can further be understood by examining the personality and biographical characteristics of successful entrepreneurs. By examining biographical information and identifying the personality characteristics of successful entrepreneurs, future entrepreneurial activity can be further understood and predicted (Fillis & Rentschler, 2010).

II.   Research aim and objectives

This study aims to explore and describe the following: a) the extent to which Steve Jobs demonstrated the entrepreneurial personality characteristics identified by Rauch and Frese (2007) and, b) the particular socio-cultural and economic context within which Jobs undertook his entrepreneurial activities.

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The results of the study are intended to add to the growing field of psychobiographical research on extraordinary individuals, including entrepreneurs. The findings of this research are also intended to provide insight into the personality of entrepreneurs.

III.   The individual researched

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

Jobs is regarded as an exceptional entrepreneur whose passion for perfection revolutionised various industries, including personal computers, animated movies, music, phones, tablet computing and digital publishing (Isaacson, 2011). It can be argued that Jobs's personality 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.

IV.   Thesis Outline

The present thesis adopts the structure of a "*Teaching Case*" for the purposes of a Masters of Business Administration (MBA) as stipulated by the Rhodes Business School. According to Cappel and Schwager (2002) a teaching case presents an active approach to learning because it requires students to use higher-order skills in terms of the classic taxonomy of Bloom (1956). A teaching case demands that students apply theories or concepts to situations and engage in problem-solving. Teaching cases are mostly used in group settings and provide students with an opportunity to develop teamwork and interpersonal skills. They also increase the motivation to learn in students and result in more effective learning (Bornwell & Eison, 1991). The information in a teaching case is mostly obtained from published information filtered by other authors, hence it is important to use multiple sources of published information (Cappel & Schwager, 2002).

The teaching case adopted in the present thesis consists of three chapters which are structured as follows:

Chapter 1 presents the findings of the study and recommendations for future studies. Teaching notes for the teaching case are presented which include the background, aims, teaching suggestions and possible questions.

Chapter 2 reviews the relevant literature of the study. The literature review attempts to conceptualise entrepreneurship and review the various perspectives relating to the phenomenon.

Chapter 3 describes the methodology that was adopted in the study to achieve the research aims. The chapter outlines the research aims, research design, data collection techniques, data analysis techniques, ethics and quality issues.

CHAPTER 1

STEVE JOBS: PSYCHOBIOGRAPHY CASE

1.1 Chapter Preview

The chapter details the data analysis and findings of the present study. The analysis will be undertaken as per the aims and objectives of the study. The chapter begins by presenting an overview of the life of Steve Jobs which is divided into various stages which include his childhood, school years, early career and later career. Thereafter, the chapter presents the findings of the study by presenting an exploration of the extent to which Jobs demonstrated the entrepreneurial characteristics proposed by Rauch and Frese (2007). The chapter concludes by providing recommendations for future studies and teaching notes for the teaching case.

1.2 Childhood (1955–1960)

Steven Paul Jobs was born on the 24th of February 1955 in San Francisco, California. After his birth he was adopted by Paul and Clara Jobs. His biological father, Abdulfattah Jandali was from a prominent Syrian family and had obtained an undergraduate degree at the American University in Beirut. He had gone to the United States of America to pursue a doctoral degree in political science at the University of Wisconsin. Jobs's biological mother, Joanne Schieble, grew up in Wisconsin and was a graduate student at the University of Wisconsin (Isaacson, 2011).

Joanne's father was against the relationship between his daughter and an Arab and threatened to disown her if she married Jandali. In early 1955 Joanne discovered she was pregnant and moved to San Francisco to have the baby without anyone's knowledge, including Jandali. After giving birth, Joanne put the baby up for adoption (Ziller, 2011). Joanne gave conditions for the selection of adoptive parents for her baby and required the adoptive parents to be highly educated. Initially, a lawyer and his wife were planning to adopt the baby but soon after the birth they changed their minds as they preferred a girl. The next couple on the adoption list were Paul and Carla Jobs. Paul Jobs was a mechanic who had dropped out of high school whilst Carla Jobs was a bookkeeper who had not completed her college education. Joanne initially refused to sign the adoption papers but eventually agreed on

condition that Paul and Carla Jobs sign a pledge to fund a savings account to pay for the boy's college education (Isaacson, 2011).

From an early age Steve knew that he was adopted. When he was two years old Paul and Carla Jobs adopted a girl they named Patty. In 1960, three years later, Paul was transferred by his company to work in Palo Alto, and the family moved from San Francisco to Mountain View, a suburb in Silicon Valley. Paul had a passion for motor mechanics and he sectioned off a small piece of his workbench for the young Steve. Paul gave Steve smaller tools and showed him how to use a saw and a hammer and how to create various objects. Through his passion for motor cars, Paul exposed Steve to electronics. In Mountain View, the environment was ideal for exposing Steve to electronics because many engineers resided in the neighbourhood. By the time Jobs was five, he was dismantling and building machines with his father. Jobs's mother did a variety of different jobs, including working as a bookkeeper, accountant and a schoolteacher. She taught Jobs how to read when he was only three years old (Isaacson, 2011).

1.3 School Years (1961–1972)

Although Jobs showed signs of being intelligent at an early age, he did not enjoy elementary school. Jobs attended Monta Loma Elementary School in Mountain View and was not stimulated by school. He could already read and during weekends he would assemble radios with his neighbour, Larry Lang. He also did not like the authority he experienced at school and his boredom with school often resulted in him getting into trouble. By the time he was in third grade, he had a good friend, Rick Farentino, and they would often get into trouble by pranking other students. They also caused mischief with teachers and in third grade they put explosives under their teacher's chair (Ziller, 2011).

In fourth grade at Monta Loma Elementary School, Jobs was placed in Mrs Hill's class. She took an interest in him and realised that he required additional stimulation. Mrs Hill managed to re-ignite Jobs's desire to learn by employing novel ways of stimulating him. She gave Jobs a math workbook and encouraged him to work on it – in return he was rewarded with sweets. She also gave Jobs kits for making cameras. In fourth grade when Jobs was tested academically, he excelled and the school decided that he would skip fifth grade and move to sixth grade. This resulted in him leaving elementary school altogether to attend Crittenden Middle School (Young & Simon, 2005).

Crittenden Middle School was known as a rough school where bullying was rife. Jobs managed to make it through sixth grade but halfway through seventh grade he begged and eventually demanded his parents to place him in another school. In 1976 the family moved to Sunnyvale, California an area which was amongst the first neighbourhoods to become part of Silicon Valley. Following the move, Jobs attended Cupertino Junior School which was in one of the better public school district areas in Silicon Valley (Young & Simon, 2005).

In ninth grade, Jobs moved to Homestead High which catered for two thousand students. While there he befriended highly intelligent students who were interested in maths, science and electronics. At one point during this period Jobs managed to build a control room in his closet which allowed him to listen to what was happening in the other rooms of his home. In one incident, his father caught Jobs listening in to his parent's bedroom and angrily requested that he dismantle his listening system (Isaacson, 2011).

Jobs managed to maintain his friendship with Larry Lang and regularly visited him long after moving to Sunnyvale. Lang introduced Jobs to the Hewlett-Packard Explorers Club which was a small group of students who met regularly. Engineers at Hewlett-Packard would give lectures and make presentations of their latest projects for the group. Through the Hewlett-Packard Explorers Club the students were encouraged to complete projects and as one of his projects, Jobs managed to construct a frequency counter machine. In order to construct this device Jobs needed some parts which were manufactured at Hewlett-Packard. In 1967, at the age of 12 years Jobs confidently called Bill Hewlett who was the then Chief Executive Officer (CEO) of Hewlett-Packard and they had a conversation. Several days after the conversation, Jobs went to Hewlett-Packard to collect the parts he had requested and was offered a summer job at the company. During his summer break as a freshman, Jobs worked alongside Hewlett-Packard employees in an assembly line that manufactured products that were similar to the frequency counter he had created (Ziller, 2011).

At Homestead High School Jobs took an electronics course taught by Mr McCollum, a former Navy pilot. As a teacher, McCollum excited his students with the equipment he had collected over the years from a number of companies including Hewlett-Packard. He believed in discipline and an authoritarian approach to teaching which was contrary to Jobs's orientation. Jobs also felt that some of the projects which McCollum assigned were too simple and he preferred to follow his own independent ideas. In one particular incident Jobs

needed a part which McCollum did not have and he independently called the public relations department of a specific company to obtain the part. When McCollum discovered this he was not pleased and thereafter Jobs took McCollum's class for only one year and not the three years it was offered (Ziller, 2011).

In 1971, when Jobs was sixteen, he met Steve Wozniak who shared his passionate for electronics. After their first interaction Jobs and Wozniak became good friends. In 1971 Jobs and Wozniak read an article in *Esquire* called "Secrets of the Little Blue Box: A story so incredible it may even make you feel for the phone company". After reading the article, Jobs and Wozniak created a tone generator called a "blue box" which allowed them to make phone calls for free. At the age of seventeen, in 1972, Jobs and Wozniak began to illegally sell the blue box to college students at a profit. In that same year, Jobs graduated from high school and enrolled at Reed College. While at Reed he met Daniel Kottke who became his close friend. During Jobs's first year at Reed there was a radical culture in American campus life. America's involvement in the Vietnam War was accompanied by protests, demonstrations and riots on campuses. Jobs and Kottle found themselves deeply influenced by a variety of books on enlightenment and spirituality, most notably *Be Here Now* "a guide to meditation and the wonders of psychedelic drugs" (Isaacson, 2011).

Jobs fully embraced the hippie culture during that period which was characterised by attending love festivals, the use of psychedelic drugs and spiritual meditations. He engaged in Eastern spirituality, particularly Zen Buddhism (Zen) which emphasised on intuition, minimalism, aesthetics and intense focus. Jobs also embraced the Zen vegetarian diet which resulted in extreme diets, these included long fasts and only eating carrots or apples for a week. At Reed College, Jobs became part of the enlightenment-seeking campus sub-culture of the era which was characterised by eastern spirituality, vegetarianism, meditation, psychedelic drugs and rock music. After one semester at Reed College, Jobs dropped out academically but hung around the college for eight months. During that period he adopted the bohemian lifestyle and would regularly take the psychedelic drug "lysergic acid diethylamide" (LSD) and walk barefooted (Isaacson, 2011).

1.4 Early Career (1973 – 1984)

In 1974 Jobs took up a job with Atari, a gaming company, and became one of their gaming engineers. Jobs's honest and harsh criticism of some of the products offended some

employees at Atari, including senior engineers. However, the owners were determined to keep him because he had proved himself to be a good engineer. (At this stage Jobs was only nineteen years old.) To prevent conflict with some of the other engineers, Jobs was placed on the nightshift. When Jobs felt that he had saved up enough money, he left the company and headed to India in search of spiritual enlightenment (Ziller, 2011).

Jobs returned from India in 1975 and often walked barefooted wearing a saffron robe. He went back to Atari and was offered back his job. The owner of Atari, Nolan Bushnell, gave Jobs the task of producing a specific pong game, Breakout. Bushnell knew that the task was onerous and that Jobs would seek the expertise of the more experienced Wozniak in developing the game. Jobs managed to convince Wozniak to embark on the project and, after staying up together for four nights, they managed to develop the game. After the project Jobs was given a bonus and gave Wozniak his share of the earnings (Young & Simon, 2005).

In 1975, Wozniak began designing a desktop terminal and monitor that could communicate with a computer. Wozniak came up with a vision of a personal computer and began developing software that would get a microprocessor to display images on a screen. After working on the product for a while, Wozniak showed Jobs his work. Jobs was impressed and immediately began to help him in obtaining additional components for the product. Both Jobs and Wozniak were members of an electronic hobbyist group called Homebrew Computer Club. Initially, Wozniak showed his product to other engineers at the club with the intention of freely giving away the software and design. However, Jobs managed to convince him to refrain from that and instead sell the software (Isaacson, 2011).

