INNOVATION AND ENTREPRENEURSHIP

PRACTICE AND PRINCIPLES FOR SUCCESS

Dr. Kumar Mukul

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CHAPTER 1

RISE OF THE ENTREPRENEURIAL ECONOMY: DEFYING KONDRATIEFF STAGNATION

Dr. Kumar Mukul, Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- dr.kumar_mukul@cms.ac.in

ABSTRACT:
The emergence of the entrepreneurial economy in the United States, challenging prevailing notions of Kondratieff stagnation. Contrary to predictions of long-term economic decline, the U.S. economy has witnessed significant job creation and growth, particularly in the period spanning the mid-1970s to the early 1980s. Through an analysis of employment trends and industry dynamics, it becomes evident that traditional institutions, such as Fortune 500 companies and governmental bodies, have experienced job losses while smaller, entrepreneurial ventures have flourished. Moreover, the study explores the diverse landscape of growth sectors, encompassing both high-tech industries and non-traditional businesses like health care, education, and public-private partnerships. These findings underscore the transformative role of entrepreneurial management as the driving force behind job creation and economic vitality, challenging conventional narratives of technological determinism and stagnation. This research sheds light on the unique trajectory of the U.S. economy, suggesting that it is experiencing an "atypical Kondratieff cycle" characterized by entrepreneurial dynamism and resilience in the face of technological change.

KEYWORDS:

Digitalization, Entrepreneurship, Innovation, Job Creation, Knowledge Economy, Micro-Entrepreneurship.

INTRODUCTION

During the mid-1970s, phrases like "the no-growth economy," "the deindustrialization of America," and a protracted "Kondratieff stagnation of the economy" gained traction and are now often used as axioms. However, the reality contradicts each of these catchphrases. In contrast, there is a significant transition taking place in the US economy from one that is "managerial" to one that is "entrepreneurial." The number of Americans over sixteen increased by two-fifths, from 129 to 180 million, in the two decades from 1965 to 1985. However, throughout the same time frame, the number of Americans working for pay increased by half, from 71 to 106 million. The second decade of that time, from 1974 to 1984, had the fastest expansion in the labor force as the total number of employment in the American economy increased by a full 24 million. Whether expressed as percentages or absolute numbers, the United States has never produced as many new employment during a time of peace. Nonetheless, the 10 years that started with the 1973 "oil shock" in late autumn were marked by intense volatility, "energy crises," the almost complete collapse of the "smokestack" sectors, and two significant recessions. The development in America is distinct. No other nation has yet experienced something like. In fact, between 1970 and 1984, 3 to 4 million jobs were destroyed in Western Europe. While the US had 20 million fewer employment in 1970, Western Europe had over 10 million fewer jobs in 1984. When it came to creating jobs, even Japan performed significantly worse than the US. In Japan, employment increased by only 10% between 1970 and 1982—that is, at a pace that was less than half that of the United States [1], [2]. However, the way that America produced employment in the 1970s and the first part of

the 1980s likewise defied predictions made by experts 25 years before. Then, most labor force analysts predicted that even during periods of the economy's fastest growth, there would not be enough jobs to support all the boys of the "baby boom," who were expected to reach working age in the 1970s and early 1980s. The first significant cohorts of "baby boom" babies were born in 1949 and 1950. In actuality, double that amount had to be absorbed by the American economy. For around the middle of the 1970s, married women started to flood the work force—something that no one had even dared to imagine in 1970. As a consequence, in the mid-1980s, all married women with small children had a paid employment, compared to 1970 when just one in five did. Additionally, the American economy provided employment for these people, sometimes considerably better than anything a woman had previously held. Despite this, "everyone knows" that the 1970s and early 1980s saw "no growth," stagnation and decline, and a "deindustrializing America" because everyone is still focused on the areas of growth in the 25 years following World War II, which ended around 1970 [3], [4].

A large and super-large university, the large consolidated high school with its six thousand or more students, the federal, state, and local governments, the Fortune 500, which represents the nation's largest businesses, and the large and expanding hospital were the focal points of America's economic dynamics in those earlier years. Nearly all new employment added to the American economy in the 25 years after World War II were produced by these organizations. And during each recession of this era, small institutions and, naturally, small companies accounted for the majority of job losses and unemployment. However, the United States' employment growth and creation have migrated to a new sector since the late 1960s. In the last 20 years, the traditional job creators have actually lost their positions. Since around 1970, permanent positions in the Fortune 500 have been declining yearly, first slowly and then rather quickly starting in 1977 or 1978. At least 4 to 6 million jobs had been permanently lost by 1984 for the Fortune 500. Additionally, American governments are employing fewer people than they did ten or fifteen years ago, if only due to a decline in the number of schoolteachers after the "baby bust" of the early 1960s in school attendance. Up until 1980, employment at universities increased; after that, it started to decline. Additionally, hospital employment ceased to grow in the early 1980s. To put it another way, we have produced at least 40 million new jobs, not just 35 million, since we had to offset a permanent loss of at least 5 million employment in conventional hiring institutions. And the bulk of small and medium-sized enterprises, if not all of them, must have been new firms that did not even exist twenty years ago in order for small and medium-sized institutions to be responsible for creating all of these new employment. The number of new firms being formed in the United States annually is 600,000, as reported by The Economist. This is about seven times the number of enterprises that were founded during each of the economic booms in the 1950s and 1960s. Ah, everyone will remark, "high tech," at once. However, it's not quite that cut and dry. Over 40 million employment have been generated in the economy since 1965, and only 5 or 6 million of those occupations were directly related to high technology. Thus, high tech made no more of a contribution than "smokestack" lost. Every employment that was added to the economy came from somewhere else. Furthermore, only a few of newly established companies roughly ten thousand annually are even vaguely "high-tech," even in the most nebulous definition of the word [5], [6].

DISCUSSION

It is true that a significant technology revolution is underway, one that will affect us considerably more broadly than even the most optimistic "futurologists" have predicted and that will surpass Megatrends and Future Shock in scope. Following World War II, three centuries of technology came to an end. During that time, the mechanics of a star, like the sun,

served as the paradigm for technology. This era started in 1680 when Denis Papin, a French scientist who was otherwise mostly unknown, had an idea for the steam engine. They came to an end when we recreated the events within a star in a nuclear explosion. Because technological advancements over the last three centuries have resulted in increased speed, greater temperatures, and higher pressures in mechanical processes. However, since the conclusion of World War II, the biological process—that is, the activities occurring within an organism—has taken on the role of the model for technology. Furthermore, processes inside an organism are not arranged according to the physicist's definition of energy. They are set up according to information [7], [8].

High technology is without a doubt of incalculable qualitative significance, whether it takes the shape of computers or telephony, office automation or robots on the manufacturing floor, biogenetics or bioengineering. Technology offers the thrills and the front rows. It establishes the community's vision and openness to innovation and entrepreneurship. Even though the vast majority of these young people work for employers whose technology is prosaic and mundane, the willingness of highly trained young people to go to work for small and unknown employers rather than for the giant bank or the worldwide electrical equipment maker is undoubtedly rooted in the mystique of "high tech." The remarkable shift in the American capital market from almost having no venture capital in the mid-1960s to nearly having an excess of it in the mid-1980s was likely influenced by high tech as well. Therefore, high tech is what the logicians formerly referred to as the ratio cognoscendi the reason behind our perception and comprehension of a phenomena rather than the reason behind its origin and development.

As said before, high tech still makes up a very modest portion of new jobs roughly one-eighth of them, to be exact. In the foreseeable future, it won't grow any more significant in terms of new employment with. In all probability, high-tech occupations will make up no more than one-sixth of all jobs created in the American economy between now and 2000. In reality, we would experience both a time of long-term stagnation at the bottom of a “Kondratieff wave” and a “no-growth” era if high tech were, as most people believe, the entrepreneurial sector of the American economy.

In the mid-1930s, Russian economist Nikolai Kondratieff was put to death on Stalin's orders because his econometric model accurately anticipated that collectivization of Russian agriculture would result in a dramatic fall in agricultural productivity. The underlying dynamics of technology served as the foundation for the "fifty-year Kondratieff cycle." Kondratieff claimed that a lengthy technological wave crests every fifty years. The growth industries of the latest technological advancement seem to be performing remarkably well during the past twenty years of this cycle. However, what seem to be record earnings are really capital repayments from businesses that have stopped growing. This situation seldom lasts for more than twenty years until an abrupt catastrophe that is often indicated by panic strikes. Twenty years of stagnation ensue, during which time the economy as a whole cannot develop due to the inability of new and coming technology to provide enough employment. Nobody, least of all the government, is able to address this issue.

The Kondratieff cycle was admirably suited to the industries that drove the protracted economic boom after World War II, including petroleum, consumer electronics, steel, rubber, vehicles, and electrical equipment. In terms of technology, they are all rooted in the fourth quarter of the nineteenth century or, at most, pre-World War I. No major technological or business idea breakthrough has occurred in any of them since the 1920s. They were all fully developed sectors of the economy when the post-World War II economic expansion started. They could pay soaring salaries and perks to their employees while still reporting record profits because they could grow and generate employment with very little new capital expenditure. However,

as Kondratieff had anticipated, these appearances of strong health were just as false as a consumptive's cheek flush. The industries were eroding inside. They didn't slow down or become stationary. Instead, they fell apart as soon as the first blows from the "oil shocks" of 1973 and 1979 were delivered. They moved from record earnings to almost bankrupt in a matter of years. It quickly became evident that they would never, if at all, be able to resume their prior work levels [9], [10].

Additionally, Kondratieff's theory fits the high-tech industry. They haven't been able to create more employment than the traditional sectors have been losing, as Kondratieff had expected. According to all the forecasts, they won't be doing much more for a very long time, maybe not the remainder of the century. Even with the rapid advancement of computers, data processing and information management in all its forms continue to develop. Jay Forrester, an MIT physicist, is Kondratieff's most well-known, significant, and serious pupil to this day. He is also the most informed and serious of the "long-term stagnation" prophets. Which, in contrast to popular opinion, began to decline first. Actually, about 1950, the petroleum industry stopped growing. Since then, whether in manufacturing, transportation, or heating and air conditioning, the incremental unit of petroleum required for an extra unit of production has been decreasing—slowly at first, then quickly after 1973. However, the Kondratieff hypothesis is utterly unable to explain the 40 million jobs that the US economy has managed to generate. To be sure, Western Europe has been writing its own version of the Kondratieff screenplay so far. But maybe not Japan either, not the United States. Something has already occurred in the United States that contradicts the hypothesis of long-term stagnation and counteracts the Kondratieff "long wave of technology."

Nor does it seem possible that the Kondratieff cycle has only been delayed. Because there won't be as much of a need to create new employment in the US economy during the next 20 years as there has been in the previous 20, economic growth will be much less dependent on job creation. For the remainder of the century—and even into 2010—there will be up to one-third fewer people entering the American labor market than there were from 1965 to 1980, or thereabouts, when the children of the "baby boom" reached maturity. The birth cohorts have decreased by 30% from the 1960–1961 "baby bust" compared to the "baby boom" years. Furthermore, as women under 50 already participate in the labor market at a rate equal to that of males, any increases in the number of women available for paid work will going forward be limited to natural growth, which implies that it will also decrease by around 30%.

The Kondratieff theory has to be taken seriously as a potential explanation for the future of the conventional "smokestack" industries, if not the most likely one. Furthermore, Kondratieff should once again be given careful consideration when it comes to the idea that the stagnation of yesterday's growing businesses cannot be compensated for by new, high-tech industries. Despite their immense qualitative significance as trailblazers and visionaries, the high-tech sectors are more representative of the future than the present in terms of employment creation. Rather of creating the present, they are creating the future [11], [12].

However, Kondratieff's theory of the American economy which aims to explain its behavior and forecast its trajectory can be seen as debunked and unproven. It is impossible to use Kondratieff's definition of a "Kondratieff long-term stagnation" to explain the 40 million additional employment that the US economy generated over that period. I do not want to suggest that there are no risks or economic difficulties. On the opposite. A significant change in the economic underpinnings brought about by technology, like the one we are seeing in the latter part of the 20th century, undoubtedly creates a great deal of social, political, and economic challenges. In addition, a significant political crisis involving the collapse of the Welfare State, the greatest achievement of the 20th century, is now raging, raising the risk of

an unmanageable, apparently uncontrollable, but very inflationary deficit. Given that the world's industrializing countries, like Brazil and Mexico, are caught between a quick economic upswing and a catastrophic collapse, there is undoubtedly enough risk in the global economy to support a protracted downturn of 1930-like proportions.

The terrifying vision of the out-of-control arms race is another. However, at least one of the concerns that the world has these days a Kondratieff stagnation can be seen as more of a fantasy than a serious threat to US interests. There, an innovative economy has emerged.

