

ENTREPRENEURSHIP THROUGH THE AGES: LESSONS LEARNED

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In today's hypercompetitive environment, the notion of entrepreneurship, entrepreneurial leadership and entrepreneurial decision-making is receiving increased attention by citizens, academics, managers, and politicians on a global basis. The high failure rate of entrepreneurship of new ventures as well as new products indicates that many barriers to success exist; however, even entrepreneurship on a small scale can have great impact. A historical review reveals that entrepreneurs emerge from various backgrounds but have similar characteristics. The time is ripe for the acceleration of entrepreneurial behavior and leadership that will facilitate new venture creation that will in turn nurture the growth of jobs and the local economy.

Keywords: Entrepreneurship; economic development; infrastructure.

INTRODUCTION

In today's fluctuating economy, the notion of entrepreneurship, entrepreneurial leadership and entrepreneurial decision-making is receiving increased attention by citizens, academics, managers and politicians on a global basis. The current global financial crisis has put added pressure on creating new ideas and bringing these to the market resulting in financial fruition, economic development and employment. Being an entrepreneur and creating value by establishing a new organization in both the profit and non-profit sectors in business as well as the arts impacts both economic and social conditions. This creation process takes more time and effort than one

can imagine and is by no means easy, with a high failure rate reaching over 70 percent in certain countries and environments.

ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT

For entrepreneurs to flourish and for new organizations to be created, four elements are required: an infrastructure that is supportive, an idea with unique value propositions, capital to get started and grow, and an entrepreneur to work toward making the venture a reality. This sounds very simple, but it is not. Laws and tax structures are not always encouraging of small business, not all ideas are viable in a given market, capital is not readily available for risk taking as needed, and, of course, the right person has to be the driving force behind it all. Thinking of entrepreneurship in this way, it is no wonder strong business ventures do not emerge overnight.

Even entrepreneurship on a small scale can have great impact, however. “Gazelles” are businesses that may start out small but that have swift, high growth potential. An infrastructure that supports these types of businesses, for example, will be nurturing the growth of jobs and of the local economy. When times look bleak, people often look for one big, cataclysmic solution, which is impossible to find; yet, if they set their sights on a smaller scale — through resource allocation and the encouragement of innovation and risk taking — gazelles can be born and flourish from the many ventures started.

THE DEVELOPMENT OF ENTREPRENEURSHIP UNDERSTANDING

Who is an entrepreneur? What is entrepreneurship? What is entrepreneurial leadership? These frequently asked questions reflect the increased national and international interest in entrepreneurs and how they impact an economy. In spite of all this interest, a concise, universally accepted definition has not yet emerged. The development of the theory of entrepreneurship parallels to a great extent the development of the term itself. The word *entrepreneur* is French and, literally translated, means “between-taker” or “go-between.”

Earliest Period

An early example of the earliest definition of an entrepreneur as a go-between is Marco Polo, who attempted to establish trade routes to the Far East. As a go-between, Marco Polo would sign a contract with a money person (fore-runner of today’s venture capitalist) to sell his goods. A common contract

during this time provided a loan to the merchant-adventurer at a 22.5 percent rate, including insurance. While the capitalist was a passive risk bearer, the merchant-adventurer took the active role in trading, bearing all the physical and emotional risks. When the merchant-adventurer successfully sold the goods and completed the trip, the profits were divided with the capitalist taking most of them (up to 75 percent), while the merchant-adventurer settled for the remainder.

Middle Ages

In the Middle Ages, the term *entrepreneur* was used to describe both an actor and a person who managed large production projects. In such large production projects, this individual did not take any risks, but merely managed the project using the resources provided, usually by the government of the country. A typical entrepreneur in the Middle Ages was the cleric — the person in charge of great architectural works, such as castles and fortifications, public buildings, abbeys, and cathedrals.

17th Century

The reemergent connection of risk with entrepreneurship developed in the 17th century, with an entrepreneur being a person who entered into a contractual arrangement with the government to perform a service or to supply stipulated products. Since the contract price was fixed, any resulting profits or losses were the entrepreneur's. One entrepreneur in this period was John Law, a Frenchman, who was allowed to establish a royal bank. The bank eventually evolved into an exclusive franchise to form a trading company in the New World — the Mississippi Company. Unfortunately, this monopoly on French trade led to Law's downfall when he attempted to push the company's stock price higher than the value of its assets, leading to the collapse of the company.

Richard Cantillon, a noted economist and author in the 1700s, understood Law's mistake. Cantillon developed one of the early theories of the entrepreneur and is regarded by some as the founder of the term. He viewed the entrepreneur as a risk taker, observing that merchants, farmers, craftsmen, and other sole proprietors "buy at a certain price and sell at an uncertain price, therefore operating at a risk" ([Hebert and Link, 1982](#)).

18th Century

In the 18th century, the person with capital was differentiated from the one who needed capital. In other words, the entrepreneur was distinguished

from the capital provider (the present day venture capitalist). One reason for this differentiation was the industrialization occurring throughout the world. Many of the inventions developed during this time were reactions to the changing world, as was the case with the inventions of Eli Whitney and Thomas Edison. Both Whitney and Edison were developing new technologies but were unable to finance their inventions themselves. Whereas Whitney financed his cotton gin with expropriated British crown property, Edison raised capital from private sources to develop and experiment in the fields of electricity and chemistry. Both Edison and Whitney were capital users (entrepreneurs), not a provider or venture capitalist, who is a professional money manager who makes risk investments from a pool of equity capital to obtain a high rate of return on investments.

19th and 20th Centuries

In the late 19th and early 20th centuries, entrepreneurs were frequently not distinguished from managers and were viewed mostly from an economic perspective:

Briefly stated, the entrepreneur organizes and operates an enterprise for personal gain. He pays current prices for the materials consumed in the business, for the use of the land, for the personal services he employs, and for the capital, he requires. He contributes his own initiative, skill, and ingenuity in planning, organizing, and administering the enterprise. He also assumes the chance of loss and gain consequent to unforeseen and uncontrollable circumstances. The net residue of the annual receipts of the enterprise after all costs have been paid, he retains for himself (Ely and Hess, 1937).

Andrew Carnegie is one of the best examples of this definition. Carnegie invented nothing, but rather adapted and developed new technology in the creation of products to achieve economic vitality. Carnegie, who descended from a poor Scottish family, made the American steel industry one of the wonders of the industrial world, primarily through his unremitting competitiveness rather than his inventiveness or creativity.

In the middle of the 20th century, the notion of an *entrepreneur as an innovator* was established.

The function of the entrepreneur is to reform or revolutionize the pattern of production by exploiting an invention or,

more generally, an untried technological method of producing a new commodity or producing an old one in a new way, opening a new source of supply of materials or a new outlet for products, by organizing a new industry ([Schumpeter, 1952](#)).

The concept of innovation and newness is an integral part of entrepreneurship in this definition. Indeed, innovation, the act of introducing something new, is one of the most difficult tasks for the entrepreneur. It takes not only the ability to create and conceptualize but also the ability to understand all the forces at work in the environment. The newness can consist of anything from a new product to a new distribution system to a method for developing a new organizational structure. Edward Harriman, who reorganized the Ontario and Southern railroad through the Northern Pacific Trust, and John Pierpont Morgan, who developed a large banking house by reorganizing and financing the nation's industries, are examples of entrepreneurs fitting this definition. These organizational innovations are frequently as difficult to develop successfully as the more traditional technological innovations (transistors, computers, lasers) that are usually associated with being an entrepreneur.

Definition of Entrepreneur

The concept of an entrepreneur is further refined when principles and terms from a business, managerial, and personal perspective are considered. In particular, the concept of entrepreneurship from a personal perspective, explored in this century, is reflected in the following three definitions of an entrepreneur.

In almost all of the definitions of entrepreneurship, there is agreement that we are talking about a kind of behavior that includes: (1) initiative taking, (2) the organizing and reorganizing of social and economic mechanisms to turn resources and situations to practical account, (3) the acceptance of risk or failure ([Shapero, 1975](#)).

To an economist, an entrepreneur is one who brings resources, labor, materials and other assets into combinations that make their value greater than before, and also one who introduces changes, innovations and a new order. To a psychologist, such a person is typically driven by certain

forces — the need to obtain or attain something, to experiment, to accomplish, or perhaps to escape the authority of others. To one businessman, an entrepreneur appears as a threat, an aggressive competitor, whereas to another businessman the same entrepreneur may be an ally, a source of supply, a customer, or someone who creates wealth for others, as well as finds better ways to utilize resources, reduce waste, and produce jobs others are glad to get (Vesper, 1980).

Entrepreneurship is the dynamic process of creating incremental wealth. Wealth is created by individuals who assume the major risks in terms of equity, time, and/or career commitment or provide value for some product or service. The product or service may or may not be new or unique, but value must somehow be infused by the entrepreneur by receiving and locating the necessary skills and resources (Ronstadt, 1984).

Although each of these definitions views entrepreneurs from a slightly different perspective, they all contain similar notions, such as newness, organizing, creating, wealth and risk taking. Yet each definition is somewhat restrictive, since entrepreneurs are found in all professions — education, medicine, research, law, architecture, engineering, social work and distribution. To include all types of entrepreneurial behavior, the following definition of entrepreneurship will be the foundation of this article:

Entrepreneurship is the process of creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence (Hisrich *et al.*, 2010).