Jobs and Wozniak decided to start a company in 1976 (at this stage Jobs was 21 years old). In order to raise capital, they sold Jobs's Volkswagen bus and Wozniak's HP 65 calculator and raised $1,300. Jobs and Wozniak also realised that they needed a name for their company. During that period Jobs went to visit a farm called the "All One Farm", which he had visited earlier, and pruned Gravenstein apple trees. When Jobs returned to Los Altos he was picked up by Wozniak from the airport and as they were driving home they started brainstorming possible names for their company. Jobs proposed the name "apple" and immediately the two friends agreed that their company would be called Apple. They thought that the name sounded simple and friendly and would make the word computer less intimidating.

Jobs realised that he needed an ally to adjudicate if there was a disagreement with Wozniak. He enlisted his friend Ron Wayne an engineer at Atari who was given 10% of the shares of the company. On 1 April 1976 Jobs, Wozniak and Wayne founded Apple as a partnership which bore unlimited liability on all the partners. Wayne designed the first Apple logo, wrote the Apple I manual and the partnership agreement. However, Wayne developed cold feet when Jobs began planning to borrow and spend more money. After two weeks, uncomfortable with the idea of unlimited liability which existed in the partnership, Wayne sold his 10% stockholdings to Jobs and Wozniak for $800 (Isaacson, 2011).

The personal computer which Wozniak initially developed was called the *Apple I* which sold over 200 computers. The computer was initially designed in Jobs's bedroom and the prototype was constructed in his parents' garage. *Apple I* enabled Jobs and Wozniak to buy parts which Wozniak required for his next design. Jobs demonstrated tenacity as he managed to obtain parts which Wozniak requested for their product. In 1977, the new design which Wozniak and Jobs created came to be known as *Apple II* (Isaacson, 2011).

Apple II was the first all-in-one personal computer, unlike the *Apple I* which had been designed as a computer board that would be connected to a television set and a keyboard. The *Apple II* had colour graphics which no other personal computer possessed at that time. Jobs noted that in addition to having a good product, they also needed an appealing package. He therefore hired a designer to design the computer casings. At the time, most computers required a continuously running fan to prevent overheating. Jobs desired a minimalistic approach influenced by his Zen teachings and managed to get the help of a good engineer, Rod Holt, who changed the manner in which power was supplied to the computer thereby eliminating the need for a constant running fan (Isaacson, 2011).

Jobs and Wozniak soon realised that they did not have enough money to buy the parts required to produce the volumes of computers they had anticipated selling each month. Jobs approached Commodore and Atari (which were both well established companies) to invest in Apple. However, both companies declined to invest and preferred to focus on their own products. Neither company shared Jobs and Wozniak's vision to enable everyone in the world to own a personal computer. Jobs eventually convinced a successful venture capitalist, Mike Markkula, to invest in their company and he gained a third of the ownership stake of the

company. This investment allowed the company to produce the personal computers at higher volumes (Ziller, 2011).

In April 1977, at the West Coast Computer Fair in San Francisco, *Apple II* was publicly displayed. Using his artistic eye, Jobs perfected the details of their display to make it appealing and Markkula ensured that Jobs and Wozniak wore three piece suits to look professional. At the fair three hundred orders for the device were placed by the end of the first day (Ziller, 2011).

On a more personal note, in 1978 Jobs's long term high school girlfriend, Chris Ann Brennan, gave birth to a baby girl she named Lisa. Jobs denied that this baby was his and only agreed to take a paternity test (DNA test) a year after she was born. The test gave a positive result but it took time for Jobs to fully accept the reality that he had a child (Young and Simon, 2005).

Apple commenced with both the *Apple III* and the *Lisa project* in 1979. The *Apple III project* was aimed at the high-end segment of the market and the *Lisa* was aimed at the masses. Jobs took responsibility of the *Lisa project* which he had named after his daughter. With both projects Jobs wanted to create products that were user friendly and easy to use and with the *Apple III project* he wanted to compete with IBM in the business segment for personal computers (Ziller, 2011).

When *Apple III* was released in 1980 there were minor glitches in the product and thousands of the computers were recalled. Jobs and Wozniak pulled themselves up from the setback and in late 1980 Apple held its first public offering of stocks, which was successful. By the end of 1980, Apple was worth $1.79 billion (Isaacson, 2011).

Jobs also managed to broker a deal with Xerox to use some of their technology in return for $1 million of Apple shares. He took the graphical user interface developed by Xerox and incorporated it into the *Apple Macintosh* which was aimed at enabling the technologically illiterate to use a computer by simply pointing and clicking a mouse (Lashinsky, 2012). In 1981, Jobs took over the Mac team which was tasked with developing the new *Macintosh*. Jobs pushed the team to complete the project by the expected date and, as a result, the team labelled Jobs as having a "reality distortion field". They felt that some of the deadlines set by Jobs were not practical or realistic. Andy Hertzfeld, a member of the team, noted that the root

of the "reality distortion field" was Jobs's belief that the norm did not apply to him. Hertzfeld noted that Jobs had a sense of being special, an enlightened and chosen individual, likening himself to people such as Einstein and Gandhi. The Mac team, and other Apple project teams, noted that Jobs would praise employees who came up with good ideas but gave harsh criticism to employees who proposed ideas to which he did not ascribe. Some employees witnessed Jobs demean other employees, even to the extent of making them cry, if they failed to make sound contributions (Isaacson, 2011)

Engineers at Apple were driven to make things work by Jobs and on some occasions he would micromanage his teams. He was regarded as having a controlling personality and was driven by his desire for perfection and making profound products. This aspect in his behaviour was influenced by his Zen beliefs. The *Macintosh Personal Computer* was finally released in 1984 and by then Jobs had perfected his theatrical unveilings during public launches of products. The product was a success in the market (Isaacson, 2011).

Jobs's vision focused on simplicity and empowering people by creating a computer which anyone could use without having to understand complex computer arcane commands and early in his career Jobs managed to achieve this vision through the Macintosh. The Apple mouse, for example, only had one button, was very cheap, and could move in any direction (Isaacson, 2011).

In 1983 Apple, under the leadership of Jobs, released its *Lisa Computer* which was unfortunately not very successful in the market because it was expensive (Ziller, 2011). Prior to this release, in 1981, Jobs had negotiated a deal with Bill Gates to provide software exclusively for the *Macintosh* product. Unfortunately, Apple missed the deadline for completion and Microsoft leased its software (called *Microsoft Windows*) to other companies. Jobs was angered by this act and huge lawsuits followed which lasted for decades with Apple eventually losing (Isaacson, 2011).

1.4 Later Career (1985–2011)

In 1985, Wozniak decided to resign from Apple and start his own company because he was unhappy with his purely symbolic role at the company. After Wozniak's resignation he still maintained his close friendship with Jobs. In that same year, Jobs began to conflict with the then president and CEO of Apple, John Sculley (a CEO he had brought into the company).

Jobs attempted to stage a coup to remove Sculley with the assistance of the board. However, Sculley was able to convince the board to relieve Jobs from all his duties and acquire a figurative role in the company. Jobs was distraught and felt betrayed. At the age of 30 he sold all his shares, except for one, and resigned from Apple (Beahm, 2011).

Later that same year he founded his own new company which he named NeXT. He envisioned NeXT as an innovative company that would make computer hardware and software and be a dominant player in the highly competitive computing industry. At NeXT Jobs felt that he was in full control of the company and he targeted producing computers for the higher education market (Lashinsky, 2012). In addition to assembling computers, another focus of NeXT was software development, mainly operating systems (OS). In its early days Jobs drove the company into developing a new OS, which he called *NeXTstep*. However, at NeXT he struggled to keep his momentum since he had already gained a reputation for being difficult to work with (Isaacson, 2011).

In 1987, Jobs missed a major opportunity when IBM came to NeXT looking for a new OS. Whilst squabbling over contract terms, Jobs lost valuable time and IBM ended up opting for *Microsoft Windows*. At that time IBM was still the biggest personal computers manufacturer in the world and the Microsoft operating system became the standard for most personal computers (Isaacson, 2011).

Innovation continued to be the main drive at NeXT and various innovative computer products were created which included, the *NeXTstep OS, NeXT Computer, NeXTstation colour, NeXTcube and the NeXT station*. The *NeXT Computer* was the first personal computer which could send emails with audio attachments; it also had a high quality sound and CD system. The computer became historically significant when Tim Berners-Lee (also known as the father of the internet) used it when designing and writing the code for the World Wide Web in 1991 (Ziller, 2011).

One of Jobs's management philosophies was that it was important to take risks and hazard the company on new ideas every now and then. In the design of the *NeXT computer* Jobs took a risk by including a high-capacity optical reader which slowed the processing abilities of the machine. Jobs also decided not to include a floppy disk in the machine for backup. The risks were not very successful in relation to the sales volumes and demand of the machines. The factories producing the machines were initially expected to produce ten thousand units a

month but the market ended up demanding only four hundred machines monthly (Isaacson, 2011).

In 1996, after running NeXT for a decade, Jobs convinced the board at Apple to buy NeXT for $427 million even though the company was only generating $50 million in sales revenue (Ziller, 2011). In December of the same year, at the age of 41, Jobs was hired in an advisory role to the then CEO of Apple, Gilbert Amelio. During that period the share price of Apple was low and the company was not performing well. Before returning to Apple, Jobs had run two companies which had experienced some challenges during their operation and he had honed his leadership and management style through those experiences (Beahm, 2011).

The Jobs who returned to Apple was more mature, experienced and supportive of employees. During his time away from Apple, Jobs had managed to reconnect with his biological mother and develop a close relationship with his biological sister, Mona. He had gained a sense of support and belonging during this period which influenced his new supportive and trusting approach towards people (Ziller, 2011). Jobs had also started a family with Lauren Powell in 1991 and later that year they had their first child, Reed. In 1995 their second child, Erin, was born (Isaacson, 2011).

Once back at Apple, Jobs was initially content with his advisory role but soon wanted more power and control. In 1997 Apple incurred a loss of $1,04 billion and the company was less than ninety days from insolvency. The board members attributed Apple's poor performing shares to Amelio's poor leadership. Eventually Amelio agreed to resign in that same year and the board asked Jobs to become the CEO (Beahm, 2011). At the time, however, Jobs was the CEO of Pixar and so he agreed to become an ''interim CEO''. Also in 1997, Jobs was impressive and theatrical at the MacWorld Expo were he showcased some innovative Apple products. His emotional and inspirational presentation left some employees crying as he acknowledged that the company had exceptionally skilled employees and attributed its poor performance to the strategies adopted by the company. Jobs assured the employees and the people at the Expo that Apple was taking a new path and after the Expo, the share price of Apple shares began to rise gradually (Isaacson, 2011).

As interim CEO, Jobs drastically changed the manner in which the company functioned. He eliminated more than three-quarters of the company's products in development and ensured that the company specialised in fewer products. Jobs took a risk by downsizing the company

which later paid off by cutting the expenses it incurred. In 1998 Apple recorded its first profit (of $309 million) since 1995. The *iMac* was released in that year and again Jobs took a risk by not including a floppy disk in the product which later proved to be a success because floppy disks were in the process of being replaced by CD-ROMs. In 2001 Apple released the *iPod* and this innovation was seen as the company's first ground-breaking product since the *Apple II*. In that same year the *iTunes stores* were also opened which made Apple the largest music retailer in the world (Ziller, 2011).