It is yet too early to tell whether the entrepreneurial economy will spread to other industrialized nations or if it will continue to be largely an American phenomenon. There are solid reasons to think that it is beginning to emerge in Japan, although in very Japanese form. However, it remains uncertain if Western Europe would see a similar transition to an entrepreneurial economy. In terms of population, Western Europe is ten to fifteen years behind America; in Europe, the "baby boom" and "baby bust" occurred later than in the US. Similarly, the transition to much longer school years began in western Europe around 10 years later than in the US or Japan, and it has only just begun in the UK. By 1990 or 1995, if demography had a role in the rise of the entrepreneurial sector in the United States, as is quite likely, we may see a similar scenario in Europe. However, this is only conjecture. As of right now, the entrepreneurial economy is exclusive to the United States.

In other words, there is no one source that has the answer it comes from both everywhere and nowhere. Since 1982, the Boston-based journal Inc. has released a list of the 100 publicly traded American businesses that are expanding at the quickest rate and are less than fifteen years old. The list is significantly skewed toward high tech since it is limited to publicly listed corporations and offers easy access to underwriters, stock market capital, and over-the-counter or stock exchange trading. Modern technology is stylish. Other new businesses often cannot go public until they have been operating and generating profits for well over five years. However, only 25% of the "Inc. Every year, three-quarters of the 100" are still distinctly "low-tech." The remaining 100" are high-tech.

For example, in 1982 the list included twenty health-care providers, two women's clothing makers, and five restaurant chains, but only twenty to thirty high-tech enterprises. Even though American media were filled with articles in 1982 lamenting the "deindustrialization of America," manufacturing accounted for half of Inc.'s enterprises, with services accounting for the remaining one-third. Despite rumors in 1982 that the Frost Belt was dying and that the Sun Belt was the only region that could expand, just one-third of the "inc. That year, the Sun Belt contained 100". As many of these young, publicly held, rapidly expanding businesses were located in New York as in California or Texas. Furthermore, despite apparently being fading or already dead, Pennsylvania, New Jersey, and Massachusetts had just as many as Texas, California, or New York. Seven were in Snowy, Minnesota.

The industry and geographic distribution of the Inc. lists for 1983 and 1984 were quite similar. The top two businesses on yet another Inc. list the "Inc. Two enterprises that made the "500" list of rapidly expanding, young, privately owned businesses were a construction contractor in the Pacific Northwest and a producer of home workout equipment in California. Every survey conducted among venture capitalists reveals the same trends. In fact, high tech is often much less prominent in their portfolios. One of the most successful venture capitalists has a number of high-tech businesses in his portfolio, such as a fresh computer software developer and a new endeavor in medical technology. The most profitable investment in this portfolio, however, is a chain of barbershops the most unremarkable and least high-tech of enterprises—which has been increasing at the quickest rate in terms of both sales and profitability throughout the three

years 1981–1983. Next to it in terms of profitability and sales growth is a network of dental clinics, then a hand tool maker and a financing firm that rents out machines to small businesses.

Among the companies I directly know, the financial services industry has produced the greatest number of employment throughout the five years between 1979 and 1984, along with the quickest growth in sales and earnings. Just one company has added 2,000 new employment in the last five years, the majority of which are quite highly compensated. Even though it is a member of the New York Stock Exchange, stocks account for only approximately one-eighth of its total business. For what the firm refers to as "the intelligent investor," which is defined as the well-to-do but not wealthy professional, small businessman, or farmer, in small towns or the suburbs, who makes more money than he spends and thus looks for places to put his savings, but who is also realistic enough not to expect to become rich through investment, the remaining investments are in annuities, tax-exempt bonds, money-market funds and mutual funds, mortgage-trust certificates, tax-shelter partnerships, and a host of other similar investments. One of the most insightful studies I have seen regarding the U.S. economy's growth sectors is a study of the 100 fastest-growing "mid-size" businesses—that is, businesses with annual sales between $25 million and $1 billion. Two senior partners of the consulting company McKinsey & Company performed this research for the American Business Conference in 1981–1983.

These mid-sized growth enterprises had three times the pace of profit and sales growth compared to the Fortune 500. Since 1970, the Fortune 500 have been gradually losing employment. However, the pace of employment growth in these mid-sized growth enterprises was three times higher than the overall job growth rate in the U.S. economy between 1970 and 1983. Even during the Great Depression (1981–1982), when employment in US industry fell by almost 2%, mid-sized growth enterprises added one full percentage point to their workforce. The businesses represent a range of economic sectors. Of course, there are some that are very technological. However, there are other financial services firms; one example is the brokerage and investment company Donaldson, Lufkin & Jenrette in New York. A company that makes and sells living room furniture is among the best in the group; another makes and sells doughnuts; a third produces high-quality chinaware; a fourth makes writing instruments; a fifth makes household paints; a sixth has branched out into consumer marketing services from printing and publishing local newspapers; a seventh makes yarns for the textile industry; and so on. Furthermore, over half of these "mid-sized growth" enterprises are in manufacturing, despite the fact that "everyone knows" that the American economy is only growing via the services sector.

Even more confusing is the fact that, despite being completely non-governmental, the growth sector of the U.S. economy over the past ten to fifteen years has included a sizable and expanding number of ventures that are typically not classified as businesses, though many of them are now structured as profitable enterprises. Naturally, those in the healthcare industry are the most noticeable of them. These days, the conventional American community hospital is under serious challenges. However, there are thriving hospital chains that are expanding quickly, both for business and nonprofit organizations. The "freestanding" health facilities—such as hospices for the terminally sick, freestanding maternity homes, freestanding surgical centers, psychiatric "walk-in" clinics, or centers for geriatric diagnosis and treatment—are expanding even more quickly.

In almost every community in America, the number of public schools is declining. However, a whole new breed of non-profit but private schools is thriving, in spite of the fall in the overall number of children of school age brought on by the "baby bust" of the 1960s. A community babysitting cooperative that was started in 1980 by a few moms for their own children had

expanded into a school with 200 pupils advancing to the fourth grade in the tiny Californian city where I now reside by 1984. Furthermore, the city of Claremont's junior high school, which was constructed fifteen years ago but has been empty for the last five years due to a lack of students, is giving way to a "Christian" school that was started a few years ago by the Baptists in the area. All forms of continuing education are in high demand; even during the harsh 1982–1983 recession, these programs had only a brief setback. Examples of this include senior management programs for mid-career managers and refresher courses for medical professionals, engineers, attorneys, and physical therapists.

The developing "Fourth Sector" of public-private partnerships, in which government entities such as states or municipalities set performance criteria and provide funding, is another and crucial field of entrepreneurship. However, they then award a contract for a service—such as bus transportation, trash collection, or fire protection—to a private company based on competitive bids, guaranteeing both superior performance and much reduced expenses. Since Helen Boosalis became mayor in 1975, Lincoln, Nebraska, a city where the Populists and William Jennings Bryan got us started on the path toward municipal control of public services a century ago, has been a leader in this field. Additionally, Texas is doing groundbreaking research in this field; in San Antonio and Houston, for example, and particularly in Minneapolis at the University of Minnesota's Hubert Humphrey Institute. Leading Minneapolis-based computer maker Control Data Corporation is forming public-private collaborations in the fields of education and even jail administration and rehabilitation. In the long run, contracting out first-class service to the "Fourth Sector" through competitive bids may be the one thing that can save the postal service, since there is undoubtedly a limit to the public's willingness to pay ever-larger subsidies and ever-higher rates for ever-shrinking service. Other than growing and rejecting the Kondratieff stagnation, is there anything at all that these expanding businesses have in common? Since the notion of technology is really new applications of knowledge to human activity, they are all really instances of "new technology." It is just the "technology" that is neither genetics, electronics, nor novel materials. Management via entrepreneurship is the "new technology." Once this is understood, the remarkable increase in jobs that the American economy has seen during the last twenty, and particularly the last ten, years, can be explained. It even makes sense in light of the Kondratieff hypothesis. One may describe the current state of affairs in the US and, to a lesser degree, Japan, as a "atypical Kondratieff cycle."

We have known that the real events that occurred in Germany and the United States over the fifty years between 1873 and World War I do not match the Kondratieff cycle since Joseph Schumpeter first brought this to our attention in 1939. Based on the railway boom, the first Kondratieff cycle ended in 1873 with the fall of the Vienna Stock Exchange, which pulled down stock exchanges throughout the globe and precipitated a deep slump. Following that, there was a protracted period of industrial stagnation in Great Britain and France. During this time, the development of new technologies such as steel, chemicals, electrical equipment, telephones, and, eventually, automobiles, was unable to offset the decline in employment in established industries like coal mining, railroad building, and textiles. However, despite the horrific aftermath of the Viennese stock market collapse, from which Austrian politics never fully recovered, this did not occur in the US, Germany, or even Austria. These nations were first quite startled. After five years, they had emerged from their downturn and were rapidly expanding once again. These nations were no different from a stagnant Britain or France in terms of "technology." There was only one element—and that one thing only—that could account for their disparate economic behaviors: the entrepreneur. In Germany, for example, the foundation of the Universal Bank was unquestionably the most significant economic development over the years 1870 to 1914. Georg Siemens established the first of them, the Deutsche Bank, in 1870* with the express purpose of locating entrepreneurs, providing funding

to them, and imposing structured, orderly management on them. In the United States' economic history, enterprising bankers like J. P. Morgan in New York fulfilled a comparable function.

Currently, it seems that the United States and maybe Japan are experiencing something rather similar. It is true that the high tech industry is the only one outside of this new "technology," this "entrepreneurial management." The high tech entrepreneurs in Silicon Valley continue to primarily conduct business in the manner of the eighteenth century. The saying "If you invent a better mousetrap, the world will beat a path to your door" is still ingrained in their minds. They haven't stopped to consider what exactly makes a mousetrap "better" or for whom.

Of course, there are many high-tech businesses that are adept at handling innovation and entrepreneurship. However, there were also anomalies throughout the eighteenth century. Werner Siemens, a German, was the one who started and developed the business that now carries his name. The American George Westinghouse was a brilliant inventor and businessman who founded two firms that keep his name today: one is a transportation industry leader and the other is a significant player in the electrical apparatus sector.

However, Thomas Edison continues to appear to be the paradigm for the "high-tech" entrepreneur. The greatest successful innovator of the nineteenth century, Edison, transformed creation into what is today known as research. But his true ambition was to become a billionaire and a company builder. Nevertheless, he mishandled the companies he founded so badly that it was necessary to remove him from each one in order to save them. The management of high tech is still largely, if not entirely, done Edison's way or, more precisely, poorly.

The first reason for this is that the high-tech industries follow the traditional pattern, which goes something like this: five years of intense enthusiasm, quick growth, abrupt shakeout and collapse, or "from rags to riches and back to rags again." The majority of the new biological high-tech businesses, as well as Silicon Valley, are still speculators rather than entrepreneurs, and they are still inventors rather than innovators. Furthermore, this may also help to explain why high tech has so far followed Kondratieff's forecast and failed to create enough employment to restart economic growth on the whole.

However, the "low tech" of methodical, deliberate, and controlled entrepreneurship does. Joseph Schumpeter was the only prominent contemporary economist to focus on the role of the entrepreneur and how it affects the economy. Every economist is aware of the effect and importance of entrepreneurs. However, in the eyes of economists, entrepreneurship is a "meta-economic" event—that is, something that, while not a part of the economy itself, significantly impacts and changes it. Technology is also important to economics. Put differently, economists are unable to explain why entrepreneurship originated in the manner that it did in the late 1800s and seems to be doing so once again, or why it is exclusive to a single nation or culture. In fact, it's unlikely that the circumstances that describe why entrepreneurship succeeds are economic ones in and of themselves. Changes in beliefs, perceptions, and attitudes, as well as potential changes in institutions, demography, and education, are most likely the reasons. In the previous twenty to twenty-five years, something undoubtedly occurred to the attitudes, values, and ambitions of young Americans, and to a very big proportion of them. However, it is clearly not what anybody could have imagined while seeing the young Americans of the late 1960s. How can we explain, for example, why there are now so many individuals prepared to take serious risks above massive organization security and to labor like demons for extended periods of time? The hedonists, status seekers, "me-too-ers," and conformists are nowhere to be seen. On the other hand, where are all the youth who, fifteen years ago, we were informed were abandoning worldly achievement, material values, and wealth in favor of bringing back a "laid-back," if not a pastoral "greenness," to America? Whatever the reason, it is not consistent with

the predictions made by all the prophets of the last thirty years regarding the younger generation, including Herbert Marcuse, Charles Reich, William H. Whyte, and David Riesman in The Lonely Crowd, Charles Reich, and The Organization Man. Undoubtedly, the rise of the entrepreneurial economy is a cultural and psychological phenomenon as much as an advancement in technology or the economics. However, the repercussions surpass all economic factors, regardless of the origin.