Entrepreneurs and entrepreneurial leaders are critical components of the 21st century. They have the ability to advance themselves, other people, their businesses or places of employment and even the economies and societies in which they live. Therefore, Reimers-Hild and King argue that “countries, communities and individual organizations as well as educational institutions benefit by developing the entrepreneurial learner and leadership capabilities of individuals” (Reimers-Hild and King, 2009).

Thanks to the influence of the entrepreneurial leader, the definition of leadership is changing. Leadership is no longer being defined solely by the title or traditional rank someone holds within the institution; it is becoming an integral part of everyone's job (Kouzes and Posner, 2007). According to Reimers-Hild, the fundamental goal of entrepreneurial leaders is to create an atmosphere of innovation that in turn helps constituents themselves to become more entrepreneurial. "Innovation and entrepreneurial leadership are complex and challenging; however, both can be supported by creating and communicating a relevant vision, motivating and empowering individuals, leveraging human and social capital and developing a global mindset in their institutions that embraces change, values diversity and cultivates continuous innovation" (Reimers-Hild and King, 2009).

Guptaa, MacMillan and Suriec define entrepreneurial leadership as "leadership that creates visionary scenarios that are used to assemble and mobilize a 'supporting cast' of participants who become committed by the vision to the discovery and exploitation of strategic value creation." In their discussion of entrepreneurial leadership, they emphasize the challenges that entrepreneurial leaders face such as mobilizing the resources and gaining the commitment required for value creation, creating a vision and supporters capable of bringing that vision to life. They go on to draw from the literature on entrepreneurship and leadership as they define entrepreneurial leadership as "leadership capable of sustaining innovation and adaptation in high-velocity and uncertain environment." Their definition incorporates the similarities between the "team-oriented leader," the "value-based leader" and the "transformational leader" (Bergstron, 2004).

When defining entrepreneurial leadership, Guptaa, MacMillan and Suriec see the most relevant aspects of transformational, team-building and value-based leadership as those that enable the leader to mobilize the capacity to meet the entrepreneurial challenge. They argue this can only be achieved by a leader who can "extract exceptional commitment and effort from organizational stakeholders, convince them that they can accomplish goals, articulate a compelling organizational vision, promise their effort will lead to extraordinary outcomes, and persevere in the face of environmental change" (Bergstron, 2004).

Data from the cross-cultural GLOBE survey was analyzed in terms of how the effectiveness of certain leadership attributes were measured. Data was compiled in 62 societies worldwide from over 15,000 middle managers and found that while characteristics of entrepreneurship are endorsed across

many cultures, the perception of effectiveness differs by society (Bergstron, 2004).

Coglisera and Brigham (2004) also expand on the definition of the term when they use Shane and Venkataraman's (2000) definition of the entrepreneur — one who discovers, evaluates and exploits opportunities for creating goods and services — as the starting point for their discussion of the overlap between the entrepreneur and the leader. They are most interested in the process of influence by the entrepreneur — whom they define as a leader in an extraordinary situation — and the context in which entrepreneurship occurs and argue.

They also draw close parallels between the definitional/conceptual problems and methodological challenges both fields have faced as they have matured (Avolio *et al.*, 2003). Shane and Venkataraman (2000) provide reviews of leadership and entrepreneurship, respectively. Antonakis *et al.* (2004), Low and MacMillan (1988) and Vecchio (2003) provide further information on methodological challenges.

Finally, according to Gregory Dees, the term “social entrepreneurship” may be new, but the phenomenon is not. We have long known social entrepreneurs; we just may not have known what to call them. They merge the passion and determination of a social cause with the efficiency and discipline of an innovative business. Yet, the new terminology is important because it shows the connection between two previously distinct sectors and helps to broaden the overall scope of entrepreneurship. According to Dees, in addition to innovative not-for-profit ventures, social entrepreneurship can include social purpose business ventures, such as for-profit community development banks, and hybrid organizations mixing not-for-profit and for-profit elements, such as homeless shelters that start businesses to train and employ their residents” (Dees, 1998).

As indicated, entrepreneurial leaders have a wide variety of attributes. These include being a visionary, having a passion for their idea, being a risk-taker, having perseverance, building a team, recognizing opportunities and needs, solving problems, and giving back.

Examples of Entrepreneurial Leadership

There are numerous examples of entrepreneurial leaders in each century (see Figure 1). Looking at some specific examples of individuals and their stories provides an understanding of this concept of an entrepreneurial leader as well as uncovers some commonalities entrepreneurial leaders have.

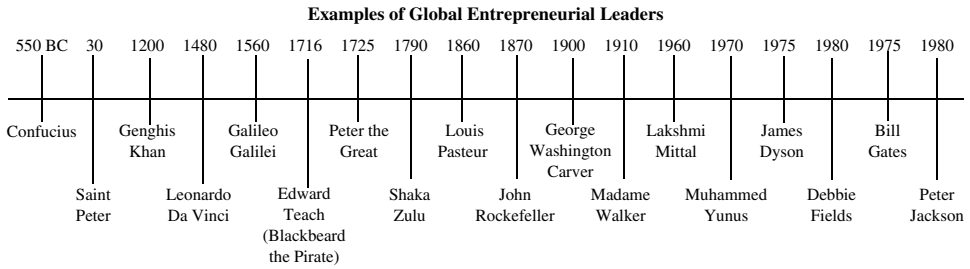


Figure 1.

Confucius (Hammond, 2004)

Little is known about the details of the life of Confucius. However, his ideas and beliefs have been well documented by his students and followers for many generations. While exact dates are not known, it is believed he lived sometime between 550 BC and 480 BC. As part of the educated elite, *shi*, Confucius rendered political services and spent a large amount of time traveling to rulers of various kingdoms around Eastern China. When he was not able to achieve what he wanted in this role, he returned to his home province of Shandong, in Eastern China, to serve as a teacher.

The focus of Confucius' ideas is human relationships. Questioning what went wrong with China and what could be done to put it back in order, he was the first to teach that the world was a network of relationships, defining five significant ones:

- (1) Ruler/Subject
- (2) Father/Son
- (3) Husband/Wife
- (4) Older Brother/Younger Brother
- (5) Friend/Friend

Confucius taught that all relationships were the same: they had an inherent hierarchy, one side having dominance and one side being subordinate. However, all individuals in all relationships, no matter if you are in the dominant or subordinate role, has a duty to fulfill that role. For example, the ruler must rule in an appropriate fashion. The title of ruler does not give entitlement to abuse subjects at a whim. If subjects are abused, the harmony of the society is disturbed, thus freeing the subject of his social role. This ideological structure, Confucius proposed, should maintain order and harmony in a society.

This change in the thinking of that time reflects the entrepreneurial philosophy that Confucius proposed and how, through his journeys and experiences, he was able to identify new ways to view common ideas and situations.

Saint Peter (Cohn-Sherbok, 1997)

After the death of Jesus, Peter, one of his closest followers, was left with a decision. He could distance himself from a convicted criminal or he could follow his passion and continue the teachings of his leader. Peter chose to accept the entrepreneurial approach, accepting risk in order to create something new, the Roman Catholic Church.

As a fisherman in the small town of Galilee, Peter did not plan to change the world. The simple life as a fisherman was all he wanted, until he began following the teachings of Jesus and began a new course in his life.

Although small in number, the followers of the recently killed Christ were passionate in their beliefs. Peter's goal was first to unite them in the form of a church and then to expand the reach of the new church and draw in new members. While avoiding prosecution by the Roman government, Peter began to build a following that was independent of the established religious and governmental order. While most entrepreneurs develop and follow a *vision* in their pursuit, Peter followed what he believed to be the true vision of his teacher, Jesus.

Starting in Jerusalem and neighboring areas of Palestine, Peter and his followers began to expand their teachings to surrounding areas of the Roman world. As many entrepreneurs after them concluded, a critical mass was necessary for their endeavor to succeed. They championed the benefits of what they proclaimed and the manner in which to achieve it. His dedication took him across great distances and often into hostile environments. His belief in his cause allowed him to persevere and continue his attempts at establishing the church.

By the time of his death around A.D. 64, the foundations of the now Roman Catholic Church were beginning to be established. Peter's vision of creating a new church had been set into motion by his actions as well as those of his followers. Peter's work to establish the Roman Catholic Church is reflected in many ways, but perhaps the most fitting is that his tomb lies beneath the grounds of the church that bears his name — St. Peter's Basilica. Two thousand years later, the spirit of Peter's entrepreneurial activities still exists. The fact that he was able to offer something that people would be interested in is supported by the fact that there are currently over 2 billion

Christians who follow in his footsteps, a market size any entrepreneur would love to achieve.

Genghis Khan

Genghis Khan was one of the most influential entrepreneurial leaders in history because he used his skills and vision to change the role of the conquering army, allowing him to establish a presence across a wide area of land. Coming from an impoverished and dysfunctional upbringing, he would grow to form gigantic, conquering armies, his mighty empire stretching from today's Northeastern China across all of Asia to the Caspian Sea. The quickness, relative strength, wealth, and might of the total empire are unmatched throughout history.