Figure 1: Apple Stock History
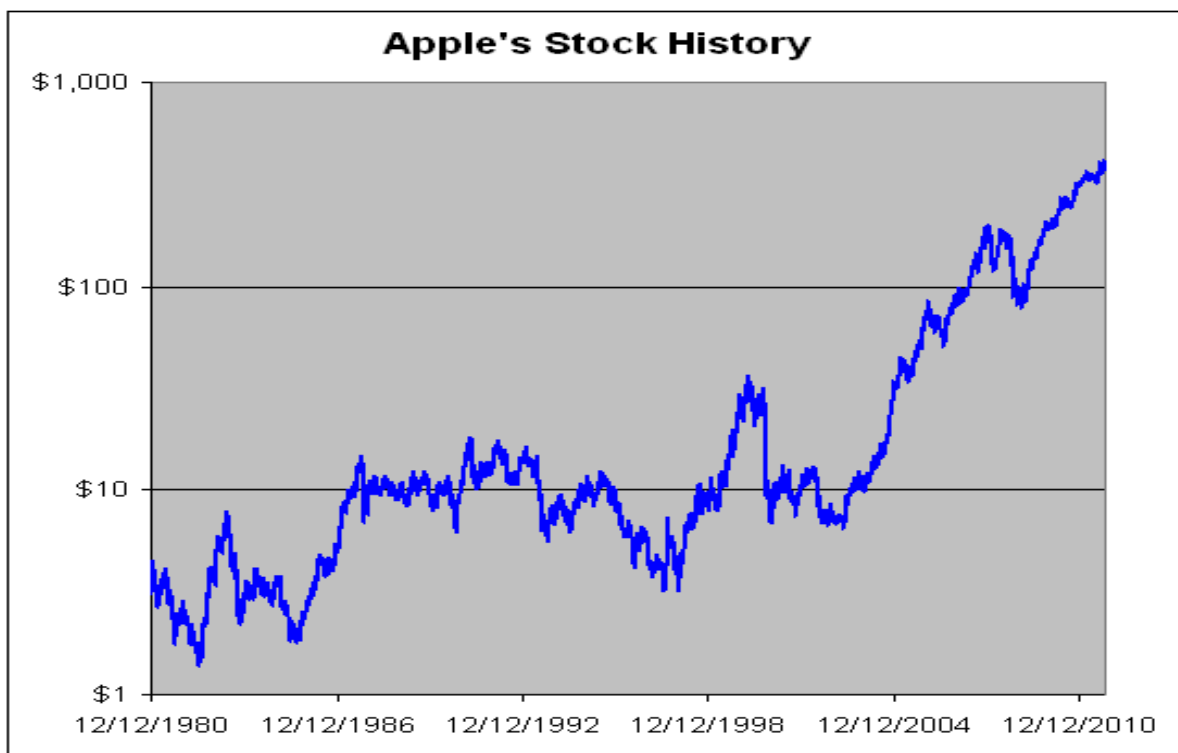
Figure 1 shows the history of Apple's share price, and it can be noted that after 1997 when Jobs became the CEO the share price started improving. In the period that followed Jobs's return (1997 to 2011) Apple produced successful products and services, including the *Mac OS X, Titanium PowerBook G4, eMac, iPod, iPhone, iPad and the iTunes Music store* which transformed various industries. Jobs believed in keeping products simple and focused which was a mantra he had adopted earlier in his life through the teachings of Zen Buddhism. In 2007 Apple released the *iPhone,* a project fully led by Jobs. As the team for the *iPhone project* neared completion Jobs decided to make major revisions. Jobs was not pleased with the design of the phone and proposed that the design was too masculine and task-driven. He

altered the design of the phone making it thinner and user-friendly. Eventually the *iPhone* was released and was a success in the market. In 2010 Apple sold more than ninety million *iPhones* and made more than half of the total profits generated in the global cell phone industry (Isaacson, 2011).

Figure 2: Apple products revenue
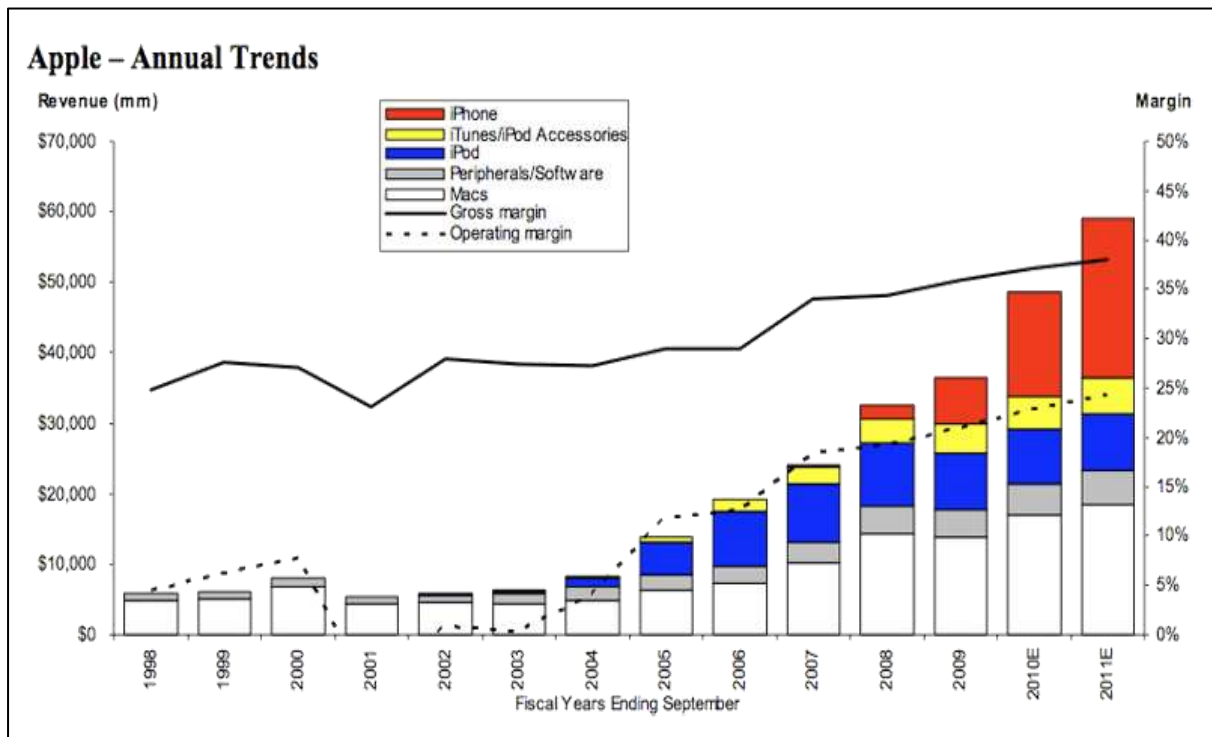
Figure 2 above shows the increase in revenue at Apple accounted to the different products produced from a period of 1998-2010. The iPhone can be noted as bringing the most revenue to the company in 2010. Prior to his return to Apple, in 1986, Jobs bought "The Graphics Group", which was essentially a high-end computer hardware company, for $5 million. He changed the name of the company to Pixar (Lahinsky, 2012). The company's greatest product was the *Pixar Image Computer*, which was sold to a niche market of graphics designers, animators and the government. The *Pixar Image Computer* did not sell well enough to make the company profitable and almost led the company to bankruptcy. In 1990, Jobs sold the hardware division of the company and focused on producing computer animated films. By 1991 Jobs had invested close to $50 million of his own money into Pixar which was more than half of the money he had received when he left Apple. At Pixar, Jobs focused further on experimenting with methods of digitally streamlining the process of animation. In 1991 he negotiated a deal with Disney to distribute the computer animated films (Ziller, 2011).

Pixar was the first company to produce a movie created entirely using computer animation. The movie was "*Toy Story*" and it proved to be a huge success for both Pixar and Disney (Lashinsky, 2012). In 2006, Disney decided to acquire Pixar and following the sale (Pixar was sold for $7,4 billion) Jobs became the biggest shareholder at Disney. Jobs had initially purchased Pixar for $5 million. After the purchase, Jobs became a member of the board and continued to make contributions at Pixar. The company continued to make successful movies which included, *A Bug's Life, Finding Nemo, Toy Story 2, Up, Cars, The Incredibles,* and *Ratatouille*. Pixar became the leading animation studio in the world (Ziller, 2011).

In February 2011, Jobs and a small group of other CEOs in Silicon Valley hosted a small dinner for President Barack Obama. The American economy was recovering from a global economic recession. Jobs expressed support for Barack Obama but advised him to support business innovation by loosening the bureaucracy which companies faced. He emphasised the need for an improvement of the education system in the country. Jobs's upbringing and the era in which he grew up made him a social liberal who expressed concern over environmental issues, education, race issues and progressive views towards society (Isaacson, 2011).

Jobs resigned as the CEO of Apple in August 2011 and in that year Apple was the most valuable company in the world with a market share capitalisation value of $343 billion. By then it was clear that Jobs entrepreneurial orientation and innovation had transformed and reinvented the declining company (Isaacson, 2011). In 2003 Jobs had been diagnosed with pancreatic cancer and had secretly begun his battle with the disease. In 2005 at the Stanford commencement address Jobs had told the graduates that one of his operations had cured him from the cancer. However, the reality was that he was still in the midst of the cancer battle (Ziller, 2011). After a long battle with cancer Jobs passed away on the 5th of October 2011 at the age of 56 years (Isaacson, 2011).

Jobs's life was influenced by two great social movements that emanated from San Francisco in the late 1960s. The first was the counterculture of anti-war activists and hippies, which was characterised by psychedelic drugs, rock music and an anti-authoritarian culture. The second was the technology culture of Silicon Valley, which consisted of engineers, hackers and garage entrepreneurs. The overall driving force for Jobs entrepreneurial orientation was his personality which was integral to his way of doing business (Isaacson, 2012).

1.5 Trait Approach to Entrepreneurship

According to Rauch and Frese (2007), specific personality traits predispose entrepreneurs to successfully engage in entrepreneurial activities which are characterised by risk-taking, opportunity identification and growth. An exploration of the extent to which Jobs demonstrated the entrepreneurial personality characteristics identified by Rauch and Frese (2007) will now be undertaken. The traits suggested in the framework include, need for achievement, risk-taking, autonomy, locus of control, innovativeness, and self-efficacy.

1.5.1 Need for achievement

According to McClelland (1961), successful entrepreneurs 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. The achievement motive can be described as a desire to perform at a high standard of excellence, or to be successful in competitive situations.

From an early age Jobs had a desire for overcoming challenging tasks. At Monta Loma Elementary School Jobs was initially disinterested in school, but later gained interest through the efforts of his teacher, Mrs Hills. In 1967, at the age of 12 years Jobs demonstrated a need for achievement by completing a complex project that entailed constructing a frequency counter machine. In 1975, Jobs and Wozniak, undertook the challenging task of developing the Breakout for Atari. The game which they developed was complex and required months to be completed however, Jobs and Wozniak displayed a need for achievement by setting a high target and completing the game in four nights.

At Apple, NeXT and Pixar, Jobs constantly demanded excellence from his engineers. He was passionate about making exceptional products which would delight consumers. He knew what he wanted in his products and would not stop until he had achieved his vision. At Apple he displayed his need for achievement by pursuing different challenging projects aimed at perfecting the functionality of personal computers and these included, *Apple III, Macintosh* and the *Lisa Projects* (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 Jobs's desire to make Apple the most dominant company in the personal computing industry.

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 strived 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 need for achievement in his entrepreneurial activities and he led the company into becoming the most successful animation studio in the world.

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

1.5.2 Risk-taking

According to Rauch and Frese (2007), entrepreneurs have a greater propensity and disposition to take risks than non-entrepreneurs. Risk-taking entails the perceived probability of receiving the rewards or penalties associated with the outcome of a proposed endeavour (Stokes & Wilson, 2010). Risk-taking is closely related to the notion of tolerance of ambiguity. One of Jobs's management philosophies included taking risks and experimenting with new ideas (Isaacson, 2011). 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. Shortly after co-founding Apple in 1976 Jobs began planning to borrow more money and, because of the unlimited liability risk attached to their partnership, fellow Apple co-founder Ron Wayne immediately developed cold feet and resigned.

After being stripped of his power at Apple in 1985, Jobs took another risk by resigning and leaving the company to go and start his own companies, NeXT and Pixar in which he demonstrated a high level of tolerance of ambiguity. At NeXT Jobs continued to take risks by

investing in the 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. While at Pixar, Jobs also 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 taken by Jobs because it had never been done before and no one knew if it would be successful. The risk, however, paid off when *Toy Story* was a success earning $350 million and receiving various awards.

In 1997, when Jobs became the interim CEO at Apple, he downsized the workforce at the company and eliminated more than three-quarters of the company's products in development. This risk paid off when the company recorded its first profits since 1995. Jobs continued to take risks at Apple by ensuring that the company produced more innovative products that did not exist in the market. In 1998, the *iMac* was released by Apple and it was the first personal computer which did not use floppy disks and only used CD-ROMs. The risk paid off when the market responded positively.