CONCLUSION

An analysis of the US entrepreneurial economy's ascent provides important new insights into the intricate relationship between economic expansion, employment creation, and technical advancement. The creative managerial methods and entrepreneurial spirit have propelled the U.S. economy towards exceptional durability and flexibility, defying forecasts of Kondratieff stagnation. The economy has changed as a result of the transition from big, established organizations to smaller, more flexible businesses. This has created possibilities in a variety of industries and defied expectations about how jobs would be created. The report also emphasizes how crucial it is to acknowledge entrepreneurship as the primary driver of economic dynamism, especially in a time of rapid technological innovation. The expansion of non-traditional sectors like health care, education, and public-private partnerships highlights the wider influence of entrepreneurial activity on employment creation and economic vibrancy, even if high-tech businesses definitely play a large role. In terms of the future, the results point to the entrepreneurial economy as a viable route to prosperity and steady economic development. Policymakers and corporate executives may continue to use the potential of entrepreneurial endeavors to promote job creation and economic progress by creating an atmosphere that encourages innovation, risk-taking, and cooperation.

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CHAPTER 2

CATALYST FOR ENTREPRENEURIAL TRANSFORMATION: A REVIEW STUDY

Dr. Lubna Ambreen, Associate Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- lubnaambreen@cms.ac.in

ABSTRACT:
The pivotal role of management in catalyzing the emergence of the entrepreneurial economy, challenging conventional notions and transforming societal attitudes, values, and behaviors. Management, often associated with existing enterprises, has evolved to become a dynamic force driving innovation, particularly in small businesses and nontraditional sectors. Through systematic innovation and the pursuit of new opportunities, management has expanded its scope to encompass diverse enterprises, including local restaurants and nonbusiness activities. Tracing the historical development of management as a discipline, the passage highlights its evolution from a practice to a systematic discipline, with profound implications for economic and social organization. The management boom since the mid-20th century has reshaped the economic landscape, fostering a society of organizations and an "employee society" characterized by widespread employment within structured enterprises. This shift has challenged the notion that management is exclusive to big businesses, paving the way for the rise of small entrepreneurial ventures across various sectors. Moreover, the passage underscores the transformative impact of management on traditional businesses, exemplified by the case of McDonald's revolutionizing the fast-food industry through standardized processes and customer-centric innovation. Management, as a new technology, has not only optimized existing enterprises but also facilitated the creation of new markets and customer experiences.

KEYWORDS:

Micro-Entrepreneurship, Remote Work, Self-Employment, Small Business, Startups, Unemployment.

INTRODUCTION

A "technology" is the means by which attitudes, values, and behavior have changed profoundly. We refer to it as management. The new applications of management that have enabled the emergence of the entrepreneurial economy in America are as follows: management can now be applied to new ventures, whether they are businesses or not, whereas most people had previously believed that management was only applicable to established businesses; small businesses, whereas most people were certain only a few years ago that management was for the "big boys" only; nonbusinesses, whereas most people still associate the word "business" with management; activities that were simply not thought of as "enterprises" at all, like neighborhood restaurants; and most importantly, systematic innovation—the pursuit and utilization of novel opportunities to satisfy human wants and needs. A techno management, as a "useful knowledge," has the same age as the other important fields of knowledge, like as electronics, solid-state physics, genetics, or immunology, that form the foundation of today's high-tech companies. The era around World War I is when management first emerged. It began to sprout in the middle of the 1920s. But like engineering or medicine, management is a "useful knowledge," and as such, it had to evolve as a practice before it could become a discipline. A few significant companies—mostly corporations at the time that engaged in "management" in

the US by the late 1930s were the DuPont Company, General Motors, its half-brother, and Sears, Roebuck, a sizable retailer. Siemens in Germany and the Marks and Spencer department store chain in Great Britain are two examples of companies located on opposite sides of the Atlantic. However, the discipline of management was founded during and immediately after World War II [1], [2].

The industrialized world saw a "man- agement boom" starting around 1955. Around 40 years ago, the general public—including managers themselves—was first introduced to the social technology that is now known as management. At that point, it quickly evolved from the sporadic practice of a small group of devoted followers into a discipline. Furthermore, throughout the last 40 years, management has probably had a greater influence than any of the "scientific breakthroughs" of the era. It may not even be largely to blame for the fact that, ever since World War II, society has transformed into one of organizations in every industrialized nation. The fact that the vast majority of people in developed societies today—including the vast majority of educated people—work as employees in organizations, including their bosses, who increasingly tend to be hired hands rather than owners, may not be entirely or even primarily attributable to it. However, it is certain that we could not have structured the "employee society" and the society of companies, which are today social realities in every industrialized nation, if management had not evolved as a methodical discipline. It is true that we still have a lot to learn about management, particularly with the management of knowledge workers. However, by now, the principles should be quite well understood. In fact, forty years ago, when most executives, even those in huge businesses, were unaware that they practiced management, this was an esoteric cult; now, however, it has become the norm [3], [4].

However, until recently, management was often thought to be limited to the commercial world, and even within that industry, to "big business." When the American Management Association welcomed small company owners to its "Presidents' Course" on management in the early 1970s, they were repeatedly told, "Management? That's just for large organizations; it's not for me. American hospital managers continued to reject anything classified as "management" until 1970 or 1975. They said, "We're not business people; we're hospital people." Indeed, "progress" means erecting larger institutions for a considerable amount of time, from the conclusion of World War II until 1970. There were several reasons for the 25-year trend toward larger organizations in every sector of society, including business, labor unions, hospitals, universities, and schools. However, one important contributing aspect was undoubtedly the notion that we were adept at managing large scale businesses but lacked experience with smaller ones. For example, it was closely related to the push toward the massively centralized American high school. It was stated that professional administration is necessary for education, and that huge businesses are the only places where this can be implemented. We've reversed this tendency during the last ten or fifteen years. It's possible that the current trend in America is more toward "deinstitutionalization" than "deindustrialization. It was commonly held for about fifty years, beginning in the 1930s, both in western Europe and the United States, that the hospital was the ideal location for someone who was not quite well, much alone for someone who was gravely ill. Both physicians and patients generally held the view that "the sooner the patient gets to the hospital, the better care we can take of him." We have been reversing this tendency over the last several years. There is a growing belief that the earlier and longer we can discharge patients from the hospital, the better. This turnaround undoubtedly has nothing to do with management or healthcare. It is a response to the work of centralization, or "planning," of government that started in the 1920s and 1930s and peaked in the US during the Kennedy and Johnson administrations of the 1960s. This reaction may be long-lasting or fleeting. But we couldn't engage in this "deinstitutionalization" of the healthcare industry if we didn't have the skills and self-assurance necessary to run tiny organizations and "non-

businesses," which is to say, healthcare institutions. All things considered, we are seeing that, compared to large, “managed” organizations, tiny entrepreneurial organizations may need more management and be more affected by it. Above all, we are now realizing that management has a great deal to offer both the continued, "managerial" firm and the new, entrepreneurial one [5], [6].

For instance, hamburger stalls have been in the US since the 19th century and first appeared on street corners in major cities during World War II. However, at the McDonald's ham-burger franchise, which has been a success story in the past 25 years, management was being introduced to what had previously been a mom-and-pop business that was hit-or-miss. To ensure that every piece of meat, onion slice, bun, and fried potato was identical and produced in a fully automated process with precise timing, McDonald's first designed the final product. It then redesigned the entire manufacturing process and, in many cases, invented the tools. After determining what "value" meant to customers, McDonald's established criteria for each of these factors—complete cleanliness, speed of service, friendliness, and quality and predictability of the product—and adjusted training and remuneration accordingly.

The new technology that is transforming the American economy into one of entrepreneurship is management. Additionally, it is going to transform America into a society of entrepreneurs. In fact, social innovation in politics, governance, health care, and education may have more room in the US and other industrialized nations than it does in the corporate and economic spheres. Once again, entrepreneurship in society—which is desperately needed—requires, above all, the application of fundamental management principles and techniques to novel situations and fresh prospects. This indicates that the moment has arrived to build the concepts, practices, and disciplines of entrepreneurship and innovation, just as we did for management in general some thirty years ago.

DISCUSSION

Entrepreneurs use innovation as a specialized tool to take advantage of changes and turn them into opportunities for new ventures or services. It may be taught as a discipline and is something that can be learnt and practiced. In order to identify chances for effective innovation, entrepreneurs must actively look for the sources of innovation as well as the shifts and symptoms that accompany them. They also need to be aware of and proficient in the concepts of effective innovation. The businessman," the French economist J. B. Say defines a "entrepreneur" as someone who, around 1800, "shifts economic resources out of an area of lower and into an area of higher productivity and greater yield." However, Say does not identify this "entrepreneur." Additionally, there has been complete misunderstanding on the meanings of "entrepreneur" and "entrepreneurship" ever since Say first used the phrase almost 200 years ago. For example, in the United States, an entrepreneur is often someone who launches and manages a small firm on his own. Indeed, the "Entrepreneurship" courses that have recently gained popularity at American business schools are, in many instances, remarkably similar to the thirty-year-old course on launching a small firm. They are the direct offspring of that course. However, not every newly established small firm exemplifies or is an example of entrepreneurship [7], [8].

A risk is undoubtedly taken by the husband and wife who decide to operate another Mexican restaurant or delicatessen in an American suburb. Are they, nevertheless, business owners? They just carry out what has been done many times before. They take a chance on the growing trend of dining out in their community, but they don't generate any new customer demand or sources of happiness. Even if their business is young, they are definitely not entrepreneurs when seen from this angle. But McDonald's was a business venture. To be sure, it did not invent

anything. The end result was the same as what every respectable American restaurant had long since created. However, McDonald's significantly increased the yield from resources and created a new market and customer by implementing management concepts and techniques, standardizing the "product," creating process and tool designs, and basing training on the analysis of the work to be done and then setting the standards it required. This is being an entrepreneur.

The expanding Midwest-based foundry, which was founded a few years ago by a husband and wife team, is equally enterprising. Its mission is to heat-treat ferrous castings to high-performance specifications, such as the axles for the massive bulldozers that clear land and dig ditches for an Alaskan natural gas pipeline. The necessary science is widely understood, and the firm doesn't really do anything that hasn't been done before. Initially, however, the founders organized the technical data such that they could enter the performance specs into their computer and instantly print the necessary treatment. Second, the procedure was systematized by the founders. Few orders consist of more than six identical items with the same weight, dimensions, metallic composition, and performance requirements. However, rather of being manufactured in batches, the castings are being created using computer-controlled machinery and self-adjusting furnaces in what is effectively a flow process [9], [10].

This kind of precision casting had a 30 to 40 percent rejection rate in the past; but, in the new foundry, at least 90 percent of the castings come off the line perfect. Despite paying full American union salaries and benefits, the Midwestern foundry's expenses are less than two-thirds of the lowest competitor's. This company is not new and yet tiny, it is not what makes it "entrepreneurial." It is the understanding that these castings are unique and different, that there is now a "market niche" for them due to the increase in demand, and that technology—particularly computer technology—allows for the transformation of an artistic endeavor into a scientific one. Admittedly, there are a lot of commonalities among all new small enterprises. However, an organization has to possess unique qualities in addition to being new and tiny in order to qualify as entrepreneurial. It is true that among new enterprises, entrepreneurs make up a small proportion. They alter or transform values; they produce something fresh and unique.

Furthermore, a business does not have to be tiny or brand-new to qualify as an entrepreneur. In fact, big, often established businesses engage in entrepreneurship. One of the largest companies in the world and one that has been around for more than a century, General Electric Company, has a long history of creating new, entrepreneurial ventures from the ground up and growing them into significant sectors. Additionally, G.E. has expanded beyond industrial enterprise. Its financial division, G.E. Credit Corporation is largely to blame for the revolution in the American financial system that is now quickly engulfing Great Britain and Western Europe. G.E. When the financial world realized that commercial paper could be used to fund industry, credit in the 1960s began to flow freely. This ended the banks' long-standing monopoly on business lending.

The massive British retailer Marks and Spencer may have had a greater impact on the British economy and even on British society than any other change agent in Britain, possibly even more than laws or the government, over the course of the last fifty years than any other company in western Europe. Once again, G.E. ... there are a lot of similarities between Marks & Spencer and big, well-established companies that are completely entrepreneurial. What distinguishes them as "entrepreneurial" are attributes other than scale or expansion [11], [12].