Born to the name of Temujin, Khan had a rough childhood. His father was murdered at a young age and his family was forced to endure life in solitude without a solid connection to any tribe. Perhaps it was this environment where Temujin realized the ruthless ways of life. So he could have the distinction of the lead man in the family, Temujin murdered his older brother at a young age. Around the age of 20 Temujin married. This marriage would bring him status and connections inside large tribes. It was here that Temujin began to build his reputation and attract supporters.

Khan began his reign by assimilating or conquering rival tribes on the Mongolian steppe. After the vast lands of the steppe were conquered, he moved east to Manchuria and then west through China and the Middle East. Upon arriving in Europe, it is said he stopped because he did not think the people there were able to give him the valuable tribute he wanted. Khan's reputation of cruelty preceded him. Many times, the people he conquered would not even fight. If they willingly surrendered, they would live and assimilate into the Mongolian rule; if they did not surrender, everyone was slaughtered and burned.

The key to the military might of Genghis Khan was his mode of transportation. He had no infantry in his army; everyone was skilled cavalry on horseback. This allowed his army to travel great distances in short times, surprising enemies and giving them virtually no warning to prepare for battle. Another key to his strength was the growth of his army. If an enemy army surrendered, they would become part of his army; if they fought, they would be killed. This policy, along with his reputation, allowed his army to increase in size very quickly.

Genghis Khan died in 1227 while traveling back to Mongolia from China. At the time of his death virtually all of Asia, most of Siberia, and parts of

Eastern Europe were under his control. He was able to garner this much success in such a short time because he did not rely on the traditions and manners of the past; he created new ways that he found better suited for his goals.

Leonardo Da Vinci (O'Connor, 2002)

In addition to his many other titles, Leonardo Da Vinci should be labeled as one of the great entrepreneurs of all time. It is in fact the breadth and depth of his work, his wide-ranging skills, and his lasting impact on both the arts and society that reflects the strength of his entrepreneurial vision. Utilizing his immense talents and curiosities, he created many new and different pieces of art, devices, and ways of thinking that were ahead of their time in Renaissance Italy. Although many of his contemporaries would attempt to excel in multiple disciplines, none was ever able to achieve the skill and talent across all of them to match that of Leonardo. From his most famous paintings of the *Mona Lisa* and *The Last Supper*, to his intricate and detailed sketches, to his inventions ranging from flying machines to steam-powered cannons, Leonardo touched nearly all aspects of Italian society. He was famous and respected in his day and became a legend as the ingenuity of his works gained appreciation over time.

Born the illegitimate son of a Florentine couple in 1452, Leonardo did not have a wealthy upbringing. He was not able to attend the finest schools or study the great philosophers that were so prevalent in Italian education during this time. At the young age of 14, his luck turned and he was able to secure an apprenticeship in Florence with one of the most successful painters of his day, Verrocchio. While working with Verrocchio, Leonardo proved to be very inquisitive and adept at picking up new skills and observing all aspects of life that surrounded him. He learned the skills of the craftsman's trade: woodwork, painting, anatomy and bronze casting, along with many other apprentices, but it was his ability to move beyond the rudimentary to the exquisite that distanced him from his peers.

By the 1490s, Da Vinci's talents gained notoriety across Italy. He moved to Milan and began to receive commissions for new work. His early works included painting, sculpture, and design, where he honed his talents through observation and perspective. During this period, he painted *The Last Supper* in a chapel near Milan, a now iconic painting that in its time was a major change in many of the traditional methods and styles of painting. His entrepreneurial spirit was evident in his devotion to his work, his willingness to attempt the new, and his desire for recognition.

Through the end of the 15th century and into the 16th, Leonardo continued his work in painting, invention and sculpture. Da Vinci also was a prolific writer; his journals leave a detailed account of his thoughts, observations, and inspirations. In one section, he wrote about his style, but he could just as easily have been writing about what it takes to be an entrepreneur:

The boundaries of bodies are the least of all things. The proposition is proved to be true, because the boundary of a thing is a surface, which is not part of the body contained within that surface; nor is it part of the air surrounding that body, but is the medium interposed between the air and the body, as is proved in its place (Da Vinci, 2004).

He routinely searched outside the given boundaries, finding both interesting ideas and new opportunities. By not containing himself to remain within the accepted or the expected, he was able to take the risks necessary to create truly new and innovative works.

Leonardo did not limit himself to just painting and the arts. He also spent much of his time on invention and innovation. From his studies of the proportionality of the human body to his work in defense systems for the city of Venice, Leonardo's skills spanned many different areas. Although many of his ideas seemed unbelievable in the 16th century, many proved simply to be too advanced for their time. His inventions included a hydraulic screw, a helicopter, a double-hulled ship, a simple printing press, and advanced pulley systems. Each of these was a result of his keen eye for observation and his inquisitive mind that constantly thought of ways to address the problems he saw. Many of these concepts never got beyond his sketchpad, as the technology of the time did not quite support the vision, and oftentimes his ideas proved too radical for others of his period. In 1502, Leonardo was asked to design a bridge for Sultan Bijazet of Turkey to span the waters of Constantinople. Upon receiving the final design, the Sultan rejected it, saying that it could not be built. Five hundred years later, the plans for that bridge were used to build a bridge in Norway, proving that it could be done and that Leonardo truly was ahead of his time in bridge design as well.

Leonardo would continue his work until his death in 1519. As his reputation grew, he spent time working in Milan, Florence, Venice, Rome and France. Upon his death he left a legacy of fifteen completed paintings, numerous sculptures, hundreds of sketches, and many volumes of diaries and journals. His devotion to his skills, his search for answers, and his independent thinking allowed him to stand alone among a cadre of some of the most

brilliant men of his day. As an entrepreneur, Leonardo Da Vinci stands out as someone who was willing to take the risk to innovate and follow his dreams, and in doing so became the legend that he is today. He epitomizes what it means to be a “Renaissance Man.”

Galileo Galilei

(<http://www.cas.muohio.edu/~marcumsd/p111/lectures/grehab.htm>)

Entrepreneurs are sometimes criticized or confronted for their actions due to their actions. What some see as innovative thinking others see as an affront to established thought. Galileo Galilei was born in 1564 in Pisa, Italy. His father was a musician and his family was of nobility. Galileo would go on to make many significant contributions that benefited humanity, creating the foundations that construct modern science.

Galileo began his studies in medicine at the University of Pisa but his curiosity attracted him to many subjects and he later changed his studies to mathematics. Innovation does not always come when you are looking for it, but often when you are not. While in the cathedral of Pisa one day, Galileo watched a lamp swinging back and forth, thus sparking his interest and long study of the pendulum. From this simple observation came many discoveries and theories on time intervals that would later lead to his idea on the pendulum clock.

Galileo also challenged Aristotle's theory of the importance of weight in the speed in which objects fall. Galileo experimented by rolling objects down an angle and by dropping objects off the Leaning Tower of Pisa. The results confirmed his suspicions that all objects fall at the same rate of speed.

While having invented many mechanical tools and devices, his most famous invention was a new model of the telescope. While earlier models already existed in Europe, the strongest one only magnified objects three times. Galileo improved on this model and invented one that could magnify objects 20 times. Many celestial objects were discovered with this improved telescope. The stronger telescope also proved Copernican theory that the earth and planets revolved around the sun.

Galileo's comments on Copernican theory got him into trouble with the Catholic Church, who believed and preached that the Earth was the center of the universe. In 1616, he was called to Rome for his first inquisition to discuss Copernican theory. At that time, he was warned about speaking out in favor of the theory. He was assured he could write about Copernican theory as long as it was based on his familiar subject of mathematics. Galileo took the risks and in 1633 upon the publishing of his book, *Dialogue Concerning*

the Two Chief World Systems, Galileo was called back to Rome to face yet another inquisition. Under threat of torture, Galileo admitted to heresy and was sentenced to a life-term of house arrest outside of Florence. Pleas for pardons for medical reasons were all refused and Galileo, then totally blind, died in 1642.

It was not until 350 years later that Pope John Paul II appointed a commission to reexamine the Galileo case ([Antonakis et al., 2004](#)). Soon after the findings were received, the Pope admitted that the Church was wrong to silence Galileo, clearing Galileo's name from any wrongdoing. His entrepreneurial actions led to his eventual incarceration, yet the strength in his beliefs and his desire to continue his independent thinking forced him to continue on a path of exploration. The personal risks that he took were great, but to him the results were worth it, and history justified the importance of them in shattering the established dogma that pervaded his society.

Edward Teach (Blackbeard the Pirate) ([Bourne, 2006](#))

From 1716–1718, Blackbeard the Pirate ruled the seas from the Atlantic seaboard through the Caribbean. He was feared by the people living on the coast of North Carolina as well as the sailors in many seafaring vessels. Often portrayed as ruthless and brutal, Blackbeard was also an entrepreneur and leader who flourished in his trade like few before or after him.

Little is known of his childhood or the background of his family, but it is believed that he began his pirate life as a privateer on British boats in the early 1700s. By 1716, he was no longer known as Edward Teach, but had become Blackbeard the Pirate, his menacing face and figure well known along the coast of the British colonies. The stories and exaggerations of his life (many of them by his own boasting) served to create an image of Blackbeard that assisted him in his pirating ways: because people were scared of him to begin with, he often would not need to resort to violence to take their boats or property.