Jobs demonstrated a high propensity for risk-taking in 2001 when he opened the online *iTune Music* stores, a new innovation to the music and retail stores industries. The products and services Jobs continued to create at Apple demonstrated a high propensity for risk-taking because Jobs believed in creating products for the market which the market did not even know were needed.

1.5.3 Innovativeness

According to Rwigema and Venter (2004), innovativeness is displayed through the creation of new products and services, improvement of products and the search for imaginative alternatives to what competitors offer. The innovativeness of entrepreneurs refers to the manner in which entrepreneurs search for new opportunities in the market and creatively provide products or services aimed at satisfying those opportunities (Baum, Frese and Baron, 2007). 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. Entrepreneurs tend to take bold creative steps which require a prolonged pursuit of genuine newness (Stokes, Wilson & Mador, 2010).

As a 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 which targeted different segments of the market including schools, businesses and personal usage. At Apple, Jobs continuously provided scope for innovative ideas for his engineers.

At NeXT Jobs demonstrated a 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, *NeXT Computer*. At NeXT he continued to producing technologically advanced computers such as *NeXTcube, NeXT computer*, *NeXTstation, NeXTstep OS* and *NeXTstation colour*. The *NeXT computer* became the world's first web server when it was used by Berners-Lee, the father of the internet, when he was designing the World Wide Web (Ziller, 2011). At Pixar, he created a company that pioneered and created computer 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 innovativeness by ensuring that the products produced at Apple were minimal and focused. Jobs's creative abilities were demonstrated by his ability to combine the arts and the sciences (Isaacson, 2011).

After 1997, successful innovations at Apple increased which began to transform the music, phone, tablet computing, retail stores and personal computing industry. After his return to Apple he continued to demonstrate his 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. On the other hand the *iPhone* transformed the phone industry whilst the *iPad, iMac* and *iBooks* transformed the computing industry.

1.5.4 Autonomy

According to Hisrich and Peters (2002) autonomy is the desire to be independent and in control of one's activities. Entrepreneurial orientation is driven by the desire for independent thought and action which leads to venture creation (Hisrich & Peters, 2002). From a young age, Jobs demonstrated a strong desire for autonomy and independent thought. At Homestead

High school in McCollum's electronics course Jobs demonstrated a need for autonomy when he preferred to follow his own independent ideas which contradicted with McCollum's authoritarian approach. Thereafter Jobs took the course only for one year.

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 need for autonomy displayed by Jobs resulted in him conflicting with other senior employees. In 1976, when Jobs co-founded Apple, the company was an embodiment of his propensity for autonomy and independent thinking.

Jobs displayed his desire for autonomy in 1985 when he began experiencing a power struggle with the then CEO of Apple, 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 and produce innovative products.

In 1996, when Jobs returned to Apple, he was employed in an advisory position for the then CEO, Amelio. Jobs was initially satisfied with the limited control he possessed however, as time progressed, he had a greater desire for more autonomy and control. After Amelio's resignation in 1997 Jobs was invited to become CEO of Apple. Jobs 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 propensity for autonomy and control (Ziller, 2011).

1.5.5 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, Frese & Baron, 2007). Rotter (1966) argues that individuals with an external locus of control attribute outcomes in their lives to the external environment which they believe is beyond their control. On the other hand, individuals with an internal locus of control believe that they are able to control the environment and outcomes in their lives (Rotter, 1966).

As a young entrepreneur Jobs displayed an internal locus of control when, in 1976, he envisioned Apple as a company that would transform society by changing the personal computing industry. He believed that his vision and ability to produce simple, user-friendly personal computers would be successfully realised.

In 1981, when Jobs took over the Mac team he asserted to 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. After resigning from Apple in 1985 Jobs continued to believe that he would be able to produce technological products which would change and influence markets. He founded NeXT and Pixar believing that the core for success at the companies would lie in his ability to create sound products.

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 new products which 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 focusing on the right few products and simplifying them for the user experience. He therefore demonstrated a level of internal locus of control throughout his careers at Apple, NeXT and Pixar.

1.5.6 Self-efficacy

According to Rauch and Frese (2007) entrepreneurs are higher in self-efficacy than non-entrepreneurs. Self-efficacy is the self-belief in being able to successfully perform a certain task effectively (Bandura, 1997). Entrepreneurs with self-efficacy will persistently pursue an activity irrespective of whether resources are at hand and they also handle rejection constructively (Rauch and Frese, 2007). Jobs displayed a high level of self-efficacy throughout his career. During his childhood he demonstrated self-efficacy when, at the age of 12 years, he confidently called Bill Hewlett (the CEO of Hewlett-Packard at the time) to obtain parts for a frequency counter he needed to construct.

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 managing to convince Markkula to invest. 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 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 the belief that his companies would be successful and have a 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. At Pixar, in 1991, Jobs demonstrated self-efficacy in his ability to create computer animated films. Pixar experienced a slow start but Jobs continued investing large sums of money into the company and by 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*.

In 1997 Apple made 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 the design of challenging and innovative projects.

Jobs demonstrated self-belief in his ability to provide relevant products for the market. He felt that he intuitively knew what the market needed. Throughout his career at product launches for Apple, NeXT and Pixar, Jobs would demonstrate a high level of self-belief in his products as he showcased them in compelling theatrical presentations (Isaacson, 2011).

1.6 Summary

The psychobiography explored the entrepreneurial personality displayed by Jobs. The personality trait approach to entrepreneurship was adopted to explore the extent to which Jobs demonstrated the entrepreneurial personality traits identified by Rauch and Frese (2007). It was noted in the study that Jobs displayed, at varying levels, all of the personality characteristics identified by Rauch and Frese (2007) which include the need for achievement, risk-taking, innovativeness, autonomy, locus of control and self-efficacy. These traits were displayed at various periods in Jobs's career and entrepreneurial activities. Through the findings of data the study, the researcher noted that the desire for autonomy, risk-taking, innovativeness and self-efficacy were the most evident characteristics driving Jobs entrepreneurial orientation. These characteristics were evidenced by Jobs ability to pioneer

and transform various industries through Apple, Pixar and NeXT which were all companies that undertook various risks and innovations.

1.7 Recommendations

The primary recommendation for future research in this field is to conduct related studies on a larger scale focusing on more dimensions such as the intrinsic motivation of entrepreneurs. The researcher recommends using additional sources of data such as interviews with people who worked with Jobs or his family. This information would provide additional insight.

The researcher recommends that future studies could compare the entrepreneurial traits displayed by Jobs and other entrepreneurs in the technology industry such as Bill Gates, Mark Zuckerberg and Richard Branson. The researcher believes that a psychobiographical comparison of entrepreneurs would complement the study and provide further valuable insight.

The researcher also recommends that future psychobiographical studies can be undertaken focusing on successful South African entrepreneurs who include, Mark Shuttleworth, Patrice Motsepe, Raymond Ackerman, Anton Rupert and Herman Mashaba.

A more in-depth study, possibly in the form of a doctoral thesis, could be explored and employ additional theoretical approaches of personality and entrepreneurship. The researcher proposes that the findings of the present study should be treated as a point of departure in the analysis of the entrepreneurial personality traits of Steve Jobs; it should be considered as a foundation for other future related studies which can add value in the body of knowledge relating to entrepreneurship and personality.

1.8 Teaching Notes

1.8.1 Case Purpose/Objectives

The case can be used to aid students in their understanding of the complexities of entrepreneurship by exploring a successful entrepreneur. It can be used for MBA students at a second year level to allow them to gain an in-depth understanding of the personality trait perspective to entrepreneurship.

1.8.2 Background

- Steve Jobs was born on the 24th of February 1955.
- Jobs co-founded Apple in 1976 in his parent's garage at the age of 21 years. Jobs resigned from Apple in 1985 and in that same year founded NeXT. In 1986 he bought the Graphics Group and named it Pixar.
- In 1996 Jobs returned to Apple as an advisor after Apple had bought NeXT. In 1997 Apple incurred a huge loss of $1,04 billion and was less than ninety days from being insolvent.
- In 2001 the *iTunes Stores* opened, two Apple retail stores were opened, and the *iPod* was released by Apple.
- In 2006 Jobs sold Pixar to Disney for $7,4 billion making Jobs the biggest shareholder at Disney. Jobs had initially bought Pixar for $5 million.
- In 2011, Apple became the most valuable company in the world. In that same year Jobs resigned as the CEO of Apple and later died at the age of 56 years.
- By the time Jobs died his entrepreneurial abilities had transformed society by influencing various industries.

1.8.3 Learning and Teaching Suggestions

A 'deep" approach to learning and teaching needs to be followed by the lecturer to ensure that students use higher-order cognitive skills as suggested by the revised version of Bloom's taxonomy which include, analysing, evaluating and creating (Marzano & Kendall, 2007). The lecturer will use an open, interactive approach to ensure that students critically understand relevant concepts relating to the:

- Conceptualisation of entrepreneurship

- Challenges in the process of entrepreneurship
- Approaches to entrepreneurship (*Economic, Behavioural, Sociological and Personality*)
- Personality traits of entrepreneurs, Rauch and Frese (2007)

1.8.4 Possible Questions

After reading the case the students will be expected to discuss some possible questions in small groups in order to stimulate learning and debating. The following questions may be posed to students:

- How would you describe the personality of Steve Jobs as influencing his entrepreneurial orientation?
- Which personality traits mostly influenced Jobs's entrepreneurial activities at Apple, NeXT and Pixar using the matrix of personality over the different periods of Jobs's life?
- Which other personality traits do you think Jobs displayed which were not explored by the Rauch and Frese (2007) framework?
- What are some of the possible limitations in adopting a personality approach to investigate the entrepreneurship demonstrated by Jobs?
- Provide possible recommendations for the board at Apple to maintain the innovation and growth at the company after Jobs?

1.8.5 Suggested Readings

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CHAPTER 2

LITERATURE REVIEW

2.1 Chapter Preview

The chapter provides a critical conceptualisation of entrepreneurship. In the chapter various perspectives of entrepreneurship are discussed, namely the economic, behavioural, sociological and personality perspectives. The personality perspective of entrepreneurship will focus on the trait approach to entrepreneurship. A discussion of the trait approach to entrepreneurship shall be explored, providing an in-depth examination of the different entrepreneurial traits. The shortcomings of the different perspectives are also presented.

2.2 The Study of Entrepreneurship and Entrepreneurship Theory

The word "entrepreneur" derives from French and means someone who takes between or goes between (Deakin, 1999). In the early definitions, the entrepreneur was described as an individual who managed large projects on behalf of the church or landowners. Cantillon, in 1734, was the first author to offer a clear conception of the term entrepreneurship (Nieman and Nieuwenhuizen, 2009). He described entrepreneurs as individuals seeking business opportunities, with a focus on shrewd economic management aimed at obtaining optimal gains on invested capital (Nieman and Nieuwenhuizen, 2009). The second author to take an early interest in entrepreneurs was Jean-Baptiste who described entrepreneurs as individuals who consciously move economic resources from an area of lower productivity, to an area of higher productivity and greater yield (Nieman and Nieuwenhuizen, 2009).

According to Nieman and Nieuwenhuizen (2009), entrepreneurs can be conceived as individuals who identify opportunities in the market, gather resources, and grow business ventures. Entrepreneurs bear the risks of the venture and are rewarded with profit if the venture succeeds. Baron and Shane (2008) argue that entrepreneurs take risks by undertaking business ventures with the intentions of adding personal value through economic rewards whilst in turn positively contributing to society.

Nieman and Nieuwenhuizen (2009) argue that the manner in which entrepreneurship is conceptualised is dependent on the perspective and discipline adopted. The different perspectives towards entrepreneurship perceive and define the phenomenon using a diverse

range of premises and assumptions. In the field of entrepreneurship, it is proposed that the dominant perspectives include the economic, behavioural, sociological, and personality perspectives (Bridge, O'Neill & Cromie, 1998; Stokes, Wilson & Mador, 2010).

2.3 Entrepreneurial Perspectives

There are various perspectives, or schools of thought, that can be used to better understand entrepreneurship (Kuratko & Hodgetts, 1995). These different schools of thought provide a means of exploring the diversity of viewpoints regarding the phenomenon. Entrepreneurship theory is constantly developing and evolving over time with different perspectives emerging and growing (Bridge, O'Neill & Cromie, 1998; Cope, 2005).