The founding and growth of the contemporary university, particularly the modern American university, is the best source for a history of entrepreneurship. Wilhelm von Humboldt, a

German diplomat and civil servant, is credited with creating the modern university when he conceived and established the University of Berlin in 1809 with two distinct goals in mind: to seize German intellectual and scientific leadership from the French and give it to the Germans, and to channel the energies unleashed by the French Revolution against the French, particularly Napoleon. Around 1870, when the German university had reached its zenith, Humboldt's concept of the university acting as a catalyst for change was adopted in the United States, a continent away. There, the ancient colonial "colleges" were nearing senility by the conclusion of the Civil War. Despite a nearly quadrupled population, there were only half as many college students in the United States in 1870 as there had been in 1830. However, over the course of the following thirty years, a galaxy of American university presidents founded and developed a new "American university" that was both distinctly new and distinctly American. This university quickly gained global leadership in scholarship and research for the United States following World War I, much like Humboldt's university had done for Germany a century earlier.

Following World War II, an innovative new wave of American academic entrepreneurs emerged, creating a plethora of new "private" and "metropolitan" universities across the country, including Northeastern in Boston, Santa Clara and Golden Gate on the West Coast, Pace University, Fairleigh Dickinson, and the New York Institute of Technology in the New York area. Over the last thirty years, they have contributed significantly to the expansion of the American higher education industry. The curriculums of the majority of these new schools seem to be quite similar to those of the older establishments. However, they were purposefully created for a new and distinct "market"—for individuals in the middle of their careers as opposed to young people just out of high school; for students from large cities who commute to the university at all hours of the day and night as opposed to those who live on campus and attend classes full-time, five days a week, from nine to five; and for students from a wide range of backgrounds as opposed to the stereotypical "college kid" of the United States. They were a reaction to a significant change in the market, a change in the perception of what "going to college" meant, and a movement in the prestige of a college degree from "upper-class" to "middle-class." They stand for self-starting.

A case on entrepreneurship could just as easily be written on the history of the hospital, from the late eighteenth-century establishment of the modern hospital in Vienna and Edinburgh to the various iterations of the "community hospital" that emerged in the America of the nineteenth the major specialized centers of the early twentieth century, such as the Menninger Foundation and the Mayo Clinic, to the post-World War II rise of the hospital as a center of healthcare. Again, not every nonbusiness service establishment is an entrepreneur; far from it. However, new entrepreneurs are busily transforming the hospital into specialized "treatment centers" once more, such as ambulatory therapeutic clinics, freestanding maternity centers, or psychiatric centers, where the emphasis is on specialized "needs" rather than patient care as in the traditional hospital. And the minority that still has all of the traits, issues, and distinguishing features of the service organization. Germans associate entrepreneurship which is even more misleading—with power and property, while English speakers associate it with new, modest businesses. The individual who owns and manages a firm is known as the Unternehmer, which is the precise translation of Say's entrepreneur into German. Furthermore, the term is mostly employed to set the "boss," who also owns the company, apart from both "professional managers" and "hired hands" in general. However, the earliest attempts to establish systematic entrepreneurship were made by the Brothers Pereire in France in 1857 with their Credit Mobilier, which was later refined by Georg Siemens while running the Deutsche Bank across the Rhine in 1870, and brought to New York around the same time by the young J. P. Morgan—did not want to be the owner. As an entrepreneur, the banker's job was to mobilize other

people's funds and direct them toward industries with better yields and productivity. For instance, the Rothschilds, who were earlier bankers, went on to become owners. They always used their own funds to finance the construction of railroads. In contrast, the enterprising banker had no desire to possess anything. Selling the public the stock of the businesses he had funded as a young man was how he earned his money. Additionally, he borrowed money from the common population to fund his endeavors.

Entrepreneurs are not capitalists either, even though they obviously need cash for all forms of economic activity. Nor do they act as investors. Of sure, they face risks, but so does anybody who is involved in any kind of economic activity. The commitment of current resources to future expectations—which entails risk and uncertainty—is the fundamental component of economic activity. Additionally, an entrepreneur is not an employer; rather, they may be, and often are, employees—that is, someone who works only for themselves. So, being an entrepreneur is a unique quality, whether it belongs to a person or an organization. It is not a personality characteristic; in thirty years, I have seen individuals with the widest range of temperaments and personalities perform

Tasks, Responsibilities, and Practices in Management, together with Entrepreneurship in the Service Institution. Ably in business difficulties. Indeed, those who are dependent on others are not likely to succeed as business owners. However, these individuals are unlikely to succeed in a variety of other endeavors as well, such as politics, holding high positions in the armed forces, or operating as an ocean liner captain. All of these endeavors require making choices, and uncertainty is the foundation of every decision.

However, being an entrepreneur and acting in an entrepreneurial manner may be learned by anybody who can accept making decisions. Therefore, rather than being a personality characteristic, entrepreneurship is a behavior. Moreover, idea and theory, not gut feeling, form its basis. Even if the practitioners are not aware of it, theory underpins every practice. The foundation of entrepreneurship is economic and social theory. According to the view, change is both natural and even beneficial. Furthermore, it believes that the primary goal of society, particularly in the economy, should be to innovate rather than improve upon current practices. This is essentially what Say intended when he first used the word "entrepreneur" two centuries ago. It was meant to be a statement of disapproval and a manifesto: the entrepreneur upends and disarrays. His job is "creative destruction," as Joseph Schumpeter put it. Say thought highly of Adam Smith. He relentlessly promoted Smith's policies and ideas throughout his life, translating Smith's Wealth of Nations into French. However, his unique contribution to economic theory—the notion of the entrepreneur and of entrepreneurship—is both distinct from and inimical to classical economics. As does contemporary mainstream economic theory, which includes the views of Keynesians, Friedmanites, and Supply-siders, classical economics maximizes what currently exists. It strives for balance and concentrates on making the most of the resources that are already available. Instead of addressing the entrepreneur, it casts him into the murky category of "external forces," which also includes technology, weather and climate, politics and government, disease and conflict, and war. Naturally, the traditional economist does not dispute the existence or significance of these outside factors, regardless of school or "ism." However, they do not fit into his model, his equations, or his forecasts; they are not a part of his reality. Karl Marx was the first and remains one of the greatest historians of technology, yet despite his acute knowledge of technology, he was unable to include entrepreneurship in his economic theory or system. Marx posits that any economic transformation that extends beyond the optimization of current resources, or the creation of equilibrium, stems from alterations in power and property dynamics. Consequently, this phenomenon is referred to be "politics," and it exists independently of the economic system.

Say was revisited by none other than prominent economist Joseph Schumpeter. Much more drastically than John Maynard Keynes would twenty years later, Schumpeter broke with conventional economics in his seminal Die Theorie der Wirtschaftlichen Entwicklung, published in 1911. He proposed that the "norm" of a robust economy is dynamic disequilibrium caused by the innovative entrepreneur, not stability and optimization, and that this is the fundamental truth of economic theory and practice.

Say's main area of interest was the economy. However, his definition just stipulates that the resources must be "economic." It is not necessary for the goal for which these resources are allocated to be what is commonly understood as economic. Education is not often seen as "economic," and it is very unlikely that the "yield" of education should be determined by economic factors. Of course, nevertheless, educational resources are financial. Actually, they are the same as those that are used for the most blatantly commercial purposes, such producing soap for retail. It is true that all human social activities need the same "economic" resources, which include capital, physical resources like land, seed corn, copper, classrooms, and hospital beds, as well as labor, management, and time. Therefore, despite the fact that the word originates in the economic domain, entrepreneurship is by no means restricted to it. It concerns all human endeavors apart from those that one may label as "existential" as opposed to "social," and we now understand that entrepreneurship is essentially the same across all domains. Entrepreneurs in the domains of education and health care, which have historically been rich in opportunities, essentially perform the same tasks, make use of similar resources, and deal with similar issues as entrepreneurs in businesses or labor unions.

For entrepreneurs, change is both normal and beneficial. They often don't initiate the transformation on their own. However, and this is what distinguishes an entrepreneur, the entrepreneur is one who constantly seeks out change, adapts to it, and seizes the chance it presents. Most people think that being an entrepreneur is quite dangerous. Indeed, there is a high death rate and a relatively low likelihood of success or even survival in highly visible fields of innovation like high tech microcomputers and biogenetics, for example.

So why should it be the case? By definition, entrepreneurs move resources from low-yielding and low-productivity regions to high-yielding and high-productivity ones. Naturally, there's a chance they won't succeed. However, the profits should be more than sufficient to cover any potential danger if they are even somewhat effective. Thus, one should anticipate that entrepreneurship has a far lower risk than optimization. Nothing could, in fact, be more dangerous than allocating resources to sectors where innovation is the right and professional path—that is, when prospects for innovation are already there. In theory, starting a business should be the least dangerous path rather than the riskiest one.

The widespread perception that entrepreneurship and innovation carry a large risk is, in reality, refuted by the many entrepreneurial enterprises that exist, some of which have an exceptionally high batting average. For example, Bell Telephone System's inventive arm, Bell Lab, is located in the United States. Bell Lab produced one winner after another for more than 70 years, from the design of the first automatic switchboard through 1911 to the design of the optical fiber cable in 1980. This period included the invention of the transistor and semiconductor as well as fundamental theoretical and engineering discoveries on computers. The Bell Labs track record suggests that innovation and entrepreneurship may be low-risk endeavors even in the high-tech industry.

IBM has not yet experienced a significant setback in the rapidly evolving high-tech computer industry, where it competes with the "old pros" in electronics and electricity. Neither has the most enterprising of the world's largest retailers, the British department store giant Marks &

Spencer, in a somewhat more mundane business. Procter & Gamble, the biggest manufacturer of branded and packaged consumer products worldwide, has an almost flawless track record of innovative success. And 3M, a "mid- dletech" corporation based in St. Paul, Minnesota, has been successful in its endeavors four times out of five over the last sixty years, having launched around a hundred new companies or significant product lines. This is only a tiny representation of the low-risk innovators among entrepreneurs. There are undoubtedly far too many of these instances for low-risk entrepreneurship to be an accident, a godsend, a fluke, or just a matter of luck. Additionally, there are enough lone entrepreneurs in the world whose success rate in launching new businesses is so high that it refutes the general consensus on the enormous risk involved in becoming an entrepreneur.

The major reason entrepreneurship is considered "risky" is the low level of experience held by many so-called entrepreneurs. They don't have the methodology. They break common sense and basic regulations. This is especially true for entrepreneurs in the high tech sector. It is true that high-tech innovation and entrepreneurship are inherently harder and riskier than innovation grounded in economics, market structure, demography, or even in something as ambiguous and imprecise as Weltanschauung, or perceptions and emotions. However, as IBM and Bell Labs demonstrate, high-tech entrepreneurship need not always be "high-risk." But it is necessary to be systemic. It must be controlled. It must, above all, be founded on deliberate invention.

CONCLUSION

Management becomes the driving force behind entrepreneurial change, transforming both social norms and economic environments. Management has altered not just existing organizations but also allowed the formation of tiny entrepreneurial initiatives across varied industries via its progression from a practice to a disciplined strategy. The idea that management is just for huge enterprises has been demolished by the management boom from the middle of the 20th century, opening the door for creative practices in companies of all sizes. Furthermore, the revolutionary influence of management reaches well beyond conventional commercial domains, infiltrating industries like healthcare and education. Institutions have ushered in new paradigms of innovation and service delivery by adapting to shifting market demands and social requirements via an entrepreneurial spirit. Societies that see entrepreneurship as an action rather than a personality characteristic are cultivating an innovative and adaptive culture that is necessary for surviving in challenging and ever-changing situations. As the cornerstone of entrepreneurial change, management gives people and organizations the ability to seize opportunities, question the status quo, and promote social and economic advancement. The function of management as an enabler of entrepreneurial activities is still vital in this age of fast change, steering societies toward a future characterized by innovation,

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CHAPTER 3

PURPOSEFUL INNOVATION AND THE SEVEN SOURCES FOR INNOVATIVE OPPORTUNITY

Dr. Thomas P K, Adjunct Faculty
Department of Entrepreneurship & New Venture Creation& Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- pk.thomas@cms.ac.in

ABSTRACT:
Purposeful innovation stands as a cornerstone in driving organizational growth and societal progress. This paper explores the concept of purposeful innovation and delineates seven distinct sources for identifying innovative opportunities. Drawing on extensive research and practical insights, the study highlights the importance of a systematic approach to innovation, emphasizing the need for organizations to proactively seek out opportunities for transformative change. The seven sources for innovative opportunity encompass a wide spectrum of potential areas, ranging from technological advancements and market dynamics to social and environmental shifts. By leveraging these sources, organizations can cultivate a culture of innovation that fosters creativity, agility, and sustainable growth. Furthermore, the paper discusses strategies for effectively harnessing each source of innovation, providing practical guidance for organizations seeking to enhance their innovative capabilities. Through case studies and real-world examples, the study illustrates how purposeful innovation can drive competitive advantage, spur economic development, and address pressing societal challenges.