The life of a pirate on Blackbeard's boat, the *Queen Anne's Revenge*, was usually better than the life on the farms or plantations that made up most of society of early 18th century America. All booty taken by the pirates would be divided evenly among the crew, one part each, save the captain's two. The pirates who joined Blackbeard's command often came from the lowest classes of society and joined because they often faced few prospects on shore. Some were former members of the British Navy who found the conditions and treatment they received so lacking that they took up Blackbeard's call

for hands. Unlike most life on land, skin color meant little on a pirate ship as the crew was much more tolerant and open to different types of people.

During his two-year reign as captain of the *Queen Anne's Revenge*, Blackbeard is thought to have captured over 25 other vessels as well as his most famous moment — the siege of Charleston, South Carolina, in the spring of 1718. He controlled one of the wealthiest cities in the colonies for nearly two weeks. In that period he took nearly 1,500 pounds of sterling and captured several hostages from nine ships that tried to leave the port. Blackbeard's only demand to end his siege was a chest of medicine for his crew, as such supplies were in short supply for pirates. After negotiations described as quite businesslike, the leaders of the city decided to deliver the goods, which ended his blockade.

Blackbeard was finally captured and killed later that year off the coast of the Outer Banks of North Carolina by Lieutenant Robert Maynard. To show his success, Blackbeard's head was cut off and hung from the bough of Maynard's ship as he returned to Virginia. The legend of Blackbeard grew from there; stories made him larger than life making him almost a hero to those who fought against the oppressive British imperial rule. Blackbeard's entrepreneurial spirit was evident in the way he managed his crew, the tactics he took to build his reputation, and the financial rewards he gained from his actions. Though they were illegal, Blackbeard's piracy reflected an independent man battling against the established order.

Peter the Great (Lewitter, 1958)

Peter I (better known as Peter the Great) ruled Russia from 1682 until his death in 1725, bringing about major modernization to his country. His vision and leadership gave Russia a new position of power in regional affairs and shaped the powerful role of the Russian leader for generations to come. After the death of his father and short rule of one of his elder brothers, Peter became Czar, along with his ailing brother Ivan V, at the age of only ten. Ivan V died in 1696 leaving Peter as the sole ruler of Russia.

Peter spent much time out of the country during early reign. In 1697, he traveled under a pseudonym to Europe as a regular migrant worker. While traveling, he spent time in Amsterdam, studying and helping build ships at the Dutch East Indian Trading Company's shipyard. Upon hearing of a rebellion by the Kremlin Guard in 1698, he quickly returned to Russia. Upon arrival, he reiterated his stern authority and firmly squashed the rebellion, executing over 1200 people involved. Based on his travel experiences, Peter knew Russia was far behind Europe in modernization and decided to enact

changes. He had observed an opportunity for improvement in his military; his entrepreneurial leadership allowed him to use his new skills and knowledge to take advantage of that opportunity

Peter began to transform Russia into his vision of being a western empire by inviting educators, military personnel and businessmen back to Russia. He started by modernizing the army to match those he saw while in Europe. Adapting modern rifles and strategy, Peter reformed his Army into a mighty force. He also developed a strong navy using his personal knowledge in seafaring, making great advances in modernization of the navy's skills and fleet. Education also became a military priority. Peter established numerous schools where mathematics and navigation were common courses; he also established technical schools such as medicine and engineering. His educational institutes differed from European ones in that there was no absolute time for finishing courses; some technical schools took up to eleven years to graduate.

To secure constant trade routes with Europe through the Baltic Sea, Peter launched a decisive offensive on July 18, 1696, against the Ottoman Empire. After four years of war, a truce was declared in 1700. After peace with the Ottoman Empire was established, he saw Sweden as the next obstacle to Russia's economy.

Peter wanted to secure trade routes throughout Europe. However, Sweden, who was not an ally of Russia, had a wide presence in the region. In 1700, Peter engaged in the exhausting 21-year Great Northern War against Sweden. He was persistent and used his superior naval power to capture two Swedish fortresses, Noteburg and Neinchanz, crippling the Swedes and finally ending the war with the Treaty of Nystad. This defeat all but ended the Swedish Empire and its sphere of influence in the region, providing Russia with firm control of the Baltic Sea and all trade routes. This victory was very significant for Russia considering Sweden had what many considered a superior naval fleet.

During the Swedish war, Peter moved the capital from Moscow to St Petersburg along the Baltic. He continued many political reforms and introduced new taxes to fund his foreign policy. His influence and policies altered the direction of life in Russia, allowing the country to modernize along with the western world.

While on an icy river, one day in 1795 several of Peter's soldiers fell into the river. Peter, being a dedicated team player, dove into the water to save them. Upon resurfacing from the freezing temperature, he fell ill and died shortly after. Of the 35 years Peter the Great was in power, only one was peaceful. Although his leadership style was autocratic and vicious, it

nonetheless created a new paradigm for the Russian people and offered the military and monetary rewards for the risks he took.

Shaka Zulu (Golan, 1990)

Shaka Zulu brought his entrepreneurial designs to the battlefield, changing the ways that armies fought, and won, across the African plains. His new techniques allowed him to quickly gain power and consolidate his rule across an area wider than his predecessors. Zulu was born out of wedlock around 1787 to a Zulu chieftain. While accounts of his youth are conflicting, it is likely that he grew up as part of his father's tribe. As a young man, Shaka joined an age-segmented military unit where he served about ten years in service. It is during this time that Shaka became a close acquaintance and ally of the Chieftain Dingiswayo, who worked with Shaka to develop new military strategies.

While Shaka was under the command of Dingiswayo, a powerful enemy chieftain of another warring tribe, Zwide, assassinated Dingiswayo on the orders of his mother. This event allowed Shaka to begin his rise to power. Shaka wanted to avenge Dingiswayo's death, and with the help of his supporters, they launched an attack on Zwide. While Zwide escaped, Shaka managed to capture his mother, showing his ruthlessness by imprisoning her in a room full of jackals. Shaka soon caught up to Zwide and defeated him.

Shaka changed traditional warfare by introducing new weapons and political ideologies in the Zulu Nation. He introduced heavier jabbing spears and elongated shields. This was drastically different from the typical distance warfare most African tribes engaged in. Shaka trained his army to get close to their enemies and fight within close quarters. The intense training and new weapons proved effective as his army gained increasing power.

Shaka strictly trained and disciplined his army, giving rank based on merit instead of the traditional status-based system. He did not allow the army to wear sandals, and he trained them to run long distances. This would allow his warriors to cover ground quickly in a short period for surprise attacks on his enemies. Possibly the most effective strategy he developed was the famous buffalo horn formation. In this formation, younger warriors would encircle the enemy, flanking it by throwing spears, while more experienced veterans rushed through the middle for a direct attack. Another line of even more veteran soldiers would then follow the first, cleaning up anything left behind. This proved very effective, as many armies would flee at first site of the Zulu Nation. Those who stayed were often defeated and then either killed or assimilated into the army resulting in about 300 nations slowly

incorporated into the Zulu Nation. At his prime, the Zulu Nation represented much of South Africa.

Shaka continued fighting mostly around South Africa before eventually making his way northward. The long journeys that Shaka forced his soldiers to undertake did not come without consequence, as resentment gathered in the Army the farther away they traveled from their homes. At the death of Shaka's mother, it seemed as if the warrior leader suffered a mental denial. He ordered that no crops be planted and prohibited everyone in the tribe from having children for one year. If they did, both the man and woman were immediately executed. He also ordered all cows with calves slaughtered, so the calf would relate to the pain of losing a mother. Due to these irrational actions, it was not long before the majority of the tribe thought he had gone insane. In September 1828, just one year after the death of Shaka's mother, two of his half brothers assassinated him, taking over the Zulu Nation.

Shaka has long been a symbol of power to African people. The success and memory of the Zulu Nation, defined by the new manners in which Shaka Zulu created and maintained his rule in Africa, reflects the strong entrepreneurial leadership and willingness to create new means to achieve conventional ends. Shaka Zulu not only was an important part of Zulu history but also has become a symbol of African strength.

Louis Pasteur (Cohn, 1996)

Going against the established way of thought leads someone to entrepreneurial tendencies. It is this desire for independence, both in thought and action, which allows somebody to create something new. Such actions might bring with them consternation from peers and communities as the thinking is against the accepted norms, but it is only by pushing these boundaries that discoveries can be made.

Louis Pasteur is an example of a scientist whose contributions to his field and society as a whole truly revolutionized not only the scientific community but also the lives and habits of all peoples across the world. Pasteur had achieved a moderate level of success in his field of academia, rising to become the dean and professor of chemistry at the Faculty of Sciences in Lille, France. He found himself in a situation well suited to his interests in practical sciences. The Minister of Education would frequently remind the faculty that "whilst keeping up with scientific theory, you should, in order to produce useful and far reaching results, appropriate to yourselves the special applications suitable to the real wants of the surrounding country."