2.3.1 Economic Perspective

Throughout the ages economists have been actively involved in undertaking research on entrepreneurship (Wichham, 2004). According to Bridge, O'Neill and Cromie (1998), the economic perspective to entrepreneurship explores the role performed by entrepreneurs in economic development through the application of economic theory. Wickham (2004) indicates that entrepreneurs fulfil a very important function by ensuring economic growth and development. Entrepreneurs are alert to information and gaps in the supply of goods and services which in turn benefits consumers and the economy as a whole.

The economic perspective to entrepreneurship acknowledges that economic development in society is as a result of venture creation through the process of resource distribution by entrepreneurs (Wickham, 2004). Cantillon, in 1734, proposed that the main difference between entrepreneurs and non-entrepreneurs was living with the additional uncertainty surrounding self-employment (Long, 1983). Cantillon proposed that the entrepreneurial role includes the assumption of uncertainty, organisation, and a response to demand (Nieman and Nieuwenhuizen, 2009).

According to Schumpeter (1934) entrepreneurs are the prime agents of economic development whose functions are to innovate or carry out new combinations. Schumpeter (1934) argued that entrepreneurs introduced new markets and new methods of production, extended markets, focused on conquering new sources of raw materials and reorganised industries in new ways (Stokes, Wilson and Mador, 2010).

Kirzner (1973) proposed a supporting notion to Schumpeter's proposition of an entrepreneur as an equilibrating economic force. He proposed that the identification of market arbitrage was the fundamental function of entrepreneurs who aimed to take full advantage of the unfilled gaps in the market. In the economic perspective towards entrepreneurship creative opportunism, innovative behaviour, superior judgement and a high level of commitment in uncertain environments are functions that are used to describe entrepreneurs (Stokes, Wilson and Mador, 2010).

Wise judgement and commitment undertaken in the face of uncertainty are also essential elements of entrepreneurship (Casson, 1983; Knight, 1921). Amit, Glosten and Muller (1993) argue that when the risks associated with the creation of new enterprises are high, markets are in turn reorganised for contingent claims on those risks, and the entrepreneurs become the claim holders.

In the economic literature, the functions performed by entrepreneurs are critical in defining the entrepreneurs. The roles and functions performed by entrepreneurs are used to differentiate them from other individuals. However, Van Daalen and Van Niekerk (1990) argue that economists have neglected the psychological factors that drive entrepreneurship. Economists are reliant on static economic theory which understates the importance of psychological attributes in determining entrepreneurial behaviour. Economic theorists themselves, however, appear to accept that some sources of change in the economic system lie outside the actual economic system and are individually driven (McClelland, 1961). Individuals do not consistently behave according to rational considerations as proposed by economists. Psychological and social factors also appear to be responsible for setting economic forces in motion that result in economic development (Nieman & Nieuwenhuizen, 2009).

Economists have been unable to fully develop the science of the economic behaviour of entrepreneurs in an economic system. It is argued that the economists' reluctance to acknowledge non-quantifiable models demonstrates the limits of this science in the field of entrepreneurship. Therefore, economists have not been able to fully make economic science evolve with the field of entrepreneurship (Nieman & Nieuwenhuizen, 2009).

2.3.2 Behavioural Perspective

The behavioural perspective to entrepreneurship explores the various behaviours and actions exhibited by entrepreneurs during the process of venture creation within a specific context (Cope, 2005). According to Gartner (2001), an entrepreneur is an individual who is able to demonstrate unique entrepreneurial behaviour within a specific environment. This behaviour is characterised by distinct elements of individual activities required to initiate, grow, or transform a business venture.

The behavioural approach to entrepreneurship describes the behavioural attributes, activities and actions associated with the perception of opportunities and the creation of organisations to pursue growth. The approach thus focuses on what entrepreneurs do rather than who they are (Horne, 2000).

Gartner (1988) asserts that entrepreneurial behaviour is crucial for the creation of new products and organisations. The entrepreneur takes up varying roles at subsequent stages of the organisational development process. Gartner (1988) also proposed that there are six common behaviours that an entrepreneur performs in the process of venture creation and entrepreneurial activity. These include the following:

- locating a business environment

- accumulating resources

- marketing products and services

- producing the product

- building an organisation

- responding to the government and society

Given this perspective to entrepreneurship, it is argued that it is possible to identify individuals who are capable of carrying out entrepreneurial activity and, furthermore, teach those individuals skills to induce entrepreneurial behaviour (Bygrave & Hofer, 1991).

According to Nieman and Nieuwenhuizen (2009), the emergence of behavioural studies of entrepreneurship was a consequence of the emergence, and rise in popularity, of behavioural

sciences in management. The limits of the science are revealed in the limited understanding of entrepreneurial behaviour that it produced. This is evident in its own inability to generate credible and holistic models with its existing tools (Nieman & Nieuwenhuizen, 2009). A major limitation of this approach is that it focuses mainly on the entrepreneurial act of creating an organisation which is only one aspect of the phenomenon. The approach fails to capture the holistic process which entails post business creation and other critical entrepreneurial activities (Nieman & Nieuwenhuizen, 2009).

2.3.4 Sociological Perspective

According to Bridge, O'Neill and Crome (1998), the sociological perspective to entrepreneurship emphasises the importance of socialisation and the influence of the environment in the entrepreneurial process. Cope (2005) cites that an exploration of the role of the environment in enabling entrepreneurial activity provides a holistic understanding of the phenomenon.

Sociologists argue that people are constrained in making career choices because their choices are limited by the experiences and expectations which they are exposed to in the social world (Bridge, O'Neill & Crome, 1998). The opportunities people are exposed to vary from person to person and these lead towards the development of different levels of knowledge, skills and ambitions.

People are socialised to act in a manner which meets with the approval of their expected role set. The different environments people are exposed to provide not only different opportunities but also different expectations from other people. Socio-economic factors such as social class, family and parental occupation strongly influence entrepreneurial decision-making (Bridge, O'Neill & Crome, 1998). To a large extent, the behaviour and characteristics of entrepreneurs reflect the context in which they live (Nieman & Nieuwenhuizen, 2009).

The sociological approach to entrepreneurship recognises the importance of social structures on individual decision-making processes. However, the main shortcoming of the approach is that it does not fully explore the process in which specific social factors fully influence entrepreneurial decision-making. The approach fails to acknowledge the role of cognitive and individual attributes in influencing entrepreneurial activities and choices (Bridge, O'Neill & Crome, 1998).

2.3.5 Personality Perspective

Various research projects have been undertaken to understand the relationship between personality and entrepreneurship (Frese, 2009). The personality perspective to entrepreneurship proposes that it is the personality of the entrepreneur which determines entrepreneurial activity (Bridge, O'Neill & Crome, 1998). Personality is defined as an individual's unique set of consistent behavioural traits (Wieten, 2011). The personality perspective of entrepreneurship focuses on attempting to fully understand the role of the personality of the entrepreneur throughout the entrepreneurial process (Frese, 2009).

Stokes, Wilson and Mador (2010) suggest that the personality perspective to entrepreneurship proposes that certain individuals possess a distinctive range of characteristics which are stable and enduring to predispose them to effectively engage in entrepreneurial activity. There are three main approaches to this perspective which include the psychodynamic, social cognitive, and the trait perspectives (Bridge, O'neill & Crome, 1998; Wickman, 2004; Chell, 2008).

2.3.5.1 Psychodynamic Perspective

The psychodynamic perspective makes motivation and drives the central components in entrepreneurial activity. According to Bridge, O'neill and Crome (1998), the psychodynamic approach to entrepreneurship is based on three basic premises: 1) that most behaviour is caused by a force within a person and that it is goal directed, 2) that behaviour originates from the unconscious mind, and 3) that early childhood experiences are crucial in the development of personality. Ket de Vries (1977) explores the psychodynamic approach to entrepreneurship and asserts that an entrepreneur is an individual who creates a venture and is driven by unconscious motives. Entrepreneurs are often inconsistent and unsure about their motives, desires and wishes; they may be under a lot of stress and appear to be irrational and impulsive.

According to Kets de Vries (1977), the entrepreneur is viewed as some sort of deviant in society and this deviant behaviour emerges from attitudes shaped through a deprived background. This background may emerge from authoritative figures early in life that are perceived as 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) 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 is structured around their desires (Kets de Vries, 1977).

The main theoretical shortcoming with the psychodynamic approach is that it tends only to describe accurately the extremes of a given population and fails to describe the majority of that population. The approach is also criticised because of its subjective nature and lack of empirical evidence. It is noted that not all deviants become entrepreneurs and some of the characteristics of deviancy are not always evident in successful entrepreneurs (Bridge, O'neill & Cromie, 1999). This approach is mostly applicable to entrepreneurs who have particular backgrounds and life experiences and, therefore, does not make an attempt at universality (Chell, 2008).

2.3.5.2 Social Cognitive Perspective

According to Chell (2008), the social cognitive perspective to entrepreneurship asserts that the personality and behaviour of the entrepreneur stems from social interactions and personal characteristics. The approach suggests that individuals change throughout their life and it is the individual's interactions with specific reference groups in different social contexts that shape the individual's personality (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).

The personality of an individual changes throughout their life course and the meaning, and desire, to enter into self-employment is dependent on the individual's life stage (Chell, 2008). The perspective acknowledges the importance of learning for the entrepreneur whose behaviour and personality are influenced by social context through the process of interactionism. The flexibility of this perspective may be noted as its biggest shortcoming. In being able to draw from a wide range of factors, the perspective loses specificity. It is argued that the perspective strips the human element of the entrepreneur by understating the role of free will and internal, unconscious drives in entrepreneurial endeavour. The perspective fails to make clear explanations as the move to entrepreneurship can always be accounted for, given a wide array of explanatory variables (Wickham, 2004).

2.3.5.3 Personality Trait Perspective

The personality trait perspective to entrepreneurship seeks to explore the personality traits of entrepreneurs and how they influence entrepreneurial activity. Traits are defined as enduring characteristics of an individual that can serve an explanatory role in accounting for observed consistencies and regularities in behaviour (Wieten, 2011).

According to Baum, Frese and Baron (2007), entrepreneurship is fundamentally personal because entrepreneurs, at an individual level, are influenced by personal and psychological characteristics to act in a specific manner. Psychological variables (such as personality) influence the success of the entrepreneurial endeavours. The personality traits of the entrepreneur influence the entrepreneurial actions and decisions undertaken. These traits predispose the entrepreneur to embark in entrepreneurial activity and optimally exploit opportunities differently in contrast to other people with the same skills and knowledge (Carter & Jones-Evans, 2006).

It is suggested by Obshonka, Silbereisen and Schmitt-Rodermund (2012) that specific personality traits discriminate between entrepreneurs and non-entrepreneurs. Rauch and Frese (2007) suggest that the specific personality traits that are noted to characterise successful entrepreneurs include: a high need for achievement, locus of control, risk-taking, self-efficacy, autonomy and innovativeness. These personality traits are interrelated and influence the entrepreneurial activities undertaken by the entrepreneur.

2.3.5.3.1 Need for Achievement

The work by McClelland (1961) on achievement motivation contributed to the understanding of the trait approach to entrepreneurship. His work suggests that human beings are driven by three motives which include: the need for achievement (accomplishment), the need for affiliation (associating with other people) and the need for power (controlling others). Of these three needs, McClelland (1961) proposed that achievement motivation was a primary characteristic of the entrepreneur. A high need for achievement made entrepreneurs more willing to create ventures. A need for achievement is defined as a tendency to choose and persist in activities that hold a chance of success or a maximum opportunity of personal achievement satisfaction, regardless of the undue risk of failure (McClelland, 1987). McClelland (1986) identified an entrepreneur as an individual who had a high need for

achievement and was willing to take risks. Individuals with a high need for achievement are described as continually striving to do things better, they seek to overcome obstacles and they want to feel that their success is due to their own actions (McClelland, 1987). They also prefer challenging tasks and take personal responsibility for their performance. These individuals seek feedback for their performance and search for new and better ways to improve their performance (Baum, Frese & Baron, 2007; Rauche & Frese, 2007).