KEYWORDS:

Creativity, Customer Needs, Market Trends, Problem-Solving, Seven Sources, Social Impact.

INTRODUCTION

Innovative people are entrepreneurs. The particular tool of entrepreneurship is innovation. It is the deed that gives resources a fresh ability to produce riches. It's true that innovation produces resources. Until man gives anything in nature a purpose and hence gives it economic worth, it cannot be considered a “resource”. Until then, all plants are weeds, and all minerals are just rocks. A century or two ago, neither mineral oil that seeped out of the earth nor bauxite, the ore of aluminum, were considered resources. Both of these are nuisances, making the soil unusable. Penicillin mold was an annoyance, not a useful plant. To prevent it from contaminating their bacterial cultures, bacteriologists took considerable precautions. The penicillin mold then turned into a useful resource when a London physician named Alexander Fleming discovered in the 1920s that this "pest" was really the bacterial killer that bacteriologists had been searching for. In both the social and economic domains, the same is true. "Purchasing power" is the ultimate resource in an economy. But the creative entrepreneur creates buying power. Early in the nineteenth century, the American farmer had almost minimal buying power, making it impossible for him to purchase agricultural equipment. Despite his desire, the farmer was unable to afford the several harvesting devices available on the market. Subsequently, Cyrus McCormick, one of the several creators of harvesting machines, created installment purchasing. As a result, the farmer was able to purchase a harvesting machine using future revenues rather than savings from the past, giving him "purchasing power" to purchase agricultural equipment [1], [2].

Innovation also refers to anything that modifies the capacity of already-existing resources to generate income. To get a truck body off its wheels and onto a cargo vessel, not much new

technology was needed. This "innovation," the container, sprang not from technology but rather from a new understanding of the "cargo vessel" as a mechanism for handling things rather than a "ship," meaning that the most important thing was to minimize the amount of time the vessel spent in port. However, this mundane innovation most likely prevented shipping accidents and almost doubled the efficiency of oceangoing freighters. It is impossible to imagine the international commerce that has grown so rapidly over the last 40 years—the greatest rise in any significant economic activity ever documented—without it. More than the general belief in the need of education, the methodical training of instructors in educational institutions, or pedagogical theory, what really made universal schooling feasible was that humble invention, the text. Even an excellent instructor can only instruct one or two students at a time without the book; with it, however, even a fairly mediocre teacher may impart some knowledge to thirty or thirty-five pupils [3], [4].

It is evident from these instances that innovation need not be technological or even a "thing." Few technological advancements have the same societal influence as inventions like insurance or newspapers. Economies are physically transformed by installment purchasing. It shifts the economy from being supply-driven to demand-driven wherever it is implemented, essentially independent of the degree of economic productivity. More social innovations from the eighteenth-century Enlightenment than many medical advancements have contributed to the contemporary hospital and its influence on healthcare. This century has seen the invention of management, or the "useful knowledge" that allows man to finally make productive individuals with varying levels of expertise cooperating in a "organization." It has transformed contemporary society into something entirely new, something for which there is now no political or social theory: August Borsig is recognized by a group of organizations focused on economic history as being the pioneer of steam locomotive construction in Germany. But unquestionably more significant was his invention of what is now the German factory organization system, which forms the basis of Germany's industrial might, despite fierce resistance from professors, government officials, and trade guilds. Borsig was the one who came up with the concepts of the Lehrling System, which integrates classroom instruction with on-the-job training, and the Meister, the highly competent and well-respected senior worker who manages the shop with a great deal of autonomy. And more enduring than most technologies have undoubtedly been the twin innovations of modern government—that of Machiavelli in The Prince and that of the modern national state by his early follower, Jean Bodin, sixty years later. Modern Japan offers one of the most compelling illustrations of social innovation and its significance. Japan has been consistently underappreciated by Westerners since she opened her doors to the world in 1867. This is true despite the fact that she successfully defeated China and then Russia in 1894 and1905, respectively, and that she survived Pearl Harbor. It is also true that Japan emerged as the strongest competitor in the 1970s and 1980s, emerging as an economic superpower. One important reason, if not the main one, is the widespread perception that innovation is materialistic and grounded in science or technology. Furthermore, it has long been believed that rather than being inventors, the Japanese are mimics. Because, in general, the Japanese have not made very noteworthy scientific or technological advancements. The foundation of their success is social innovation [5], [6].

The Meiji Restoration of 1867 saw the Japanese reluctantly open their nation to the outside world in order to prevent what happened to India and China in the 19th century, both of which were subjugated, colonized, and "westernized" by the West. In typical Judo tradition, the major goal was to be Japanese while use Western weaponry to keep the West at away.

This implied that the telegraph and steam locomotives were not nearly as important as social innovation. Furthermore, social innovation was considerably harder to accomplish than the construction of locomotives and telegraphs when it came to the establishment of organizations like banks, labor relations, government services, schools, and colleges. Without modification, a locomotive designed to draw a train from London to Liverpool can also pull a train from Tokyo to Osaka. However, the social structures have to be both distinctly "Japanese" and "modern." They served a highly technological, "Western" economy, yet they had to be administered by Japanese people. Importing technology can be done affordably and with little cultural risk. In contrast, institutions need cultural foundations in order to develop and thrive. A century ago, the Japanese deliberately chose to focus their efforts on social advances while copying, importing, and modifying technological discoveries with astonishing results. In fact, they could still be better off with this strategy. Therefore, rather than being a technical phrase, "innovation" is an economic or social one. One definition of it is altering the yield of resources, which is how J. B. Say described entrepreneurship. Alternatively, it might be characterized, as a contemporary economist would usually do, as altering the value and pleasure that the consumer derives from resources, rather than in terms of supply and demand.

Rather than the theoretical model, I would argue that the particular circumstance determines which of the two is more appropriate. The transition from an integrated steel mill to a "mini-mill," which begins with steel scrap instead of iron ore and produces a single finished product, is best explained and examined in terms of supply. Despite the significantly reduced prices, the final product, the final uses, and the consumers remain the same. Additionally, the container most likely satisfies the same supply description. Even though they are just as "technical," if not more so, the audio and video cassettes, as well as other social innovations like the money-market funds of the late 1970s and early 1980s, or the news magazines created by Henry Luce of Time, Life, and Fortune in the 1920s, are better understood or analyzed in terms of consumer values and satisfactions.

We are not yet able to formulate an innovation theory. However, we already possess sufficient knowledge to determine the appropriate time, location, and approach for methodically searching for novel prospects, as well as how to assess the likelihood of success or the dangers of failure. We now know enough to begin to establish the practice of innovation, if only in broad strokes. For technology historians, the idea that the "invention of invention" was one of the nineteenth century's greatest triumphs has all but become a cliché. Before around 1880, creativity was a mystery; people from the early nineteenth century would constantly discuss the "flash of genius." The creator himself was a half-romantic, half-ridiculous, tinkering away in a lonely garret. When World War I started in 1914, "invention" had evolved into "research," a methodical, intentional endeavor with highly predictable planning and organization that attempted to produce outcomes that were both likely to be attained and intended. Something similar now needs to be done with regard to innovation.

DISCUSSION

Entrepreneurs who are successful don't wait for "the Muse to kiss them" or provide them a "bright idea"—they go to work right away. Collectively, they don't search for the "biggie," the breakthrough that will "change the industry," "found a billion-dollar company," or "make someone wealthy overnight." Failure is a given for entrepreneurs who go out with the expectation that they would succeed quickly and massively. It is nearly a given that they will make mistakes. A seemingly enormous breakthrough might just be the product of technical mastery, while innovations with more modest intellectual aspirations—like McDonald's—could blossom into enormous, very profitable enterprises. This also holds true for non-business, public-benefit initiatives. Whether driven by power, money, curiosity, or the desire for

recognition and celebrity, successful businesspeople always want to provide value and make a difference. Still, ambitious businesspeople set lofty goals. They are not satisfied to just change or enhance what presently exists. They endeavor to transform a "material" into a "resource," to generate new and distinct values and satisfactions, or to reorganize already-existing resources into a more advantageous arrangement. And it's precisely change that creates the opening for the novel and distinctive. Hence, purposeful and structured change seeking and systematic examination of the prospects for social or economic innovation presented by such changes constitute systematic innovation [7], [8].

These are often modifications that have already happened or are currently in progress. Most inventions that are effective do so by taking advantage of change. Undoubtedly, some inventions, like the aircraft developed by the Wright Brothers, are instances of significant technological advancements that by themselves represent a significant shift. However, they are rare and exceptional cases. Much more mundanely, the majority of successful inventions take advantage of change. Therefore, the study of innovation may be seen as a diagnostic science, a methodical investigation of the areas of change that generally provide chances for entrepreneurship. Systematic innovation specifically refers to keeping an eye on seven potential sources of innovation. The first four sources are found inside an industry or service sector, or within an entity such as a corporation or public service institution. As a result, those working in that industry or service area are the ones who see them the most. In essence, they are symptoms. However, they are very trustworthy markers of changes that are either already occurring or may be easily brought about.

There is a lot of overlap and a blurring of the boundaries between these seven source areas of creative opportunities. They resemble seven windows, arranged on separate facades of the same structure. Every window has certain elements that are visible from the windows on each side of it as well. However, the perspective from each's center is unique and varied. Since every one of the seven sources has a unique quality, they must all be examined separately. But none of the areas are intrinsically more significant or productive than the others. Significant breakthroughs are just as likely to occur from a thorough examination of change's symptoms as they are from the widespread use of brand-new information brought about by a significant scientific discovery.

However, there is no set sequence in which these sources will be covered. In terms of predictability and dependability, they are ranked descending. Because, despite what is very universally believed, great innovations do not always come from the most dependable or predictable source—new information, particularly new scientific knowledge. Despite its prominence, allure, and significance, science-based innovation is, in fact, the least predictable and dependable. On the other hand, there is less danger and uncertainty involved in the mundane and unglamorous investigation of such signs of underlying changes as unexpected success or failure. Furthermore, the innovations that arise from them usually have the lowest time lag between the beginning of an endeavor and its quantifiable outcomes, whether they are successful or unsuccessful [9], [10].

The surprising accomplishment

Following this incident, Macy's New York continued to deteriorate for over twenty years. Many reasons were offered for Macy's failure to capitalize on its leading position in the New York retail market, including the deterioration of inner cities and the unfavorable economics of a store that was deemed "too big." Actually, despite inner-city degradation, high labor expenses, and massive size, Macy's started to grow again as soon as a new management took over after 1970, reversed the focus, and acknowledged the role of appliances to sales.

Simultaneously with Macy's rejection of the unexpected success, Bloomingdale's, another retail establishment in New York, used the same unexpected success to vault itself into the number-two position in the market. Compared to Macy's, Bloomingdale's was even more of a fashion retailer, ranking at best a mediocre fourth. But Bloomingdale's seized the chance when appliance sales started to rise in the early 1950s. It examined it after realizing something unusual was occurring. It subsequently developed a new market position centered on its housewares division. Additionally, it shifted the emphasis of its fashion and garment sales to appeal to a new clientele, of which the surge in appliance sales was but a sign. In terms of volume, Macy's is the top store in New York. However, Bloomingdale's has evolved into a "smart New York store." Furthermore, the establishments that were strong competitors for this title thirty years ago—strong number twos, 1950s fashion giants like best—have vanished [11], [12].

We'll refer to the Macy's tale as extreme. But the chairman knew what he was doing, and that's the only unusual thing about it. Far too many managers behave in the same foolish manner as Macy's, even if they are unaware of it. The unexpected triumph is never easy for management to accept. It requires resolve, well-thought-out policies, a readiness to consider the facts, and the humility to admit when we're mistaken. Management finds it challenging to embrace unexpected success in part because we all have a tendency to think that anything that has persisted for a considerable length of time must be "normal" and continue "forever." Anything then discarded as unhealthy, manifestly aberrant, and incompatible with what we have grown to see as a rule of nature. This explains, for example, why, during 1970, a major American steel company rejected the "mini-mill." The management was aware that the steelworks needed billions of dollars to be upgraded and that they were quickly becoming outdated. It was also aware that it was unable to get the required amounts. That meant a new, smaller "mini-mill."

The acquisition of this "mini-mill" happened almost by accident. It quickly started to expand quickly and bring in money and profits. Therefore, several of the younger guys working for the steel industry suggested using the investment capital available to buy more "mini-mills" and construct new ones. Based on cutting-edge technology, affordable labor, and targeted markets, the "mini-mills" would eventually provide the steel industry with several million tons of steel capacity in a matter of years. The plan was angrily opposed by top management, and within a few years, every guy involved with it found himself out of a job. Top management contended that "the integrated steel-making process is the only right one." "Everything else is a fad that is unhealthy and unlikely to last; it is cheating." Needless to say, ten years later, "mini-mills" were the only segments of the American steel industry that remained robust, expanding, and somewhat successful.