It was during one of these visits to the countryside that Pasteur began to explore the field of alcoholic fermentation, as the wine and beer makers in the region were having problems fermenting their brews. Although some scientists believed that yeast was the cause of fermentation, they were often ridiculed by the scientific experts of the day. Pasteur began to investigate the area and, after several years of experimentation, was able to identify the critical factors of fermentation and the role of yeast in the process. It was also during this time in 1862 that he identified what was his most famous discovery, the one that bears his name: the idea that by heating milk, wine, or beer to a specific temperature for a short period of time, he was able to kill the microorganisms responsible for premature spoilage. *Pasteurization* revolutionized not only the safety of certain foods by killing the bacteria present in them, but the manner in which they were consumed by allowing for increased transportation. This allowed the milk industry to transform from a local and farm-centric market to one of transporting dairy products across great distances, without sacrificing safety or quality.

Like so many entrepreneurs and discoverers, Pasteur was not satisfied with the success he had achieved, so he continued in his search for new challenges. His combination of intellect, ego, and brashness helped push him from one discovery to the next. Based on his findings on fermentation and pasteurization, he decided to tackle one of the biggest issues of his day — spontaneous regeneration. Whether due to its religious connotations, incomplete scientific understanding, or something else, common belief of the day was that organisms could arise spontaneously out of thin air. Although his colleagues told him that pursuing this field would be a thankless and unrewarding endeavor, he went on to prove that the growth of organisms such as beetles, maggots, or microorganisms was the result of microscopic introductions of dust, seed, and air. He disproved the conventional theory completely and gained even more respect in his field.

Continuing his model of using experimentation and scientific analysis to develop a better understanding, Pasteur went on to what are his two most important discoveries — his theories on germs and how to control them and the creation of a vaccination against rabies. Through his studies of both germs themselves and the way that hospitals were being run, Pasteur found that a visit to the doctor was more likely to make patients sick than to cure them. He brought to the attention of doctors the necessity of proper sterilization and sanitation in order to prevent the spread of disease from one patient to another through germ contamination. This was a radical change to the medical profession and one would mark incalculable improvements on both the treatment and its success rate. It took Pasteur's knowledge of

microbiology, passion to tackle a problem, and ability to think differently to bring advancement to society. Pasteur's process of vaccination was later applied to other diseases affecting both humans and livestock such as cholera, anthrax, and malaria.

Pasteur's contributions to science and humanity were deep and lasting. Although rewarded with accolades and commendations by his peers and society later in his life, money was not the result nor was it the motivator. Pasteur sought the independence to pursue what he wanted in a way that he saw best. Science in the mid 19th century was still in many ways a restrictive pursuit due to the heavy influence of the church and ingrained dogma. As an entrepreneur, Pasteur tried to break free and leave his mark in a way that distinctly defined his contributions to the improvement of society.

John Rockefeller (Gras, 1941)

John Rockefeller was an extraordinary American entrepreneur and philanthropist. From a young age, Rockefeller believed the most important thing in life was to make as much money as possible. Through hard work, determination, and a strong competitive nature, he achieved his goal, and more, by becoming the world's first billionaire. He also supported multiple hospitals and schools, while establishing his own philanthropic organizations.

In 1855, after only three months at a commercial college, Rockefeller obtained his first job bookkeeping. Soon after the age of 18, his entrepreneurial spirit first appeared, as he became partner in a commission house. Realizing the importance of credit borrowing, he spent time building a strong reputation through which he took out loans, sometimes a significant amount. He then used this money to capitalize his business, making even more money for himself, before paying the loan back when it became due.

In 1870, Rockefeller along with his brother and three other entrepreneurs established the Standard Oil Company in Cleveland, Ohio. Standard Oil soon became one of the most profitable refineries in Cleveland. Through controversial, but legal, deals with his local railroad cartels, he managed to secure rebates and discounts leaping far ahead of his competition. By 1872, Standard Oil had bought out all but four of its 26 local rivals.

Standard Oil's monopolistic business practices drew much criticism from politicians and journalists alike. In 1892, the state of Ohio started to lead the way in rebuking Rockefeller by applying the state anti-trust laws and demanding a separation of Standard Oil of Ohio from the rest of the company. However, Rockefeller had his hold on other states as well, such as New Jersey, which incorporated laws allowing a trust in the form of a single

holding company. This allowed Rockefeller to obtain 90 percent of the oil market in the United States.

All this came to a halt in 1911 when the Supreme Court of the United States ruled that Standard Oil was a monopoly and declared that it had to be broken into 34 different companies. Out of this fracture came many oil companies still well known today, including Conoco, BP (Amoco), Chevron, Exxon, and Mobil; Rockefeller held substantial shares in each one.

Not dissuaded by the actions of the court, Rockefeller chose to change his entrepreneurial pursuits away from making money and towards giving it away. Holding a substantial position in Standard Oil's equities, he felt the need to disperse his wealth to those less fortunate, in places where he thought the money could be put to good use; this started the rise of American social philanthropy. The Rockefeller Foundation was established in 1913 to "promote well-being" by expanding opportunities for poor and venerable individuals on an international scale. There were also many other institutions established and funded through Rockefeller, including medical, academic, and research centers all over the world.

Rockefeller accomplished much in terms of personal and professional achievements. From a young age to his death in 1937, his strong discipline and willpower allowed him to first create value in ways that had not been done before, and then to distribute that value to the people he felt needed it most. His legacy and philanthropy will continue for many decades to come.

George Washington Carver

(<http://www.ideafinder.com/history/inventors/carver.htm>)

Looking back, George Washington Carver commented on how he measured success and what was important to him, saying, "*It is not the style of clothes one wears, neither the kind of automobile one drives, nor the amount of money one has in the bank, that counts. These mean nothing. It is simply service that measures success.*" How does one measure the success of entrepreneurs? Is it by the amount of money they are able to earn? The titles or awards they are given? Or, the lasting impact they make on society? George Washington Carver completely transformed the nature of a region's economy and kept it from falling apart. Yet this was not what he set out to do.

Born as a slave on a Missouri plantation in 1864, George Washington Carver faced a difficult life. An early childhood illness left him weak and frail, and unable to work the fields. He was made to work in the gardens, learning about plants and gardening from an early age, and developing the

keen interest in agriculture that would guide him throughout the rest of his days.

This early introduction sparked an interest in Carver that continued as he began his education. A black man attending school in the Midwest was not a common thing at this time, and not an easy thing for Carver to accomplish. However, through persistence and dedication, he was able to pursue his dream of an education all the way to the Iowa Agricultural College, where upon graduation he was offered a position as a member of the faculty, the first African-American to do so. This is where he began his teaching career, continued his research, and began to make very important discoveries regarding botany and soil.

Carver was able to put his research into practice when he was offered a position by Booker T. Washington to teach agriculture at his Tuskegee Institute in Alabama. While teaching at Tuskegee, Carver would often take his students into the fields so they could apply their new knowledge to the land. What they found as they toured Alabama was agriculture on life support. The South was covered in cotton fields, but many farmers were finding the yields on their crops diminishing as each year passed. Carver solved the problem by rotating crops each year, the farmers could give the soil the chance to replenish its nutrients and yield better results. In addition, he found that the peanut was in fact the ideal crop to rotate with cotton, as the nitrates it produced were excellent nourishment for the soil and the next planting of cotton. This discovery completely reshaped the economic base of the Southern farmer and dramatically altered the way the agricultural institution of the South functioned from the large plantation owner to the poor sharecropper.

With the farmers rotating their cotton crops with peanuts, the market became flushed with a crop that had little use. So Carver went about finding new uses for the nut and developing new markets for its use. He is credited with inventing over 325 different uses for the peanut, from oils and peanut butter to shampoo and soap. He later found that pecans and sweet potatoes could be used similarly in crop rotation, and is credited with finding numerous new ways to utilize them as well.

He continued his teaching, research, and learning throughout the turn of the 20th century, while earning recognition for his work and the advancements he had brought. Although offered jobs with Henry Ford and Thomas Edison, Carver maintained his focus on education and sharing his passion with students, staying at the Tuskegee Institute for over 40 years. His discoveries were not fueled by a quest for wealth or acknowledgement by others; it was more in the search that he found most joy. When asked why he only

sought patents for three of his products, he replied, “God gave them to me, how can I sell them to somebody else?”

As an entrepreneur George Washington Carver was passionate and able to transform a society that early in his life had done everything it could to prevent him from succeeding. But, through his tireless efforts, perseverance, ingenuity, and dedication he was able to find a way to better the people around him through his agricultural innovations. His philosophy towards life captures the essence of what pushes so many entrepreneurs through the hardships and difficulties that they find while in the pursuit of their goals, *“No individual has any right to come into this world and go out of it without leaving behind him distinct and legitimate reasons for having passed through it.”*

Madam CJ Walker

(http://www.africawithin.com/bios/cj_walker.htm)

Entrepreneurs often find opportunities and success in spite of great odds and obstacles that lay ahead of them. Madam CJ Walker (born Sarah Breedlove) was an example of one such person. Born to former slaves in Louisiana, a black woman in the recently desegregated south in 1867 would have faced just about every impediment imaginable in achieving success. She saw her first husband murdered by a white mob and searched to find a school that would allow her daughter to attend. For nearly 35 years she struggled through life trying to earn a living any way that she could — housecleaning, cooking, and hair styling — until the stresses of her life manifested themselves physically and caused her to start losing her hair.