When entrepreneurs with a high need for achievement accomplish an endeavour they consider worthwhile, their self-esteem is enhanced and they are encouraged to seek other demanding assignments (Bridge, O'neill & Cromie, 1998). A study by Collins, Hanges and Locke (2004) indicated that a high level of entrepreneurial need for achievement was positively correlated with business and entrepreneurial success.

2.3.5.3.2 Risk-taking

Risk-taking is noted as an important characteristic in successful entrepreneurs. Risk-taking is defined as the perceived probability of receiving the rewards or penalties associated with the success or failure of a proposed undertaking (Stokes & Wilson, 2010). The common element in many definitions of entrepreneurship is an ability to take calculated risks. Successful entrepreneurs are individuals who can correctly interpret the risk situation and determine policies which would minimise the risks involved, given a particular goal aspiration (Carter & Jones-Evans, 2006).

Entrepreneurs have a higher willingness to pursue an opportunity knowing that there might be a reasonable level of risk involved. However, successful entrepreneurs are able to take calculated risks by being more willing to seek out and manage uncertainty through well-defined objectives, strategies and a mix of resources. Risk-taking involves more than the financial resources that are forfeited when a venture fails, it also includes social, personal, career, and psychological risks. Entrepreneurs face personal and social risks because they risk valuable time which they could have been spent with their families and friends. If an entrepreneurial venture fails, entrepreneurs have to face the social stigma associated with failure, as well as personal distress of having let down employees, customers and family (Nieman & Nieuwenhuizen, 2009).

Risk-taking is closely related to the tolerance of ambiguity. Tolerance of ambiguity is an emotional reaction to ambiguity and uncertainty with low tolerance resulting in stress and unpleasantness in complex situations (Carter & Jones-Evans, 2006). Individuals with a high tolerance find uncertain and ambiguous situations more desirable and challenging. Therefore, individuals with high tolerance are more willing to expose themselves to higher risks than individuals with low tolerance who prefer predictable, well understood situations (Carter & Jones-Evans, 2006). Entrepreneurs have a higher tolerance of ambiguity and find such situations challenging and desirable with the goal of positively exploiting them (Carter & Jones-Evans, 2006). In a study by Okhomina (2010) conducted amongst entrepreneurs in a business district, it was concluded that the entrepreneurs had a greater propensity and disposition to take calculated risks in contrast to non-entrepreneurs.

2.3.5.3.3 Innovativeness

According to Rwigema and Venter (2004), innovativeness is manifested through the creation of new products and services, invention of channels to cut costs, improvement of products and the search for imaginative alternatives to what competitors offer. Innovativeness is one of the core characteristics of entrepreneurship (Nieman & Nieuwenhuizen, 2009). It is a fundamental aspect in the establishment of a niche market thereby giving a business venture a competitive advantage.

The innovativeness of an entrepreneur refers to the manner in which entrepreneurs search for new opportunities, or the manner in which ideas are brought to a profitable realisation. An individual who is innovative has a high level of creativity and looks for novel ways of action (Baum, Frese & Baron, 2007).

Creative behaviour in entrepreneurs leads to innovative products, services or processes. According to Glassman (1993), creativity is the ability to associate remote stimuli in the environment with the elements in the mind and to combine these into new and credible ideas. Successful entrepreneurs take sound creative steps which result in successful innovative products (Stokes, Wilson & Mador, 2010).

According to Fillis and Rentschler (2010), entrepreneurial activity does not only require a supportive business environment but it also requires an environment where creativity and

innovativeness flourish. Magyari-Beck, (1990) argues that there is a relationship between entrepreneurship, creativity and innovation in the development of unique products. Products are shaped by the tangible outcomes of collective creativity but they are also influenced by the creative ability of the specific entrepreneurs involved in their creation. The cumulative evidence in the studies by Rauch and Frese (2005) indicated that entrepreneurs were more innovative than other individuals. The studies noted that the innovativeness of individual entrepreneurs was directly related to business creation and optimal business success.

2.3.5.3.4 Autonomy

According to Hisrich and Peters (2002) entrepreneurial autonomy can be defined as the desire to be independent demonstrated by entrepreneurs. Entrepreneurs have been found to have a high need for autonomy through valuing individualism and freedom (Hisrich & Peters, 2002). The desire to manage one's own venture is a central feature of entrepreneurs and it causes them to create new ventures which they control. Entrepreneurs also have a desire to do things in their own way and prefer not to work for someone else (Hisrich & Peters, 2002).

Entrepreneurs seek to reduce barriers to progress. Although they may perceive some merit in the stabilising impact of rules and behavioural norms, they perceive more merit in independent thought and action (Bridge, O'Neill & Crome, 1998). Empirical evidence provided by Rauch and Frese (2007) indicates that there is a positive relationship between entrepreneurship and autonomy.

The need for autonomy contributes to the drive and motivation in entrepreneurs who seek to independently manage their own ventures (Baum, Frese & Baron, 2007). In an empirical study by Brandstatter (1997) it was noted that founders of businesses had a greater need for autonomy than general managers of business ventures who were tasked with overseeing and managing ventures.

2.3.5.3.5 Locus of Control

Locus of control has been used to distinguish between entrepreneurs and non-entrepreneurs. A high level of internal locus of control has been closely related to entrepreneurship (Rauch and Frese, 2007). The concept of "locus of control" emerged from Rotter's Social Learning Theory (1966) which explored how an individual's perception of control affected subsequent

behaviour. The theory proposed that individuals categorise events and situations based on their underlying shared properties (Carter & Jones-Evans, 2006).

According to Rotter (1966), the locus of control of an individual can be seen as either internal or external. An internal control expectation refers to an individual's control over their own life, where the results of one's actions are considered to be dependant either on one's own behaviour or one's permanent characteristics. Individuals with an internal locus of control believe that their behaviour is guided by their own personal decisions and believe that they can influence and control their environment (Stokes & Wilson, 2010). An external control expectation refers to a focus on the external environment, actions of other people, fate, luck or chance. Individuals with an external locus of control believe that external events dominate their lives and tend to be reactive and not proactive when coping with their environment. According to Rotter (1966), the internal control expectation supports learning and results in active learning. The external control expectation, on the other hand, impedes active learning and encourages passivity.

Littunen (2000) suggests that entrepreneurs desire to be in charge of their own lives, and this manifests itself through controlling their own venture. Entrepreneurs have a higher internal locus of control and believe that they can control the outcomes in their environment (Collins, Hanges & Locke, 2004; Rauch & Frese, 2007). Entrepreneurs believe that their efforts, knowledge and skills can determine the success of their ventures (Nieman & Nieuwenhuizen, 2009). In a study conducted by Miller and Toulouse (1986), there was a moderately positive correlation between internal control and entrepreneurs.

2.3.5.3.6 Self-efficacy

According to Baum, Frese and Baron, (2007) an entrepreneur is someone who has the self-efficacy to make judgements about the uncertain future and the likelihood of rewards and profits gained from a venture. Individuals who have a high level of self-efficacy believe in their capabilities to complete tasks (Baum, Frese & Baron, 2007). A high level of self-efficacy makes it possible for entrepreneurs to persevere when challenges arise (Rauch and Frese, 2007). Individuals develop self-efficacy by interpreting information from four channels which are mastery of experience, vicarious experience (observational learning), social/verbal persuasion and somatic/emotional states (Bandura, 1986).

Self-efficacy has been proposed as a central concept in entrepreneurship because it has been proven to be associated with initiating, and persisting in, achievement-related behaviour in business settings (Bridge, O'Neill & Crome, 1998). The level of self-efficacy in entrepreneurs has been proven to affect the performance and strategies adopted in their business. Self-efficacy is positively related to the intentions of starting a business and the exploration of new opportunities (Carter & Jones-Evans, 2006).

Stokes and Wilson (2010) emphasise the importance of self-efficacy and positive attitudes as essential components in the personalities of entrepreneurs. Entrepreneurs perceive higher chances of success in their ventures and have strong beliefs in their new ideas, products, or services. In a study by Markman, Baron and Balkin (2005), it was noted that the successful entrepreneurs possessed higher levels of self-efficacy and positive attitudes towards the success of their ventures.

2.3.5.4 Criticism of the Trait Approach

According to Stokes, Wilson and Mador (2010), a shortcoming of the trait perspective to entrepreneurship is that it provides a limited scope for an individual to develop, learn and change as they embark on entrepreneurial activity. Wichham (1998) argues that the evidence to suggest that there are specific and universal entrepreneurial traits is not substantial. Individuals with a diverse range of personality traits are seen to embark on entrepreneurial activities successfully. Therefore, psychological traits alone are inadequate in explaining entrepreneurial behaviour holistically (Gartner, 1988). According to Chell (2008), it is difficult to conclusively link any specific personality trait to a specific entrepreneurial act undertaken by an entrepreneur.

Researchers have not reached consensus on the relevance and importance of individual characteristics in determining entrepreneurial activities. Hornaday (1982) identified more than 40 traits that have been associated with entrepreneurs. Another shortcoming of the approach is the assumption that the variables characterising entrepreneurs and the environment are static. The environment, however, is dynamic and so traits alone cannot fully explain entrepreneurial behaviour in a changing context (Carter & Jones-Evans, 2006).

It is difficult to state whether entrepreneurial characteristics are due to predispositions or a result of having entrepreneurial experience and exposure (Mitchell & Seawright, 1995). The

presence of certain entrepreneurial characteristics in entrepreneurs does not clearly imply that they possessed these characteristics from the beginning. Entrepreneurial characteristics can develop from previous experience and are not simply predispositions (Carter & Jones-Evans, 2006). Another challenge to the personality trait approach to entrepreneurship is the generalisability of previous research supporting the approach. Most of the research has been based on American studies that identified specific traits. It is argued, however, that many of these traits (such as need for achievement) are culturally dependant and influenced by the cultural orientation of a specific context. The research, however, tends to lack predictive power in other cultures (Carter & Jones-Evans, 2006).

Empirical attempts to measure specific entrepreneurial traits in the past have yielded conflicting results. For example, historically in the British culture high achievers would take up jobs in government/administration and there was a stigma towards self-employment. On the contrary, in the American culture there was less stigma towards self-employment and business failure was seen as a positive learning experience. In the American culture high achievers would also be drawn into self-employment (Chell, Haworth & Brearley, 1991).

The researcher acknowledges the criticism cited towards the trait perspective to entrepreneurship but believes that the benefits and contributions from the perspective outweigh the criticisms. There is growing evidence that there is ample evidence for the validity of certain personality variables in influencing entrepreneurial activities. Throughout the present research the researcher bore in mind the challenges posed by the theoretical framework and took note of them. The researcher attempted to fully explore the valuable role of the trait perspective towards entrepreneurship guided by the entrepreneurial traits framework suggested by Rauch and Frese (2007).

2.4 Chapter Summary

The chapter provided a conceptualisation of entrepreneurship. The economic, behavioural, sociological and personality perspectives were explored and described. A further in-depth discussion of the personality traits perspective towards entrepreneurship was also presented. The personality traits discussed include: need for achievement, locus of control, innovation, autonomy, risk-taking and self-efficacy. The chapter concludes by exploring some of the possible limitations of the personality trait approach to entrepreneurship.

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CHAPTER 3

RESEARCH METHODOLOGY

3.1 Chapter Preview

The chapter provides a discussion of the methodology adopted to achieve the research aims. All the relevant methodological considerations important to psychobiographical research are explored in the chapter. The research aims, research design, data collection procedures, and data analysis techniques are presented. The chapter concludes by addressing issues of quality and ethics in the research.

3.2 Research Aims and Objectives

To date, no psychobiography on Steve Jobs has been undertaken. This research is therefore important as it aims to explore and describe the following: a) the extent to which Jobs demonstrated the entrepreneurial personality characteristics identified by Rauch and Frese (2007), and b) the particular socio-cultural and economic context within which Jobs undertook his entrepreneurial activities. The research will add to the growing field of psychobiography research on extraordinary individuals, including entrepreneurs. The study will provide valuable insight on the personality of entrepreneurs.