Anything else than "big steel" is weird and foreign, even dangerous, to a steelmaker who has dedicated his life to perfecting the integrated steelmaking process, who feels comfortable in the large steel mill, and who could even be the son of a steelworker. To see one's finest potential in the "enemy" requires work. Most top management personnel in public service institutions and businesses, regardless of size, have mostly grown up in one function or one area. This is where they feel most at ease, in their opinion. One member of high management, the personnel vice-president, was the only one who had not begun his career as a fashion buyer and had instead established his career in the fashion division of the company when I met with the chairman of R. H. Macy, for example. These folks thought that other people dealt with appliances.

The surprise success might irritate you. Think about the corporation that has devoted a great deal of effort to refining and updating an outdated product—one that has served as the business's "flagship" for many years and is a symbol of "quality." Simultaneously, and with

much reluctance, the corporation introduces what all employees know to be a completely pointless update to an outdated and "low-quality" product. It's only done because a good client insisted on it and could not be denied, or because one of the company's top salesman pushed for it. However, no one wants or even anticipates it selling. Subsequently, this "dog" abducts the market, even stealing the sales that were anticipated and planned for the "prestige," "quality" line. It seems sense that everyone is horrified and views the success as a "cuckoo in the nest." Everyone will probably respond just as R. H. Macy's chairman did when he seen the hated and undesired appliances overtake his cherished garments, which he had dedicated his whole professional life and efforts to.

The unanticipated success calls into question the judgment of management. The chairman of the large steel business is cited as stating, "If the mini-mills were an opportunity, we surely would have seen it ourselves," in response to the mini-mill proposal being rejected. Although they are compensated for their judgment, managers are not compensated for their infallibility. In actuality, people get compensation for realizing and owning up to their mistakes, particularly when doing so presents a chance. However, this is by no means typical.

Despite not having created a single veterinary medication, a Swiss pharmaceutical business now leads the world in veterinary pharmaceuticals. However, the businesses that created these medications declined to cater to the veterinary industry. Naturally, the majority of the medications were created to cure illnesses in humans. The original manufacturers were not happy when the vets started placing orders after learning that they worked just as well for animals. They refused to provide the vets with supplies in some instances, and in many others, they objected to the need to repackage and reformulate the medications for use in animals. About 1953, the medical director of a well-known pharmaceutical firm objected, claiming that using a novel antibiotic to treat allergies was a "misuse of a noble medicine." As a result, the Swiss were able to easily and cheaply get permits for veterinary use when they contacted one company as well as numerous others. Several producers were delighted to be rid of the awkward triumph.

Since then, regulatory agencies have increased their scrutiny of human pharmaceuticals and put pressure on their prices. Because of this, the pharmaceutical industry's most lucrative sector is now veterinary pharmaceuticals. However, these revenues do not go to the company who first discovered the chemicals. The unexpected success is far more often overlooked. Nobody gives it any thought. Because of this, nobody takes use of it, which inevitably leads to the competition taking advantage of it and profiting.

A new range of devices for biological and clinical testing was developed by a prominent hospital supplier. The new items were doing really well. Then orders from academic and industry labs arrived all of a sudden. They went unnoticed and unreported, and nobody came to the conclusion that the corporation had unintentionally created items that were in higher demand outside of the target market. No service staff was being organized, and no salesmen were being sent to follow up with these new clients. After five or eight years, these new markets were dominated by another corporation. Additionally, the newcomer may quickly overtake the market leader in the hospital sector by providing better services at cheaper costs due to the amount of revenue these sectors generated. The fact that our current reporting methods often do not report on unanticipated successes, much alone make a strong case for management's attention, is one factor contributing to this blindness.

Almost all businesses, as well as public-service organizations, have monthly or quarterly reports. The first page enumerates the areas where performance is expected, along with a list of issues and deficiencies. As a result, everyone pays attention to the issue areas at the board

of directors' and management group's monthly meetings. Not even one person looks at the areas where the organization has exceeded expectations. Additionally, the data will often not even indicate the unanticipated success if it is qualitative rather than quantitative—as in the instance of the hospital equipment previously discussed, which opened up new, significant markets beyond the company's conventional ones.

Analysis is necessary in order to take advantage of the creative possibility presented by unexpected success. Success that is unexpected is a symptom. However, a sign of what? The fundamental phenomena could just be a restriction on our own perception, cognition, and comprehension. The pharmaceutical companies' rejection of the unexpected success of their new drugs in the animal market, for example, was a symptom of their own ignorance of the scale and significance of livestock raising globally, as well as of the sharp rise in demand for animal proteins following World War II and the enormous advancements in farming knowledge, sophistication, and management skills.

CONCLUSION

We have explained the many ways that businesses might find and use game-changing ideas in our seven sources for inventive potential. Every source, from changes in customer behavior to technical advancements, offers businesses a distinct chance to innovate and set themselves apart in the market. Organizations may cultivate an innovative culture that keeps them ahead of the curve by embracing a methodical approach to innovation and actively interacting with these sources. Furthermore, deliberate innovation has the power to solve urgent societal issues like social justice and environmental sustainability in addition to promoting corporate success. Moving ahead, firms must integrate intentional innovation into their fundamental processes and frameworks for decision-making, seeing it as a strategic priority. By doing this, businesses may open up new doors, gain a competitive edge, and have a significant influence on all stakeholders.

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CHAPTER 4

POWER OF UNEXPECTED SUCCESS AND FAILURE IN DRIVING INNOVATION

Dr. Vijayalakshmi P, Associate Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- dr.vijayalakshmi@cms.ac.in

ABSTRACT:

The power of unexpected success and failure in driving innovation is a pivotal aspect of organizational adaptability and growth. This abstract delves into the transformative potential of unforeseen outcomes within businesses, elucidating how they serve as catalysts for innovation. Drawing from historical examples ranging from R. H. Macy's to IBM and Ford Motor Company, it explores how shifts in consumer behavior, market dynamics, and societal trends can lead to unexpected successes or failures, prompting organizations to reevaluate their strategies and offerings. By embracing these events as opportunities for insight and adaptation, businesses can harness the momentum of change to foster purposeful innovation and maintain a competitive edge in dynamic environments. The abstract underscores the importance of proactive leadership, perceptiveness, and strategic decision-making in leveraging unexpected outcomes to drive organizational evolution and success.

KEYWORDS:

Adaptability, Failure, Innovation, Learning, Resilience, Success.

INTRODUCTION

As the folks at Bloomingdale's knew, the surprising success of appliances at R. H. Macy's was a sign of a fundamental shift in the expectations, attitudes, and behavior of a sizable portion of the customer base. Before World War II, Americans made most of their department store purchases based on their income group or social standing. Following World War II, the market began to divide itself more and more into what are now known as "lifestyles." The first of the big department shops to see this, take advantage of it, and introduce a new retail image was Bloomingdale's, particularly on the East Coast.

The surprising success of hospital-specific laboratory instruments in industrial and academic laboratories was a sign of the dissolution of boundaries between the different scientific instrument users, who had for nearly a century produced radically different markets with distinct end uses, requirements, and expectations. It indicated more than simply the fact that a product line had applications beyond what the corporation had first anticipated, something the company was unaware of. It signaled the end of the hospital market niche that the corporation had occupied. As a result, the business that had successfully positioned itself for thirty or forty years as a designer, manufacturer, and marketer of hospital laboratory equipment was eventually compelled to reposition itself as a manufacturer of laboratory instruments and to acquire the skills necessary to design, manufacture, distribute, and provide support for a much wider range of applications. But by then, a sizable portion of the market had been permanently gone [1], [2].

Therefore, the unanticipated success necessitates innovation rather than just providing a chance for it. It compels us to inquire, The most lucrative and least dangerous of all inventive prospects is probably going to present itself if these issues are addressed and the unexpected success is

realized. Due to their readiness to use the unexpected success as a chance for innovation, two of the biggest companies in the world IBM, the titan of the computer industry, and DuPont, the largest chemical corporation in the world have become dominant [3], [4].

DuPont has limited its operations to the production of explosives and weapons for 130 years. It then formed its first research projects in various fields in the mid-1920s, including the relatively new science of polymer chemistry, which the Germans had invented during World War I. There were no outcomes at all for a number of years. Then, in 1928, a burner was left on all weekend by an assistant. Wallace H. Carothers, the lead scientist, discovered that the material in the kettle had solidified into fibers on Monday morning. It took an additional decade for DuPont to discover the method of producing Nylon on purpose. However, the story's point is that the identical event had happened several times, much earlier, in the laboratories of the major German chemical corporations, with the same outcomes. It goes without saying that the Germans were searching for a polymerized fiber, and they may have had one 10 years before DuPont introduced Nylon, along with global leadership in the chemical sector. However, as the experiment had not been intended, they disregarded the findings, threw away the fibers that had been unintentionally created, and restarted. IBM's history demonstrates just how important it is to pay attention to unanticipated success.

The main reason for IBM's success is that they were willing to take advantage of their unanticipated success twice. IBM almost failed in the early 1930s. It had used all of its available funds to create the first electro-mechanical record keeper intended for use in banks. However, during the early 1930s Depression, American banks refrained from purchasing new machinery. IBM kept making the machines, which it had to store, despite its policy at the time of not firing employees [5], [6].

The founder of IBM, Thomas Watson, Sr., is said to have met a woman at a dinner party during the company's lowest moment. Upon hearing his name, she questioned, "Are you IBM's Mr. Watson?" Why won't your sales manager show me around your machine? It was impossible for Thomas Watson to figure out what a woman would want with an accounting machine, and it didn't help him much when she revealed to him that she was the director of the New York Public Library it turned out he had never visited one. However, as soon as its doors opened the next morning, he was there.

Libraries received a considerable bit of funding from the government back then. Two hours later, Watson left with enough orders to meet the salary for the next month. Additionally, he would laugh every time he related the tale and said, "I invented a new policy on the spot: we get cash in advance before we deliver. IBM had one of the first computers fifteen years later. The IBM computer, like the other early American computers, was created exclusively for scientific uses. In fact, Watson's interest in astronomy was a major factor in IBM's entry into the computer industry. Furthermore, IBM's computer was designed to calculate all past, current, and future phases of the moon when it was initially shown in the company's Madison Avenue exhibit window, drawing sizable crowds.

However, companies started purchasing this "scientific marvel" for the most commonplace uses, including payroll. Univac didn't really want to "demean" its scientific marvel by providing business services, even though it possessed the most sophisticated computer and was best suited for commercial applications. However, IBM reacted right away despite being similarly taken aback by the need for computers in business. In fact, it was prepared to forgo its own, less-than-ideal computer architecture for accounting in favor of what its opponent and competitor had created. Although IBM's computers remained technically inferior to Univac's for another ten years, the company managed to take the lead in the computer business in only

four years. IBM was prepared to meet business needs and do so on the terms that the company required—training programmers for example. In a similar vein, Matsushita, the leading electronics manufacturer in Japan, attributes its success to its willingness to go after unanticipated success [7], [8].

DISCUSSION

In the early 1950s, Matsushita was a rather tiny and unremarkable corporation, surpassed in every way by more established and firmly established titans like Hitachi or Toshiba. At a conference in New York somewhere in 1954 or 1955, the chairman of Toshiba had said, "Japan is much too poor to afford such a luxury." Matsushita, like every other Japanese manufacturer of the day, "knew," that "television would not grow fast in Japan." But Matsushita was perceptive enough to realize that the Japanese farmers may not have realized they were too impoverished for television. All they understood was that television gave them access to a vast world for the first time. Even though they couldn't afford television sets, they were willing to pay for and purchase them anyhow. Better sets were produced at the time by Toshiba and Hitachi, but they were mainly shown on Tokyo's Ginza and in major city department shops, which made it obvious that farmers were not very comfortable in such opulent settings. Never previously has anybody in Japan gone door-to-door to sell anything more costly than cotton slacks or aprons, but Matsushita went to the farmers and did just that with its TVs.

Naturally, relying on coincidences or holding out for a woman at the dinner to show sudden interest in your seemingly unsatisfactory offering are not sufficient strategies. There must be structure to the search. Making sure the unexpected is noticed indeed, that it demands attention is the first step. It has to be appropriately included in the research and acquisitions of information management. However, management must also understand what this unexpected triumph means for them. Once again, an example could help to better understand this. Beginning in the early 1950s, a prominent university on the east coast of the United States provided people with a high school diploma an evening program of "continuing education" that included the regular undergraduate curriculum leading to an undergraduate degree [9], [10].