While many who had lived through such a life might have decided this was just another complication to a life already filled with too many, CJ Walker saw this as an opportunity. After trying many lotions, potions, and remedies, CJ Walker finally found one that worked. If it had worked for her, maybe there were other people who might be interested in purchasing the product. She started as a sales agent for that product, created by another black woman, Annie Malone. After Walker’s brother died, she moved to Denver with her daughter in 1905, with only \$2 to her name, where she continued as a sales agent for the hair lotion, all the while still keeping full-time housecleaning and cooking jobs in order to make ends meet.

In Denver, she met and married a St. Louis newspaperman who had a gift for marketing. It was here that she was able to transform into a businesswoman. She had identified a gap in the market, hair care products for black women, and realized the many opportunities that were available there.

Working with her husband, she renamed the product “Madam Walker’s Wonderful Hair Grower” and began to advertise in black newspapers throughout the country as a scalp conditioning and hair straightening formula. They set up a manufacturing facility to address the growing demand and she began to travel across the country, especially the South, to build awareness of the lotion. Often going door-to-door, she would demonstrate the product and ask that the women she met tell their friends about it and its benefits.

After three years of constant travel, grueling work, and time sacrificed away from her family, the business was growing so strong and demand was so high that Walker was able to expand her company by building a beautician school in Pittsburgh to train other women to sell her products door-to-door. By 1914, only ten years after she had initially arrived in Denver with \$2 in her pocket, CJ Walker was the first self-made female black millionaire in the United States. At one point, she employed over 3,000 women and had a wide range of hair and skin care products. As she would later tell an audience at the 1912 National Negro Business League Convention:

I am a woman who came from the cotton fields of the South. From there I was promoted to the washtub. From there I was promoted to the cook kitchen. And from there I promoted myself into the business of manufacturing hair goods and preparations. . . I have built my own factory on my own ground.

Her success allowed her to do things that no black woman had done before in the United States. She encouraged the political activism of her sales agents in order to fight the prejudice they saw, contributed to the NAACP, built a 34-room mansion in Harlem for her daughter, and started construction on a theater for the arts in Indianapolis. CJ Walker is an example of an entrepreneur who saw an opportunity and, even without the skills or background in the field, she did whatever it took, made sacrifices in her life, and overcame all of the odds to be not only a successful businesswoman by every measure but also an inspiration to countless women who followed her.

Lakshmi Mittal

(http://www.forbes.com/billionaires/2005/03/10/cx_pm_0310mittal_bill05.html)

Entrepreneurs often come from humble beginnings, using their skills and ingenuity to get by day to day. It is their skills in creation, risk taking and boldness that allow them to grow beyond the levels of others raised in the same environment. Lakshmi Mittal was born on June 15, 1950 in Sadulpur,

India. His family was poor, sharing his home with 20 members of his extended family. The living conditions were very modest and family members were forced to sleep on a concrete floor and cook with an open fire in the backyard.

Lakshmi's father received an opportunity to become a partner in a small steel company in the city of Kolkata. The opportunity seemed too good to pass up so the family moved. While in Kolkata, Lakshmi studied commerce at St. Xavier University, graduating in 1969.

After graduation, Lakshmi worked in the family steelmaking company learning the basics of the business. Ambition eventually led him to found Mittal Steel Company in 1976. Over the next couple of decades business expanded and in 1994, he took over the international division, splitting off from the rest of the company. While his father and three other brothers managed the Indian part, the countries of focus in his division were Indonesia, Trinidad and Tobago.

In the past decade, Mittal had rapidly bought up much of his competition. His main focus was buying steel companies from former communist countries including Kazakhstan, Romania, and Ukraine. In 2004, he purchased the U.S.-based International Steel Group for \$4.5 billion. These acquisitions, along with soaring global steel prices, allowed Mittal's steel profits to rise from \$4.7 to \$22.2 billion in the same year. With the 2007 acquisition of Arcelor Steel of Belgium, Mittal Steel has become the world's largest steel producer, with operations spanning four continents. By creating a new steel empire, Mittal has been able to change the dynamics of the industry. From the modest beginnings of his youth in India, Lakshmi Mittal has grown to become one of the wealthiest people in the world.

Muhammad Yunus (Gangerni, 2005)

Muhammad Yunus is an example of a selfless entrepreneur. His entrepreneurial vision is to allow other people to become successful entrepreneurs. He believes that not all entrepreneurs need a large capital infusion; sometimes it only takes a few dollars in the right environment to get an idea up and running.

The idea of microfinance was not something new in the 1970s, but it was something that many people, both institutional lenders and private agencies, were hesitant to do because of the perceived difficulty in recouping the loans to poor and high-risk people. The common belief was that this was not a sustainable business model; that such activities were better left to the aid agencies and NGOs, not to for-profit enterprises.

After Bangladesh won its independence in 1971, Yunus returned to his home country after teaching economics in the United States for several years and worked as a professor of economics at Chittagong University, specializing in poverty and economic development. In 1976, during a visit to the village of Jobra to study poverty in rural villages, Yunus made his first loan of \$27 to a group of local craftsmen in order to study the impact. His intention was not to revolutionize the banking industry in developing countries or to lay the seeds for what would become more than a \$5 billion industry. The first loan was merely to help those people who needed a small amount of money to do something valuable in their lives.

After seeing the impact of this first loan and the way in which he was repaid, Yunus began to envision a model that could work throughout impoverished villages. While the traditional banking model called for loans only to people who were thought to provide a high opportunity of repaying, Yunus found that in fact the poor would often quickly repay their loans with fewer problems. Although the loans would often be for less than \$20, he quickly began to see the impact in the villages. People could be proud businesspeople and make tangible impacts on their communities; many loans went towards agricultural practices that improved food yields and nutrition, which would impact the generations as children, could receive better nutrition and education. He also focused on lending to women, realizing that their success would have a much stronger impact than would be achieved by lending to men. Initially this tactic faced opposition in the strongly patriarchal Bangladeshi society.

Yunus continued to expand his loan practices throughout Bangladesh. By the early 1980s, he had expanded to other developing countries and in 1983; he formed The Grameen Bank, the institutional home of his microlending practices. Yunus' impact is best shown through the proliferation and movement of microfinance into the mainstream of the financial services industry. By 2007, the Grameen Bank had grown to over 2,400 branches, employing 22,000 people and disbursing over \$6 billion in loans to seven million people. Although the goal of the Grameen Bank is to help the impoverished, it is still a for-profit institution that has turned a profit in all but three of the last 20 years. The largest of the "traditional" commercial banks have now entered the microfinance market, realizing that there is potential for profit even when dealing with the poor. The number of people and institutions that are offering loans to help poor entrepreneurs have mushroomed with nearly every geographic location and niche covered by at least one firm.

Yunus has been able to attract large corporations to the developing world by revealing opportunities known. Through partnerships with companies

such as French yogurt maker Danone to make nutritious and inexpensive baby formula, and a program with Norwegian telecom provider Telenor that allows individual women to sell cell phone usage and phone services in their villages, Grameen Bank is showing how its small loans can be the first step towards deeper economic development by large corporations.

In 2006, Yunus and the Grameen Bank were recognized with a Nobel Peace Prize for their impact on society and the lives of so many people around the world. This award reflects the belief that allowing entrepreneurial activities to flourish, at all levels, can bring peace to communities and offer hope to those who may not have had it before.

Entrepreneurship is not always a search for your own success; sometimes it is an attempt to help others achieve their own. Muhammad Yunus was not the first of the “social entrepreneurs,” but his impact will arguably leave a significant mark. While many entrepreneurs wait until after they have had their success and made their fortunes to give back to their community, Yunus turned that model around. In doing so, he revolutionized an industry and taught millions how to be entrepreneurs.

James Dyson (Sheshadri and Henry, 2006)

In 1977, James Dyson was trying to clean up a recently purchased old farmhouse in the British countryside. Frustrated by the lack of suction power in the vacuum cleaner he was using, the engineer in him began to think of ways to solve this problem. Five years and 5,126 prototypes later, he had built the Cyclone, a bagless vacuum that used centrifugal force to create intense suction power that would not degrade with use. At this point Dyson was still an inventor, coming up with some designs for a product that he thought people might want. His entrepreneurial spirit was shown in subsequent years in his efforts to bring his vacuum cleaner to market.

A few large, well-established companies, Hoover and Electrolux first among them, dominated the vacuum cleaner industry at the time. It was not an industry that was viewed as having particularly sophisticated or technologically advanced products. Without the financial resources to manufacture and market his new product, Dyson first attempted to just sell his vacuum cleaner to one of the large companies. No one was interested in buying it; some tried to take advantage of Dyson in deals that did not fully value his design. Hoover went so far as to tell him it did not want his design, while copying it in order to produce its own cyclonic vacuum (a patent battle that would take several years and millions of dollars for Dyson to win). Running low on capital, and without a manufacturer in Europe, Dyson was finally

able to convince a Japanese company called Apex to distribute the Cyclone in Japan after the company had seen a picture of the Cyclone in a trade magazine. The licensing agreement with Apex offered Dyson a small percentage royalty payment up to a fixed amount. Sales of the product exploded in Japan even though it was priced at about \$2,000 per vacuum, due to the market value of the technical improvements it offered.