3.3 Research Design

The proposed study of Steve Jobs can be described as life history research (Runyan, 1988; Yin, 2003). This study employs 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-economic factors (Elms, 1994). The study is conducted within the interpretive qualitative paradigm which was adopted to facilitate an intention to "describe" and to "comprehend" human behavior holistically (Babbie and Mouton, 2006). A paradigm is the fundamental model or frame of reference we use to organise our observations and reasoning (Babbie & Mouton, 2011). The current research design enables the study of Jobs to be structured using biographical information as the means through which his entrepreneurial life and traits are displayed. A psychobiographical case research is adopted in the study.

<u>Psychobiographical Case Research</u>:

According to McAdams (1994) the lives of exceptional figures is an area of interest for scholars from diverse fields. They attempt to answer the following questions concerning well-known individuals in history who have influenced the lives of others:

- How do certain individuals achieve their potential and develop into exceptionally creative, productive and competent people?

- How can we understand the life course of a single person?

- How can we study a single life to achieve valuable insight into that person's entire life?

Psychobiographical research attempts to achieve in-depth understanding of an individual's life (Runyan, 1988). A psychobiography is a form of individual case research which is similar in character to the broader case study research (McLeod, 1994).

McAdams (2000) defines a psychobiography as the systematic use of psychological theory (personality theory) 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. Psychobiographical research allows a researcher to trace patterns of an individual's development throughout their life course, and thereby allows the researcher to achieve a holistic understanding of the subject and his or her behavior (Jacobs, 2004).

3.5 The Benefits of Utilising Psychobiographical Case Research

There are various benefits offered by utilising the psychobiographical case research approach. These benefits will be discussed below:

3.5.1 Uniqueness of the Individual Case

A psychobiography is morphogenic in nature because it emphasises the individuality of the whole person, instead of the individuality found in a single element (Bareira, 2001). A psychobiographical approach to research provides a unique and holistic exploration, and description, of an individual by focusing on a single life (Elms, 1994). The approach attempts

to examine individual features embedded within the subject in its entirety and not isolated aspects associated with it.

To gain a holistic and thorough understanding of a subject it is important to consider the broader contextual background which is deemed an integral aspect of an individual. Psychobiography seeks to explore the subject's socio-historical context to gain a rich understanding of the subject during a specific period (Watson, 1976). It allows a researcher to fully take into consideration the contextualised background from which it is feasible to gain a holistic understanding of the influence of the subject's socio-historical cultural context (Runyan, 1988).

3.5.3 Process and Pattern Over Time

A psychobiography enables the researcher to trace processes and patterns of human behavior over a continuum of a subject's life span, from birth up until death (Gronn, 1993; Carlson, 1988). Fiske (1988) argues that the study of the life history and personality of a subject enables the researcher to fully understand and explore the personality of the subject in action. It allows the researcher to note the different dimensions in the personality functioning of the subject throughout the subject's life course (Fouche & Van Niekerk, 2005).

3.5.4 Subjective Reality

Mouton (1988) suggests that life history research enables the researcher to gain a sound understanding of the inner experiences, thoughts and feelings of the subject. Watson (1976) also acknowledged the importance of understanding a subject's life history from the subjective reality of the subject. It is noted that a hermeneutical and phenomenological approach is required to fully comprehend the subjective reality of a subject (Fouche & Van Niekerk, 2005). An understanding of subjective reality facilitates empathy and sympathy for the subject, thereby enabling a clear and holistic picture of the subject's life history (Runyan, 1984).

3.5.5 Theory Testing and Development

According to Carlson (1988) psychobiographical research plays a critical role in developing and testing theories of human behavior and development. The theory guides the researcher during data collection and the identification of clear objectives for the study. It also allows

the researcher to conceptualise and operationalise the data through comparing and analysing the collected data. The findings in a psychobiography are compared to the theory and this is referred to as analytic generalisation (Fouche & Van Niekerk, 2005). Analytic generalisation allows for further testing and extending of theory (Yin, 2003).

3.6 The Subject of the Psychobiography

Jobs was selected purposively as a suitable psychobiography case on the basis of his extraordinary entrepreneurial achievements and the global significance of his life. According to Babbie and Mouton (2011), purposive sampling is the deliberate selection of a particular subject or population using a non-probability technique. In purposive sampling the researcher's judgement is critical in determining the attributes desired and ensuring the richness of the data (Strydom & Delport, 2005).

In conducting psychobiographical studies one of the main reasons for selecting a specific personality is based on the individual's significance and exceptional behavior (Howe, 1997).

The rationale of conducting a psychobiographical study of Jobs is as follows:

a) Jobs is widely regarded as a successful entrepreneur who revolutionised various technological industries. Jobs cofounded Apple (the company that pioneered the personal computing industry) in 1976. Early in his career in 1985 when Jobs resigned from Apple he went on to found Pixar and NeXT which became companies that transformed the animated movies industry and personal computing industries respectively. In 1997 Jobs returned to Apple and managed not only to save the company from bankruptcy, but also helped make it the most valuable company in the world by the end of 2011 (Isaacson, 2011). The literature in the field of psychobiography acknowledges the need for psychological studies on exceptional individuals and exemplary lives (Elms, 1994; Howe, 1997; Runyan, 1988).

b) Due to the outstanding entrepreneurial achievements by Jobs, the researcher felt that a study into the personality characteristics of the subject would provide valuable insight into the reasons for his entrepreneurial success.

3.7 Data Collection Procedures

According to Yin (1994) there are mainly six sources of information (or data) that can be employed by a researcher in case study research design. These include documentation, interviews, archival records, direct observation, participant observation and physical artefacts (Yin, 2003). In this study, data was collected through the use of documentation in the form of multiple published biographies and books. The most useful and key sources were:

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The above sources of data were deemed useful because they provided a wide array of information on aspects of Jobs and his entrepreneurship. According to Yin (2003), the use of published data (documentation) in research is advantageous because it allows the researcher to use the data as needed and according to their own timeframe. It is also possible to corroborate the information from the sources. The use of multiple authors also minimises the risk of author bias which could provide an inaccurate account of the subject (Yin, 2003).

3.8 Data Analysis

According to Yin (2003), the analysis of case study data entails the process of examining, extracting, categorising and compiling information regarding the case. Data analysis in a study can be achieved by processing all the relevant data in order to obtain the most relevant and significant aspects (Alexander, 1990). Yin (2003) suggests that the analysis of data should be guided by the objectives of the study and the theoretical constructs underpinning the study. Every study should seek to have a coherent, analytical approach that will enable the researcher to identify what to analyse in order to fully realise the research objectives (Yin, 2003). The analysis of data in the present study will be guided by the application of the three linked steps proposed by Miles and Huberman's general approach (2002). The first step of

the approach entails data reduction, the second step entails data display and the final step in the approach entails conclusion drawing and verification.

3.8.1 Data Reduction

A qualitatively orientated study that involves the collection of large amounts of data requires the data to be reduced to a more focused and detailed level (Espinosa, 2008). Data reduction allows for relevant data to be collected in the study in a coherent manner. It is aimed at focusing, sorting and discarding irrelevant data so that sound conclusions can be drawn (Green, 2006). The process of data reduction commences through the initial choice of conceptual framework adopted by the researcher and the research objectives of the study (Biggs, 2007). 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.

3.8.2 Data Display

According to Miles and Huberman (2002), the process of data display entails the structured presentation of the data obtained by the researcher in a manner which allows the researcher to draw conclusions. When a researcher is presented with large amounts of data, they may draw incorrect conclusions based upon their analysis which might be biased towards the data that appears most interesting (Miles and Huberman, 1994).

In order to mitigate the shortcomings in data analysis, Miles and Huberman (2002) suggest that the researcher should use well-constructed matrices and charts to display the data to enable the information to be concise and easily accessible. A sound display of data allows for an immediate focus on all salient aspects in the data from which the research may be extended. Miles and Huberman (2002) argue that the correct use of data display is part of the analytical process in the study. The selection and construction of a relevant matrix is essential and should be acknowledged as an analytical process in the study.

In the present study, the researcher's efforts to remain systematic and consistent during the process of data analysis were aided through the use of a conceptual matrix (presented in Figure 3). The conceptual matrix is depicted through a timeline which segments the life of the research subject into four periods. These periods served as a guideline for categorising the relevant data of the research subject. The relevant data entailed the periods where Jobs

displayed various personality traits in his entrepreneurial activities based on the personality facets proposed by Rauch and Frese (2007).

Figure 3: Matrix of personality over the periods of Steve Job's life

Personality traits	Childhood (1955–1960)	School years (1961–1972)	Early career (1973–1984)	Later career (1985–2011)
Need for achievement				
Risk-taking				
Innovativeness				
Autonomy				
Locus of control				
Self-efficacy				

The process of dividing data into life periods over the lifespan of the research subject provides a consistent method for utilising the data to explore the entrepreneurial personality of the subject. Throughout the study, attention was given to the relevant events in the subject's life that may have impacted his entrepreneurial and creative personality.

3.8.3 Conclusion Drawing and Verification

According to Miles and Huberman (2002), conclusion drawing and verification is the final step in the data analysis process. This process involves the researcher making interpretations and drawing meaning from the displayed data presented in the descriptive frameworks (Stroud, 2004). From the commencement of data collection, the researcher should be methodologically examining the data as it is collected. The researcher should make preliminary conclusions and acknowledge patterns in the data throughout the data collection process. As the data is reduced, the patterns in the data may change but the pattern of conclusion drawing should be maintained throughout the research process (Miles and Huberman, 2002).

Miles and Huberman (1994) proposed that the drawing of preliminary conclusions is part of the analysis process and the verification of the drawn conclusions can occur as the detailed analysis continues. The three steps (sub-processes) proposed by Huberman and Miles (2002) should be seen as interdependent and part of the overall process of analysis. The sub-processes can be presented in a cyclical manner, thereby ensuring that the researcher swiftly moves through the process of data reduction, display and conclusions during the collection of data.

Throughout the study the researcher can revisit these sub-processes multiple times. The process is continuous as new data is continuously obtained which could change the data display configurations leading to new conclusions being drawn (Espinosa, 2008). In the present study the sub-processes proposed by Miles and Huberman (2002) were adopted by the researcher. The researcher also adopted multiple sources of secondary data which were important in carrying out the study. Throughout the process of reading the sources, the researcher managed to highlight and capture important aspects from the data.

3.9 Quality Issues

Miles and Huberman (1994; 2003) suggest that qualitative studies have guidelines for guarding the study against misinterpretations and drawing invalid conclusions. In research, sound and meaningful interpretations of data can only be achieved if the research conforms to quality indicators which include "reliability" and "validity" (Reige, 2003). However, in qualitative research, methods which are credible, trustworthy, confirmable, and dependable are required to ensure that the research is valid and reliable (Reige, 2003).

According to Babbie and Mouton (2011) validity refers to the extent to which a measure adequately reflects the true meaning of the concept under consideration. In qualitative research, validity is the extent to which the research conclusions are plausible and explore the phenomenon under investigation (Terre Blance, Durrheim & Painter, 2006). In the present study, the researcher fully corroborated evidence from the multiple secondary sources of information. The entrepreneurial personality dimensions explored in the study were informed by a sound and relevant theoretical foundation of the phenomenon under investigation.

Babbie and Mouton (2006) also argue that reliability refers to the ability of a specific research technique to yield the same results when applied repeatedly. In qualitative research,

reliability refers to the ability of different researchers to draw similar conclusions from a given phenomenon when the investigations are conducted under similar conditions (Maxwell, 1996). However, Babbie and Mouton (2011) caution that reliability is always a concern when a single observer in a study is the source of all the information because observer subjectivity may influence and distort the findings of a study. In the present study, in order to increase the reliability of the study, the researcher adopted a reflexive approach characterised by critically engaging with the theory prior to data collection (Guba & Lincoln, 1994).

Reigie (2003) proposed that in qualitative research the use of four design tests would reduce the risks of invalidity and unreliability in the research; these include, credibility, dependability, conformability, and transferability. Reigie (2003) defined the four tests as follows:

<u>Credibility</u>

Credibility entails the approval of the research findings by either the research participants or peers. Credibility assesses whether the interpretation of data is accurate and unbiased (Reigie, 2003).

In the present study, credibility and dependability were addressed by adopting the data analysis and processing guidelines proposed by Miles and Huberman (2002). Issues of credibility and dependability were also addressed by ensuring that any auditing requests would be fully met through a holistic archive of all the sources of data collected and used in the study.