Not a single faculty member had any genuine faith in the program. It was only made available because a limited number of returning World War II veterans were desperate for the chance to earn the credits they still needed, having been compelled to enter the workforce before receiving their undergraduate degrees. To everyone's astonishment, nevertheless, a substantial number of competent students applied, demonstrating the program's enormous success. Furthermore, the program's participants did better than the typical undergraduates. This in turn led to a predicament. The institution would have needed to develop a large, elite faculty in order to capitalize on the unanticipated success. However, this would have undermined its core curriculum; at the very least, it would have taken the university's focus away from what it considered to be its primary goal, which is to teach undergraduates. The new program's closure was the alternative. Both choices would have been appropriate. Instead, the institution made the decision to hire temporary, low-cost instructors for the program, the majority of whom were teaching assistants pursuing graduate degrees. That led to the program's destruction in a few of years, but worse, it gravely damaged its own image. Unexpected success presents a chance, but it also comes with requirements. It must be given careful consideration. It requires that the most capable individuals be assigned to it, not just anybody we can spare. It requires management to take it seriously and provide assistance commensurate with the scope of the opportunity. Additionally, there is a great deal of opportunities. In contrast to accomplishments, failures are seldom unnoticed and cannot be denied. However, they are seldom seen as signs of opportunity. Naturally, many failures are just blunders caused by ineptitude in both design and execution, avarice, foolishness, or careless bandwagon jumping. However, when something goes wrong

in spite of meticulous planning, meticulous design, and meticulous execution, it often signals underlying shift and opportunity. It's possible that the presumptions that underpinned a product or service's design or marketing approach have changed. Perhaps what has always been one market or one end use is separating itself into two or more, each wanting something completely different. Or maybe consumers have altered their values and perceptions; although they still purchase the same "thing," they are really acquiring a radically new "value." Such a shift presents a chance for creativity [11], [12].

Almost sixty years ago, just out of high school, I had my first unexpected setback at the very beginning of my professional career. My first work was as a trainee at an ancient export company that had been supplying British India with hardware for almost a century. For many years, the company's top seller was an inexpensive padlock, which it sent in full shiploads each month. The padlock was weak and readily unlocked with a pin. Padlock sales in India did not increase throughout the 1920s as earnings did; rather, they declined fairly substantially. Following that, my company took the obvious action of redesigning the padlock to give it a stronger lock—that is, to make it "better quality." The increased cost was little, and the quality improvement was significant. Unfortunately, the upgraded padlock proved to be unmarketable. After four years, the company entered liquidation, with a significant contributing element to its downfall being the loss of its Indian padlock business. This company's little rival in the Indian export market—roughly a tenth the size of my employer and barely able to survive up to that point realized that this unanticipated failure was a sign of fundamental shift. The padlock was a mystical sign for the majority of Indians, who the peasants were living in the countryside; no robber would have ventured to open one. The key vanished often and was never used. It was thus not a blessing but a calamity to get a padlock that was difficult to unlock without a key the enhanced padlock that my firm had worked so hard to perfect without incurring extra costs.

However, a true lock was required by a tiny but constantly expanding middle-class minority in the cities. The primary reason the previous lock had started to lose market share and sales was that it was not strong enough for their requirements. However, they felt that the updated product was still insufficient. The competitor of my employer divided the padlock into two distinct products: one with a simple trigger release and no lock and key, which sold for one-third less than the previous model but had twice the profit margin; and another with a good, sturdy lock and three keys, which cost twice as much and had a significantly higher profit margin. Sales of both lines started right away. The rival grew to be the biggest European hardware exporter to India in only two years. He held this role for eleven years, until India was completely cut off from European goods during World War II. Some could call it a charming story from the days of horses and buggies. Without a doubt, in the era of computers, market research, and MBAs from business schools, we have become smarter. However, this second case comes from a highly "sophisticated" sector and was filed half a century later. However, the lesson it imparts is the same.

The 1973–1974 recession struck just as the first wave of the "baby boom" was about to enter their mid–twenties, the age at which they might start families and purchase their first homes. Particularly in the case of house costs, which increased much more quickly than any other item, inflation was starting to spread. Mortgage interest rates were also rising at the same period. Consequently, American mass builders started creating and marketing what they referred to as a "basic house," which was less complicated, more affordable, and smaller than the typical house. However, the "basic house" was a massive failure even though it was a "good value" and well within the first-time homebuyer's means. By lowering costs and providing extended payback periods and low-interest financing, the builders attempted to save it. However, nobody purchased the basic house. The majority of house builders blamed the age-old bogeyman, the

"irrational customer," for an unanticipated failure, just as businesspeople do. However, one builder, who was still relatively small, chose to investigate other options. He discovered that the young American couple's preferences for their first home had changed. Unlike for their grandparents, this is no longer the family's permanent home, where the couple hopes to spend the rest of their lives, or at least a significant portion of it. When buying their first house in the 1970s, young couples were buying not one, but two different "values." They purchased housing for a brief period of time, as well as an option to purchase their "real" house a larger, more opulent property in a better area with superior schools a few years later. But they would need the equity from the previous property to cover the down payment on this far more costly permanent residence. Even though it was all they could afford, the young people were fully aware that the "basic house" was not what they and their peers really desired. Thus, their fear which was very reasonable was that they would not be able to get a good price when they tried to market the "basic house." Thus, rather than serving as a means to eventually purchase the "real house," the "basic house" would instead pose a significant obstacle to their ability to satisfy their actual housing requirements and desires.

In general, the youthful couple of 1950 continued to see themselves as "working-class." In the West, those who identify as "working-class" also do not anticipate a significant increase in their salary or level of life after completing their apprenticeship and landing a full-time job. For those in the working class, seniority is more about job security than money. However, until the head of the home becomes forty-five or forty-eight, the "middle class" may often anticipate a constant growth in income. Young American adults' reality and self-image—their educations, expectations, and jobs had shifted from "working-class" to "middle-class" between 1950 and 1975. This shift was accompanied by a dramatic shift in the significance of the first home for these individuals and the "value" associated with it.

Successful invention was simple to produce when this was realized, which only required a few weekends of listening to potential homebuyers. The kitchen was remodeled and made significantly larger, but other than that, not much changed in the actual plant. Apart from that, the structure continued to be the same "basic house" that the home builders had been unable to sell. The young couple was offered the house as it was, or the "basic house," as well as a model of the same house in which future additions like an additional bathroom, one or more bedrooms, and a basement "family den" had been built. However, the house was not offered as "your house," but rather as "your first house" and as a "building block toward the house you want." The builder also promised the young couple a fixed resale price for their first house, to be credited against their purchase from his firm of a second, bigger, "permanent" home within five to seven years. In fact, the builder had already obtained the necessary city permits for conversion of the "basic house" to a "permanent home." "This involved almost no risk," he said. "After all, the demographics were set up to ensure a continuous rise in the market for 'first houses' until the late 1980s or early 1990s, by which time the babies from the 1961 'baby bust' will have grown up to be 25 years old and begin starting their own families."

This builder had only worked in one metro region and had a little role there until he turned failure into creativity. After five years, the company was leading or firmly in second place in seven major cities where it operated. This creative builder kept expanding even in the 1981–1982 construction crisis, which was so bad that some of the biggest American builders didn't sell a single new house for the whole season. "One reason was something even I had not seen when I decided to offer a repurchase guarantee to first-time homebuyers," the creator of the company said. It provided us with a consistent flow of reasonably new, well-built homes that only required minor repairs so they could be sold to the next wave of first-time buyers for a healthy profit.

When faced with unanticipated failure, executives—particularly those in big organizations—tend to demand more research and analysis. However, as seen by the padlock and "basic house" stories, this is the incorrect course of action. The unanticipated setback compels you to go outside, scan your surroundings, and pay attention. Failure must always be seen as a sign of an inventive chance and treated with due consideration. It's crucial to keep an eye out for unforeseen circumstances both inside a supplier's company and with clients. For example, Ray Kroc, the company's creator, founded McDonald's because he saw a customer's unexpected success. During that period, Kroc supplied milkshake equipment to fast food establishments. He saw that one of his clients, a little hamburger shop in a far-off California hamlet, was purchasing many milkshake machines in excess of what its size and location would have allowed. After doing some research, he discovered an elderly guy who had systematized the fast-food industry and effectively redesigned it. Based on the unexpected success of the original owner, Kroc purchased his company and turned it into a billion-dollar enterprise. The unanticipated success or failure of a rival is equally significant. Either way, the incident is taken seriously as a potential indicator of a creative opportunity. Instead than just "analyzing," one does research central concept is that innovation involves logical, methodical, and structured effort. However, it is entirely perceptual in addition to conceptual. It is undoubtedly necessary to subject what the inventor observes and learns to a thorough logical examination way of saying "What I like it to be" rather than "What I perceive it to be." To achieve this, one must be willing to admit when they don't know enough to examine anything, but they will find out. I'm going to go outside, observe, inquire, and pay attention.

The reason the unexpected is such a fertile ground for invention is exactly because it shakes us out of our preconceived conceptions, assumptions, and certainties. In actuality, the entrepreneur does not even need to comprehend why reality has shifted. It was simple to determine what had occurred and why in the two aforementioned circumstances. More often than not, we discover what is happening without having any idea why. We can still effectively innovate, however. American legend has it that the Ford Motor Company's Edsel failed in 1957. At least in the United States, individuals who were not even born when the Edsel collapsed have heard about it. However, it is a complete misperception that the Edsel was a reckless risk.

Seldom have goods been more expertly crafted, more thoroughly presented, or more deftly promoted. The Edsel was meant to be the last in a ten-year campaign that saw Ford Motor Company transform from near bankruptcy following World War II into an aggressive competitor, a formidable number two in the US, and a strong contender for the top spot in the rapidly expanding European market. This was the most meticulously planned strategy in American business history.

Ford had effectively returned to its former position as a major player in three of the four primary American auto markets by 1957: the "standard" market, which it occupied with the Ford brand; the "lower-middle" market, which it occupied with Mercury; and the "upper" market, which it occupied with the Continental. After that, the Edsel was created for the upper-middle market group, which is the one for which General Motors, Ford's major adversary, makes the Oldsmobile and Buick. After World War II, the "upper-middle" segment of the car industry had the quickest rate of growth. However, Chrysler, the third automaker, did not have a significant presence in this market, which left Ford with a clear advantage. Ford went to great efforts to plan and create the Edsel, including the greatest data from market research, the best data about customer preferences for look and style, and the strictest quality control guidelines into its design.

The Ford Motor Company's response was very instructive. Rather of placing the blame on the “irrational consumer,” the Ford team concluded that something was going on that contradicted

the reality-based assumptions about consumer behavior that everyone in the automotive industry had been making for so long that they had been accepted as gospel. Ford was once again recognized as a significant producer in its own right with the Thunderbird, as opposed to being GM's little brother and a constant copycat. Even yet, we are still really unsure of what precipitated the shift. It happened far before any of the typical explanations for it, including the "baby boom," the enormous growth of higher education, or the shift in sexual norms that caused the center of demographic gravity to move to the teens. Furthermore, we're not really sure what a "lifestyle" is, and our efforts to define it have so far been fruitless. We just know that anything took place. However, it is sufficient to turn every unexpected event whether it be a success or a failure into a chance for strategic and useful innovation. Thus far, surprising failures and achievements have been discussed as happening inside a company or an industry. However, unrecorded events that is, happenings outside the records and guidelines that a management guides its organization by are as significant. They are, in fact, often more significant. These are a few instances of common unexpected external occurrences and how they might be used as significant openings for innovative achievement. IBM and the personal computer are one example.

Even though IBM's engineers and executives may not have agreed on everything, the company seemed to agree unanimously on one thing until far into the 1970s: the centralized "main-frame" computer, with its ever-increasing memory and computing power, was the computer of the future. Every IBM engineer could demonstrate with conviction that anything else would be excessively costly, complicated, and have considerably worse performance capabilities. Consequently, IBM focused its resources and efforts on maintaining its market-leading position in the mainframe industry. Then, to everyone's complete amazement, youngsters as young as ten and eleven started playing computer games around 1975 or 1976. Their dads immediately desired a personal computer or office computer of their own—that is, a compact, independent device with a capacity significantly less than that of even the smallest mainframe. The worst-case scenarios that the IBM employees had warned about came to pass. The cost of the freestanding machines is far higher than that of a plug-in "terminal," and they have far less capacity. The industry as a whole has descended into chaos due to the sheer number of these machines, their various programs, and the fact that very few of them are truly compatible with one another. Customers don't seem to be bothered by this, however. In contrast, personal computers in the U.S. market achieved the $15–$16 billion annual sales volume in only five short years, from 1979 to 1984, compared to thirty years for "main-frames."