Because he did not fully understand the language or the business culture, Dyson was disheartened when the successful introduction of the Cyclone in Japan produced only a small royalty payment each year. Based on this experience, he decided that he would need to establish his own company if he wanted to successfully launch the product in the British market. After several meetings with venture capitalists, many of whom failed to see the reason why consumers would pay four times the market price for his machine, Dyson was finally able to secure the financing necessary to build the manufacturing facilities needed.

By 1995, only a year after its release, Dyson and his vacuum cleaners had moved ahead in the British vacuum market, selling nearly 28,000 units each week, to become the top selling upright vacuum in the country, even priced at about £300. His innovative design, technological sophistication and personal marketing style allowed Dyson to surpass sales of all the competitors he once offered to sell his product to. His entrepreneurial spirit also pervaded his corporate structure; he preferred employees with strong research and engineering backgrounds to those with traditional business or marketing skills. He wanted to keep the focus on innovation and improvement rather than bureaucracy.

A few years later, Dyson entered the competitive United States market and within a couple of years had earned 15 percent of the market. His vacuum cleaners became a status symbol and talking point of households across the country. The resolution of his patent infringement lawsuit against Hoover netted him over \$4 million, allowing him to expand production facilities in Asia and continue the R&D work on which his company is dependent.

“I like frustration,” Dyson once said. “I like seeing things in everyday life that don’t work very well and try to make them better” ([Hamm, 2007](#)). This philosophy drives the entrepreneurial spirit within James Dyson. It is what allowed him to succeed after years of failure and disappointment and what keeps him looking for new ideas and new paths to follow. It allowed him to turn one day’s cleaning dissatisfaction into a large fortune and provides the independence that now allows him the flexibility to learn from the failures that will occur in his quest for innovation.

Debbi Fields (Thomas, 1998)

Entrepreneurship is often about surviving through difficult times while waiting for success to come. Most entrepreneurs find their first steps into a new endeavor to be extremely difficult and frustrating and must learn from these experiences in order to earn their place in a crowded market. Debbi Fields was a housewife with no business experience when she opened her first cookie store in Palo Alto, California, in 1977. Eager and excited to start her first day, she did not sell a single cookie until well into the afternoon.

There are many types of entrepreneurs: serial entrepreneurs who are always looking for the next great opportunity; those who have, after spending time in the corporate environment, decided for a variety of reasons that they want to go out on their own; and those without any formal business training but only have a passion or an idea. Debbi Fields falls into the latter category.

Her passion for her cookies allowed her to look at that first day of scant sales not as rejection but rather a learning lesson for the next day. The next day she set out with a tray of her cookies and walked the street, giving a free cookie to everyone she met. Some people walked past, others took a sample, and a few returned to the store to purchase more. After doing this for several weeks, she finally built a market for her cookies. Her business philosophy was not particularly sophisticated or advanced, but in it, she captured the foundation of her success: "I knew I loved making cookies and every time I did, I made people happy. That was my business plan."

After building a strong local market for her cookies, Fields began to expand from Northern California. As she expanded, she continued to focus on the lessons she learned in her first days of business: to market to a customer who does not know you, you sometimes have to give some things away.

Debbi Fields was able to grow her single cookie store to an empire of over 1,000 stores across the country, before selling control to an investment group for nearly \$300 million. Although not her intent in opening her first store, the financial gain was a great reward for taking the risk of trying to sell people a product that they could easily make in their own homes.

Debbie Fields also served as an example to other women. She proved that even in today's hypercompetitive environment you do not need an advanced education to turn an idea into a business reality. You need to have a passion for your idea, perseverance to overcome the inevitable difficulties that will arise, and the consistent focus on your customers' needs and wants. Mrs. Fields was able to do this by becoming one of the best-known brand names

in the food services industry after starting her career by having to give away her cookies.

Bill Gates (<http://www.gatesfoundation.org/AboutUs/OurValues/>)

Microsoft founder Bill Gates' entrepreneurial skills are varied. His company revolutionized the computer industry, ushered in the internet age, and had a deep and profound impact on the daily lives of people around the world. Because of this persistence and risk taking, he, and many of his employees, earned enormous amounts of money shaped the evolution of the information age. In 1995 Bill Gates became the world's richest man with a wealth that in 1999 eclipsed \$100 billion. His ultra-competitiveness (some say ruthlessness) allowed Microsoft to become extremely successful as he used every advantage that he could to maintain Microsoft's position in the front of the fast-growing computer software industry. But, it is now in the next phase of his professional life that Bill Gates is once again showing his entrepreneurial spirit; this time it is not to amass more wealth but rather to find a better way to give it away.

In 2000, the Bill and Melinda Gates Foundation was founded with the goal of alleviating many of the problems that are afflicting the world's poorest people. One of the philosophies of the organization is — To whom much is given, much is expected. The Foundation has grown into one of the premier philanthropic organizations in the world and is well known for its deep commitment to scientific, healthcare and educational initiatives. After years of fighting for the success of his company against forces ranging from competitors to governments, the realization of many of the inequities of the world began to become clearer to him, as he noted, "It's hard to escape the conclusion that in our world, some lives are seen as worth saving, but others are not. And that realization really forced us not only to start our philanthropy earlier but also to make reducing inequity the central priority of our giving" (Gates, 2007).

It was not that other individuals or organizations had not tackled many of the same ideas of fighting poverty and disease that Gates has as such groups have been around for over a hundred years, the difference is that Bill Gates has been able to bring things to his philanthropic efforts that others with similar motivations have not. First is the massive amount of his own wealth that he is contributing to the challenge. Unlike previous barons of wealth, Gates does not intend to bequeath his money to his children, so his currently nearly \$40 billion of wealth can be given to those most in need. Second, he has brought the same entrepreneurial spirit to the disbursement of aid that

he brought to software design. He does not simply write large checks and sit back leaving the grantee to use those funds as they wish. He is much more involved in the process, demanding measurable results and accountability from the projects his foundation funds. This has changed the way grants are written, awarded and measured, eliminating much of the bureaucracy and corruption that has plagued development programs. One example of this is the creation of a “Fast-Trac Grant,” whereby the Foundation has committed \$500 million over five years to encourage scientists to pursue new or experimental methods of research that could lead to new treatments, vaccines, or medicines (Jarvis, 2007).

Areas of focus for the Foundation range from health initiatives, including the fight against the spread of AIDS, tuberculosis, and malaria in impoverished nations, to development programs that are helping to raise the nearly 2.5 billion people that live on less than \$2 per day out of their daily struggle to survive from one day to the next (<http://www.gatesfoundation.org/GlobalDevelopment/>). The Foundation is also true to its founder and has a strong emphasis on technology and innovation and the ways they can be utilized to support the goals of the Foundation.

In July 2008, Gates transitioned out of his day-to-day involvement with the leadership of Microsoft and moved to a more full-time role in the Bill and Melinda Gates Foundation. This commitment indicates the importance he places on the success of the. He already has achieved enormous success in his professional career and has transformed that into even more success in his career as a philanthropist. While success is not guaranteed and challenges will need to be overcome, with his proven leadership and visionary thinking, it is possible that Bill Gates will have a similar impact in philanthropy that he had in defining the computer age. Entrepreneurial achievements in this new career will not be measured by changes in stock price or wealth creation, but rather by the number of lives affected, the diseases prevented, and the smiles of people once thought beyond hope.

Peter Jackson (Pulley, 2004)

By 2003 Peter Jackson had turned the New Zealand film industry from a regional center to a major player in Hollywood productions, built a state of the art production and digital effects facility, and showed that an outsider to the Hollywood establishment could become one of the industry’s most sought after and popular directors. It took significant risk-taking and strong persistence to achieve this level of success; Jackson sacrificed many years of his life in the pursuit of his dream to turn the well-known works of J.R.R.

Tolkien into *The Lord of the Rings Trilogy*. His success was, in part, because of his distancing himself from the Hollywood establishment, allowing him to make the films as he envisioned them. After 10 years, Jackson can look back at the three movies, the 17 Academy Awards won, and the more than \$1 billion in box office receipts, and the success that his vision and leadership brought.

Growing up on the North Island of New Zealand in the 1960s, Peter Jackson had an early affinity for movies, sometimes shooting scenes in his backyard with an 8mm camera. His first professional move in the business was creating scale models for friends. By 1987, he had learned enough about filmmaking to attempt to make his own movie, *Bad Taste*, which he eventually took to the Cannes Film Festival where it received little acclaim. Jackson though was able to sell its rights for enough money to pay back the costs of production.

Jackson continued to expand his skills, making low-budget horror movies that allowed him to hone his skills. During this time, he began to work with several people who would become his partners in all of his future films; Jackson realized the importance of surrounding yourself with talented people. After the success of his film *Heavenly Creatures* in 1994, Jackson began to draw the attention of Hollywood. *The Frighteners*, released in 1996 starring Michael J. Fox, was a critical and commercial disappointment, but did give Jackson the recognition necessary to pursue his ultimate dream, *The Lord of the Rings*.