<u>Transferability</u>

Transferability entails the extent to which the research findings can be applied to other respondents or different contexts. It demonstrates how similar or different findings of a phenomenon can be observed in similar or different contexts (Reigie, 2003).

In qualitative research transferability is analogous to generalising the findings. However, this is not the aim of psychobiographical studies which aim for and focus on the uniqueness and in-depth understanding of a specific subject (Stakes, 1995). It is often perceived that the conclusions drawn from one specific psychobiography cannot be generalised. However, according to Mitchell (2000), valid inferences depend on the lucidity of theoretical reasoning

and not simply the representativeness of the case. In the present study, therefore, the aim is to generalise the findings to the applied theoretical framework – known as "analytic generalisation" (Yin, 2003). Any transfer from the conclusions of the present study should be based on the theoretical framework adopted whereas, in quantitative research, focus is on statistical generalisations applied to the rest of the population (Yin, 2003).

Dependability

Dependability entails the consistency of the findings of a study if a similar study is repeated using similar techniques and conditions. This concept is analogous to the reliability of a study (Reigie, 2003).

To ensure dependability, the research data was recorded chronologically to ensure that the subject's life course could be followed and studied in the same sequence it unfolded. A conceptual matrix (presented in Figure 3) was used to ensure dependability. The researcher only used published material to obtain data for the study. Yin (1994) encouraged the use of published material in psychobiographical research because:

a) It provides a stable source of data which can be repeatedly viewed,

b) It is useful for verifying dates and the correct spelling of names and titles,

c) It is relatively accessible to obtain information,

d) It provides a means to substantiate information from other sources, and

e) It is convenient for the researcher to access at any time.

Conformability

Conformability entails the degree to which the findings of a study are a true product of the enquiry and not the biases or prejudice of the researcher (Reigie, 2003).

According to Yin (1994; 2003), the researcher should carefully identify and conceptualise the constructs to be considered which are relevant to the study. The issue of conformability was addressed in the present study through the use of multiple sources of secondary data. The use of this data was aimed at ensuring that the conclusions from the data would be drawn in a logical, unbiased manner. The data that was collected was guided by the theoretical framework of Rauch and Frese (2007).

Researcher Bias

One of the main limitations of psychobiographical research, according to Anderson (1981), is the tendency of the researcher to develop personal reactions to the subject. These reactions are usually unconscious and unintentional but they may lead to idealising or unfair criticism of the biographical subject. To counteract this limitation, Anderson (1981) proposed the following guidelines:

a) The researcher must continuously evaluate their feelings towards the psychobiographical subject and adopt a reflexive approach.
b) The researcher should develop empathy for the subject as this will counteract the tendency to be too critical of faults.
c) It is recommended that the research manuscript should be read by either the subject, intimate acquaintances or biographical specialists.
d) In the event that the subject is alive, the subject should be offered an opportunity to critique the manuscript and provide comments on the relationship between him/her and the researcher.

In the present study the researcher attempted to maintain an objective approach throughout the study. The research manuscript was critiqued and read by the researcher's supervisor, who is a biographical specialist.

Reductionism

According to Runyan (1988), psychobiographies are criticised for not taking into account the complex social, historical and cultural context within which the subject lived. This limitation reduces the analysis into an intrapsychic explanation of behaviour (Runyan, 1988). Another shortcoming of a psychobiography is that it places too much emphasis on psychopathological processes whilst giving little attention to normality and health (Anderson, 1981; Elms, 1988). Runyan (1988) describes another form of reductionism as being the emphasis placed on childhood experiences whilst neglecting adulthood developmental influences.

Various strategies to counteract difficulties related to reductionism include:

a) Researchers should make use of multiple sources and take into cognisance the historical and social context of the subject (Anderson, 1981).

b) Researchers should avoid excessive use of abstruse psychological terms and ambiguous jargon. Consistent use of simple language should be used throughout the study (Runyan, 1988)

c) The researcher should take a eugraphic approach (emphasis on health and normality) instead of a pathographic approach (emphasis on abnormality and disease).

In the present study the researcher attempted to integrate interpretations of the subject's entrepreneurial personality with the historical and social context. The researcher attempted to infer correct interpretations from valid information obtained from multiple published sources. The researcher adopted a consistent and simple use of language whilst avoiding ambiguous jargon.

Cross-cultural differences

If the subject of the psychobiographical research lived in a different historical or cultural period from the researcher, the psychobiography can be considered to be a form of cross-cultural research (Anderson, 1981). In the present study the researcher is fully aware of and understands the historical and cultural context in which the psychobiography subject lived. The subject's later life and entrepreneurial career occurred during a period which was also experienced and lived by the researcher. The researcher therefore possessed an adequate understanding of the historical period.

Elitism and easy genre

According to Runyan (1988) psychobiography has received criticism for being elitist and an easy genre to utilise in research. Psychobiographical research focuses heavily on exceptional and recognised individuals. Runyan (1988) proposes that a good psychobiography needs to ensure consultation with multiple sources, knowledge of the subject's socio-historical context, psychological knowledge and good literacy skills.

In the present study Steve Jobs was selected based on his significant entrepreneurial achievements and contribution to society. His success as an entrepreneur led the researcher to choose him and so elitism is unavoidable. The criticism of being an easy approach is countered in this study by an attempt to undertake a thorough analysis of Job's life within the limits of a Masters mini-thesis.

Analysing an absent subject

Anderson (1981) argues that a criticism of psychobiographical studies is the lack of direct communication or contact between the researcher and the subject. This limits the information obtained in the research process. However, an advantage in this form of research is that various sources of information (such as biographical material) can be used to obtain critical information in the life of the subject.

In the present study, although the researcher did not have direct contact with the subject, information from multiple sources was available and accessed by the researcher. After the death of Jobs various authors produced biographies on his life and this afforded the researcher an opportunity to holistically explore his life. The author Isaacson (2011) was authorised by the subject to write a biography of his life and consented to various interviews with the author. The researcher was able to fully take note of decisions, choices and activities undertaken by the subject through the published biographies.

Infinite amount of biographical information

McAdams (1994) argues that psychobiographers tend to find themselves with an infinite body of information. To manage this challenge, Alexander (1988) proposed approaching data in two distinct and separate ways to make large amounts of data manageable. The first entails letting the data reveal itself, which allows the researcher to identify salient data through primary identifiers of salience. These identifiers include frequency, uniqueness, emphasis, omission, isolation and incompletion. The second approach entails asking the data questions which allows the researcher to sort through large amounts of data to answer specific questions (Alexander, 1988).

In the present study, the researcher was able to identify salient data by thoroughly reading the published material. The researcher also took cognisance of the research aims while reading and analysing the relevant data throughout the research process. To aid in the data analysis, the approach suggested by Miles and Huberman (2002) was adopted by the researcher.

Inflated expectations

Anderson (1981) advises that psychobiographers should acknowledge the limits in the approach and appreciate that psychological explanations are not seen as the only credible

means of understanding, and explaining human, behaviour. The psychobiographical explanations must not replace but add to other possible explanations.

The researcher appreciates the limits of the psychobiographical approach in the research as it focuses on Steve Jobs from a psychological and entrepreneurial perspective. The study provides a means of exploring the entrepreneurial personality of Jobs within the limits of the adopted psychological theory.

3.10 Ethical Considerations

According to Babbie and Mouton (2011), ethical considerations should always be acknowledged and must be central to the research process. Ethical and sound conclusions should be drawn by the researcher (Terre Blanche, Durrheim & Panter, 2006). Although there are no specific ethical guidelines provided by the American Psychological Association on psychobiographical research, the American Psychiatric Association provided guidelines in 1976 for psychobiographical research (Elms, 1994). The ethical guidelines provided include the following:

- Psychobiographies should ideally be conducted on deceased persons, who are preferably long dead and have no close surviving relatives who may be embarrassed by any unsatisfactory revelations.

- Psychobiographies conducted on living persons should obtain consent from the subject of the study for interviews and to publish the research findings.

The other ethical issues that arise in psychobiographical research relate to the issue of acceptable material for the researcher. This entails whether the researcher should only use archival material, or only what is acceptable to the subject's family, or any other kind of material freely available to the researcher. Elms (1994) further suggests that all the personal information collected by the researcher should be treated and documented honestly and with due respect. Therefore, the object of psychobiographical research is to enrich our understanding of human behaviour to the benefit of society in an ethical and constructive manner.

In the present study the researcher requested permission from the *Steve Jobs Foundation* to conduct the research. A letter was sent to the foundation informing the foundation of the

intentions of the researcher and the aims of the study (Appendix A). In the research process the researcher earnestly handled all the data which was obtained in a manner that was not intended to bring harm to, or tarnish the, image or name of Jobs (Terre Blanche, Durrheim & Painter, 2006). The researcher only used the material and data available in the public domain and responsibly interpreted the data in an honest manner (Babbie & Mouton, 2011).

3.11 Conclusion

The chapter highlighted the methodological considerations relevant to the study. A psychobiography within a qualitative framework was adopted in the study. In the chapter a discussion of the subject of the psychobiography, the research design, and the data collection procedure adopted was provided. The chapter presented the data analysis procedure employed in the study: the Huberman and Miles (2002) approach. The chapter concluded by describing the quality issues and ethical consideration in the study.

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APPENDICES

Appendix A
Permission Request to the Steve Jobs Foundation

RHODES UNIVERSITY

Grahamstown • 6140 • South Africa

Dear Sir/Madam

My name is Tinashe Ndoro and I am planning to obtain a Masters of Business Administration (MBA) degree from the Rhodes Business School. My area of focus is a psychobiography of Steve Jobs. The study aims to explore the extent to which Jobs demonstrated the entrepreneurial personality characteristics identified by Rauch and Frese (2007). The study also seeks to explore the particular socio-cultural and economic context within which Jobs undertook his entrepreneurial activities. The study will aid to the body of knowledge of psychobiographies and entrepreneurship.

I seek permission to conduct the study on Steve Jobs. The research entails accessing published biographies and journal articles written on Jobs. These sources of information will be treated in a manner in which no harm will come to the reputation of Steve Jobs and his affiliates. Your approval will be greatly appreciated. Please do not hesitate to contact me or my supervisor, Prof Roelf Van Niekerk, should you require any further elaboration.

Kind regards

Tinashe Ndoro   Professor Roelf Van Niekerk

t.ndoro@ru.ac.za   roelf.vanniekerk@ru.ac.za

046 603 8022   046 603 7381

Appendix B
Matrix of personality over the periods of Steve Job's life

The following matrix represents the emergent personality traits proposed by Rauch and Frese (2007) at different periods throughout Jobs's life.

Personality traits	Childhood (1955–1960)	School years (1961–72)	Early career (1973–1984)	Later career (1985–2011)
Need for achievement				
Risk-taking				
Innovativeness				
Autonomy				
Locus of control				
Self-efficacy				

Appendix C

Timeline Representing Jobs's Career

Steve Jobs engaged in various entrepreneurial activities which involved founding companies, growing companies and innovating products. The following timeline is a schematic representation of his entrepreneurial undertakings.

Year	Entrepreneurial contribution
1967	12 year old Jobs constructs a frequency counter with the Hewlett-Packard Explorers Club
1971	Jobs works as a technician for Atari gaming company
1975	Jobs and Wozniak develop the Atari game Breakout
1976	Jobs co-founds Apple at the age of 21 years Apple I computer goes on sale
1977	Apple II computer is released
1980	Apple goes public
1983	The Lisa computer is released
1984	The Macintosh personal computer is released
1985	Jobs resigns from Apple Jobs founds NeXT
1986	Jobs buys The Graphics group and renames it Pixar
1995	Pixar releases *Toy Story*
1996	Jobs sells NeXT to Apple and returns to the company as an advisor
1998	Apple releases the iMac Pixar releases *A Bug's Life*
1999	*ibook* goes on sale
2000	Jobs becomes the permanent CEO of Apple
2001	iTunes stores and the Apple retail stores are open *iPod* is released
2006	Jobs sells Pixar to Disney

2007	Apple releases the *iPhone*
2010	Apple releases the *iPad*
2011	Jobs resigns from Apple for health reasons