When he initially pitched his idea for *The Lord of the Rings* to movie studios, none were interested. Who would want to invest hundreds of millions of dollars on a no-name director from New Zealand who wanted to do his own visual effects, and complete most of the filming far away from Hollywood's prying eyes? While Jackson wanted to make three movies, the studios wanted to him to condense them into two. Jackson held on to his vision, finally obtaining funding from a relatively small studio, New Line Productions, best known for the *Teenage Mutant Ninja Turtles* films. Jackson then retreated to New Zealand's capital city Wellington, where he began to build the team and infrastructure needed to create his films.

Over the course of the next two years, Jackson shot all three films simultaneously. He felt that if all three films were filmed at once, the studio was less likely to prevent future releases if the first one performed poorly. He utilized computer-generated images (CGI) in a way no other film had. Fantastic locations were created on the computer; actors donned motion-capture suits so their movements could be transferred to a computer-designed character in a unique way never before done. He hired local talent, preferring not to

import from Hollywood when he did not need to, in order to build up the nascent New Zealand film industry allowing his fellow Kiwis to develop their own skills in an environment they never would have had the chance to be a part of.

With great anticipation, the first film, *The Fellowship of the Ring*, released in 2001, met with strong reviews, “Against all odds in an era of machine-made spectacles, Mr. Jackson and his collaborators have created a film epic that lives and breathes, that’s swept by almost palpable weather.” The film grossed over \$310 million. The two remaining films were released over the following two years, combining for an additional \$800 million at the box office. Cumulatively the three films combined for over \$4 billion in worldwide ticket revenue, DVD sales and merchandise. Jackson’s contract with the studio gave him nearly 7.5 percent of this, making him one of the wealthiest men in New Zealand.

Since the success of these films, Jackson has continued to use his new power and influence to aid his home country. The production facility that he built for the films has been transformed for use by any director. His CGI artists are now some of the most actively sought out and are working on many of Hollywood’s biggest pictures. Describing why he decided to commit so heavily to strengthening his home’s film industry, Jackson replied, “I could go to Hollywood and I wouldn’t have to build any of this. But I value being a New Zealander who is able to make films in his own country. So we’ve had to spend our own money to increase the infrastructure” (Pulley, 2004).

In many ways, Peter Jackson is the antithesis of the traditional Hollywood director. He took enormous risks to make his movies the way that he saw them, not how a studio executive did. He faced and overcame numerous challenges and obstacles to success, devising innovative and creative ways to do something many thought was not possible. And, in the end, his success occurred in the form of both critical acclaim and financial independence. Yet all the while, he did not forget where he came from, or lose the New Zealand sensibility that allowed him to dream and have visions.

HISTORICAL ENTREPRENEUR ... AND FORWARD

This role of entrepreneurs and entrepreneurial leaders throughout history indicates the diversity in backgrounds, mindsets and goals that spawn entrepreneurial actions, decisions and leadership. From public sector to private, for-profit to non-profit, in science, arts, religion, medicine, politics and business, and across industries, the variety of forms that entrepreneurship

Entrepreneurial Leader	Being a Visionary	Having a Passion for the Idea	Being a Risk-Taker	Having Perseverance	Building a Team	Recognizing Opportunities and Needs	Solving Problems	Giving Back
Confucius					X			
Saint Peter	X	X	X					
Genghis Khan	X		X		X			
Leonardo Da Vinci	X		X			X	X	
Galileo Galilei				X	X	X	X	
Edward Teach	X				X			
Peter the Great	X			X		X		
Shaka Zulu					X	X	X	
Louis Pasteur						X	X	
John Rockefeller	X	X						X
George Washington Carver	X	X		X		X	X	
Madam CJ Walker				X		X		
Lakshmi Mittal	X		X					X
Muhammad Yunus	X							
James Dyson				X		X		
Debbie Fields	X	X	X	X				
Bill Gates	X			X	X			X
Peter Jackson	X	X		X	X			

Figure 2. Attributes of Entrepreneurial Leaders.

takes is clear. While these examples reflect that there is no prescribed or predetermined path that all successful entrepreneurial leaders take, there are still some common attributes they all have.

The attributes of these historical entrepreneurial leaders identified in these profiles are indicated in Fig. 2. In the information presented on each of the entrepreneurial leaders, the traits most frequently identified were being a visionary, having persistence and recognizing opportunities and needs. These identified traits were followed by building a team, being a risk-taker, having passion for the idea and solving problems. While giving back was the least identified trait, each entrepreneurial leader did in fact give back by accomplishing what they did.

For the contemporary entrepreneur who actually starts his or her own business, the experience is filled with enthusiasm, frustration, anxiety and hard work. There is a high failure rate due to such things as poor sales, intense competition, lack of capital, or lack of managerial ability. The financial, social and emotional risks can also be very high. Yet, so can the rewards. As history has shown, the individual or company's reward can easily set the stage for an accelerated impact on the larger community, region, or even country.

CURRENT GLOBAL NEED AND ENTREPRENEURIAL LEADERS

The Global Economic Crisis is something most people are very familiar with today. While it often sparks feelings of panic and despair, if viewed from a more entrepreneurial perspective — as the entrepreneurial pioneers discussed earlier would — this phrase is actually imbued with hope, positivism, and opportunity in the arts, science, business and government. There are few places on earth that are not feeling the impacts of the “globalness” of the current situation; whether it’s called “economic” or “financial,” people’s retirement accounts and wallets don’t measure the difference.

Part of U.S. President Obama’s mass appeal is due to his ability to shake people from paralysis into action. But rhetorical rousing itself is not enough to help the global unemployment rates and the local economies that are suffering. In addition to the unemployed, small businesses — even those that have been in business for many years — are at risk because they are finding it increasingly difficult to borrow the working capital needed to stay in business. The U.S. Administration acknowledges this and is currently working to incentivize small business lending. As Gene Sperling, a counselor to the U.S. Treasury Secretary, said, “Keeping small businesses viable is crucial for the nation’s economic turnaround” (Obama, 2009).

Times like these create the perfect opportunities for those empowered with the desire to make a difference and to leverage their new ideas into legitimate business ventures. In preliminary research recently conducted by the authors on the facilitators of and impediments to regional and global entrepreneurship, the majority of those surveyed stated that the current financial crisis was actually accelerating their interest in entrepreneurship as a viable career. People want to be in charge of their own destinies; however, in order to do this, policies and regulations that favor business ventures need to be formally instituted and capital needs to become available (Arthur, 2010).

Of course, times like these, when capital for start-up ventures is needed to give birth to the “gazelles” critical for economic development, venture capitalists are becoming scarcer. According to the National Venture Capital Association, “In 2008 the number of principals at VC firms shrank almost 16 percent” (Gunn, 2009). In fact, “VC firms raised just \$1.7 billion in the second quarter of 2009. That was the smallest amount since 2003 and nowhere near the high of \$32.5 billion raised in the second quarter of 2000” (Gunn, 2009). This trend of VC principals leaving for other pursuits, such as consulting, is extremely disturbing for the entrepreneurial community because it puts current capital investment in their ventures at risk as well as

future financing (Gunn, 2009). This should also be concerning to everyone, though, because lack of investment in new business ventures could actually put the timeline for economic recovery in jeopardy.

So, is there no hope? Is there no light at the end of that proverbial tunnel? It would be very easy to fall into that trap of negative thinking, but this would not be honoring the entrepreneurial spirit and perseverance of those like Madam CJ Walker who faced many more hardships than most of us.

CONCLUSION/CALL TO ACTION

Millions undertake this path every year from all over the world regardless of education, ethnic background, religious beliefs (or not), social background and upbringing. As Fig. 2 illustrates, the successful entrepreneurs discussed in this article — whether in the arts, business, politics, religion, or science — come from varied backgrounds in terms of their education levels and ethnicity. However, all of these brave individuals are creative, have a vision, take risks, and recognize and act on opportunities. Saint Peter, Louis Pasteur, Madam CJ Walker and numerous others significantly influenced the lives of those in their generations as well as generations that followed. Contemporary entrepreneurs can, and will, do the same.

To help mend our current economic struggles, entrepreneurship needs to be encouraged and supported. Those recently laid off from their jobs can become their own bosses; new and innovative ideas to service the growing needs of society can be created and explored without fear of ridicule. Critical in this process are the financial providers such as angel and venture capitalists. Instead of retreating to safe ground during these hard times, these individuals and companies need to reinvest in entrepreneurship...and ultimately their local, regional and global communities. Just as importantly, governments, through their policies and actions, must do the same. History is there to teach us, and if we look to historical mentors such as John Rockefeller, who never gave up in the face of adversity, we can prosper once again.

The fact that consumers, businesspeople and government officials are interested in entrepreneurship is evident from the increased research on the subject, the large number of college courses and seminars on the topic, the more than two million new enterprises started each year (despite a 70 percent failure rate), the significant coverage and focus by the media, and the realization that this is an important topic for industrialized, developing and once-controlled economies.

Who is the focus of all this attention — who is willing to accept all the risks and put forth the effort necessary to create a new venture? It may be a man or a woman, someone from an upper class or lower class background, a technologist or someone lacking technological sophistication, a college graduate or a high school dropout. The person may be an inventor, manager, nurse, salesperson, engineer, student, teacher, homemaker or retiree. It is someone able to juggle work, family and civic responsibilities while meeting payroll. The person could very easily be you.

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