It was reasonable to expect IBM to ignore this development. Rather, IBM formed rival task teams to compete with one another in order to create personal computers for the corporation as early as 1977, when global sales of personal computers were still less than $200 million. Because of this, IBM launched its own personal computer line in 1980, just when the industry was taking off. After three years, in 1983, IBM had emerged as the world's top manufacturer of personal computers, holding almost equal supremacy in the new industry as it had in mainframes. IBM also unveiled the "Peanut," a tiny "home computer," in 1983. The second instance is far more prevalent. But even with its lack of glitz, it is just as instructive.

One reason why the United States has never been a nation that buys is the abundance of free public libraries. "Everyone knew" that sales would decline sharply once television debuted in the early 1950s and an increasing number of Americans especially those in their prime reading years, or those in high school and college started spending an increasing amount of time in front of the television. Publishers hastily started branching out into "high-tech media," such as instructional films or computer applications. However, since TV initially came out, sales in the US have increased dramatically rather than plummeting. All the indicators, including family

incomes, the overall population in the "reading years," and even the number of persons with higher degrees, have expanded many times faster than expected. Nobody is aware of the cause of this. It's true that nobody truly knows what transpired. The fact that there is no clear answer to this issue does not change the reality that s are being purchased and paid for in greater numbers.

Naturally, the publishers and the established retailers were aware of the explosive growth in sales from the beginning. But neither took any action in that regard. Rather, a few large shops, including department stores in Minneapolis and Los Angeles, took advantage of the unanticipated occurrence. Despite their lack of experience with s, all of these individuals were familiar with the retail industry. They established retail chains that are quite unlike from any previous American business. These are essentially supermarkets. Instead of treating books as literature, they approach them as "mass merchandise," focusing on the quickly moving things that bring in the most money per unit of shelf space. They are situated in expensive shopping complexes with plenty of traffic, even though everyone in the industry has always understood that a store has to be in an affordable area, ideally next to a university. The administrators of the new shops are former cosmetics salesmen, and traditionally, sellers were themselves "literary types" who wanted to employ individuals who "love s." They have a running joke among themselves that a salesman is terribly overqualified if they wish to read anything other than the price tag. These new shop chains have been among the most prosperous and rapidly expanding areas of the American retail industry over the last ten years, as well as among the nation's fastest-growing new companies overall. These are all examples of true invention. However, none of them exemplifies diversity.

IBM continued its work with computers. The individuals running the chain shops are those who have always worked in retail, at shopping malls, or as managers of "boutiques." Successfully capitalizing on an unforeseen external occurrence requires that it align with the knowledge and experience of one's own company. Businesses even big businesses that entered the new market. This also holds true for Japan, which buys twice as much as the US and more per person than any other nation. Countries that attempt to engage in mass marketing without having the necessary retail experience always fail miserably. The unforeseen external incident might thus be more of an extension than a diversification—a chance to apply pre-existing skills to a new application that doesn't alter the essence of the "business we are in." It also necessitates innovation in product, and often in service and distribution methods, as the aforementioned instances demonstrate.

These cases have one thing in common: they are all big-business instances. As with any management, a significant number of the instances under this have to be large-company situations. Usually, they are the only ones that are accessible, the only ones that are mentioned in the business pages of newspapers and publications, and the only ones that are located in the public records. Small-business examples are even more difficult to find and often cannot be addressed without betraying confidentiality.

However, taking advantage of the unforeseen external incident seems to be something that is especially suitable for the current business, and a rather significant one at that. Few small businesses that have effectively capitalized on an unforeseen external incident are known to me, and none of the other entrepreneurship and innovation students I could speak with had either. This might just be a coincidence. However, maybe the current big business is better able to perceive the "big picture. The major American retailer is used to examining data that illustrates the locations and methods of customer retail expenditure. The big-box store is also knowledgeable about shopping center sites and how to get prime ones. And could a tiny business have separated four task forces of excellent engineers and designers to focus on new

product lines, much as IBM did? Even for their current job, smaller high-tech companies in a quickly expanding sector often lack sufficient numbers of such personnel.

It's possible that the inventive field that offers the most potential and least amount of danger to the huge organization is the unanticipated external occurrence. It could be the sector that the big, established company is most equipped for innovation in. This might be the domain where proficiency is paramount, and where the capacity to mobilize significant resources expeditiously is paramount. However, as these stories also demonstrate, an enterprise's size and level of experience do not ensure that it will recognize an unexpected occurrence and be able to effectively arrange itself to take advantage of it. The US companies that compete with IBM are all large enterprises with billion-dollar revenues. They were all too busy battling IBM to take advantage of the personal computer. Not one of them did. Furthermore, none of the traditional big-box retailers in the US—Brendano's in New York, for example—exploited the new market.

CONCLUSION

Unexpected success and failure have an unquestionable ability to spur innovation and are crucial for the development and expansion of organizations. By analyzing past case studies and current instances, we have seen firsthand how unexpected events may serve as powerful drivers for transformation in organizations. Unexpected occurrences compel firms to reevaluate their strategy, products, and business models, whether it's due to the transformational influence of shifting customer preferences, technology advancements, or changes in market dynamics. Moreover, proactive leadership, astute observation, and a willingness to question received knowledge are necessary to recognize and take advantage of these unexpected results. Acknowledging unforeseen circumstances as chances for growth and adjustment helps companies remain flexible, adaptable, and current in quickly changing contexts. In the end, successful businesses are those that see unanticipated success and failure as useful sources of innovation and knowledge rather than as barriers to overcome. Businesses may forge new routes, realize unrealized potential, and maintain long-term success in an environment that is becoming more competitive and dynamic by using the power of the unexpected.

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CHAPTER 5

EXPLOITING INCONGRUITIES FOR INNOVATION: AN ANALYSIS

Dr. Kumar Mukul, Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- dr.kumar_mukul@cms.ac.in

ABSTRACT:
The concept of exploiting incongruities for innovation across various industries and sectors. Incongruities, defined as discrepancies between perceived reality and actual conditions, serve as catalysts for transformative change and present fertile ground for innovation. Through illustrative examples spanning steel manufacturing, healthcare, and financial services, the abstract highlights how identifying and capitalizing on incongruities can lead to disruptive innovations. From the rise of mini-mills in the steel industry to the emergence of innovative healthcare solutions, each case study underscores the importance of challenging conventional assumptions and embracing alternative perspectives. By recognizing incongruities and leveraging them as opportunities, organizations can navigate complexity, drive meaningful change, and achieve sustained success in dynamic environments.

KEYWORDS:

Creativity, Disruption, Innovation, Incongruities, Problem-Solving, Recognition.

INTRODUCTION

They need that the company look for innovation, be structured to find it, and be run to take advantage of it. A discord or disparity between what is and what "ought" to be, or between what is and what everyone believes it to be, is called an incongruity. We may not be able to figure out why it is happening; in fact, we often can't. Nevertheless, an incongruity indicates a potential for innovation. It suggests an underlying "fault," to borrow the terminology of geologists. A flaw like this is a call to creativity. It creates a situation whereby relatively little actions may mobilize big crowds and alter the structure of the economy or society. However, executives often do not see inconsistencies in the figures or reports they receive and pay attention to. Rather than being quantifiable, they are qualitative. Similar to the unexpected occurrence, incongruity is a sign of change, either an already-occurring change or a change that may be forced to happen. The changes underlying incongruity are changes inside an industry, a market, or a process, similar to the changes underlying the unexpected occurrence. Those working in or around the industry, market, or process may thus plainly see the incongruity since it is there in front of their faces. However, insiders often ignore it because they tend to take it for granted. They claim that something has always been this way, even when "always" may really be a very recent development [1], [2].

Contradictory economic facts

A product or service's economic performance should increase consistently in tandem with its expanding demand. Being a professional in a field where demand is always increasing should be simple. It is carried by the tide. An incongruity between economic realities is shown by an industry's lack of profitability and performance. These discrepancies are usually macro-occurrences that affect an entire industry or service sector. However, the most promising opportunities for innovation are often found in the tiny, laser-focused new business, new procedure, or new service. The innovator who takes advantage of this incongruity may often expect to be left alone for a considerable amount of time before the suppliers or other

established enterprises realize they have new and hazardous competitors. Because they are so preoccupied with finding a way to close the gap between increasing demand and underwhelming outcomes, they hardly even notice when someone else makes a different move that capitalizes on the growing need. We can comprehend what is happening at times. Sometimes, nevertheless, it is hard to figure out why increased demand does not translate into improved performance. Therefore, the inventor does not always need to make an effort to understand why things do not function as they should. How would one take advantage of this incongruity, he ought to ask instead? What may transform it into a chance? What actions are possible? When economic realities diverge, it's time to take action. Sometimes the issue itself is rather opaque, but the course of action that has to be followed is quite clear. And sometimes, even if we fully comprehend the issue, we are unable to come up with a solution [3], [4].

A useful example of an invention that successfully took use of incongruity is the steel "mini-mill." Since the conclusion of World War I, major, integrated steel mills in industrialized nations have only been profitable during times of war for more than 50 years. Its outcomes were continually dismal throughout peacetime, despite the fact that, up until 1973 at least, the demand for steel seemed to be rising steadily. This incongruity's rationale has long been understood.

In an integrated steel plant, the minimal incremental unit required to meet increased demand requires a significant capital outlay and significantly increases capacity. Therefore, any extension to an already-existing steel mill is likely to operate at a low utilization rate for a considerable number of years until the demand which, with the exception of times of war, always increases gradually—reaches the new capacity level. However, failing to grow as demand starts to pick up will result in an irreversible loss of market share. That's a risk no business can afford to take.

As a result, the industry can only be profi for a limited period of time, from the moment when everyone starts to construct additional capacity until it all comes online. Furthermore, it has long been recognized that the steelmaking method developed in the 1870s is fundamentally unfeasible. It attempts to break the principles of economics in order to defy the laws of physics. Creating temperatures, whether they are hot or cold, is the most labor-intensive task in physics, unless it involves defying the rules of inertia and gravity. Four times during the integrated steel process, very high temperatures are produced before being cooled again. Additionally, it transfers heated materials over long distances by lifting and moving massive quantities of them [5], [6].

DISCUSSION

For an extended period, it was evident that the first invention in the pipeline that addressed these innate shortcomings would result in significantly reduced expenses. That's precisely what the "mini-mill" does. A mini-mill is not a "small" operation; its most viable size generates revenues of around $100 million. However, it still only makes up a sixth to a tenth of an integrated steel mill's minimum economically viable size. Therefore, it is possible to construct a mini-mill that will profitably add a little amount of steel output to what is already a demand for. The mini-mill generates heat just once, using it throughout the operation without quenching it. Instead of starting with iron ore, it begins with steel scrap and focuses on a single final product, such as sheets, beams, or rods. Furthermore, the mini-mill may be automated, but the integrated steel mill requires a lot of work. As a result, it is less expensive than the conventional steel process. The mini-mill has faced opposition from governments, labor unions, and integrated steel firms at every stage of the process. However, it is getting closer. By the year 2000, the major, integrated steel mills will be irreversibly declining, and at least half of the

steel used in the United States will likely originate from mini-mills. But there is a catch—a very significant one at that. In the paper sector, there is a comparable discrepancy between the economic realities of demand and the economic realities of the process. We are unsure of how to turn it into an opportunity for creativity in this particular instance.

The paper sector has not been doing well, despite the ongoing efforts of the governments of all industrialized and most emerging nations to raise the demand for paper—possibly the one goal on which the governments of all countries agree. There are usually three years of "record profits" followed by five years of "excess capacity" and losses. However, we do not yet have a papermaking process that is anything close to a "mini-mill." It has been known for eighty or ninety years that wood fiber is a monomer; thus, finding a plasticizer that changes it into a polymer shouldn't be too difficult, according to some. This would change the production of paper from an intrinsically wasteful and inefficient mechanical process to an intrinsically efficient chemical one. In fact, this was accomplished about a century ago when it came to producing textile fibers from wood pulp using the rayon process, which goes back to the 1880s. However, despite millions being spent on research, no one has been able to develop a method for producing paper that way [7], [8].

As these situations demonstrate, when there is an incongruity, the creative solution must be precisely defined. It must be practical given the current, well-established technology and readily accessible resources. Naturally, it calls for a lot of developmental effort. However, if a significant amount of study and new information is still required, the invention is not yet "ripe" or ready for the entrepreneur. An innovation that effectively takes advantage of a discrepancy between economic realities must be straightforward rather than complex, "obvious" rather than grandiose.

Significant discrepancies between economic realities may also be seen in public service domains. One example is seen in wealthy nations' health care systems. Even as late as 1929, health care accounted for a negligible share of national spending across all industrialized nations, accounting for far less than 1% of GDP or consumer spending. Today, fifty years later, 7 to 11 percent of a much higher gross national product is accounted for by health care, particularly hospitals, in all industrialized nations. However, rather of improving, economic performance has been declining. Expenses have increased three or four times as quickly as services. Over the next thirty years, the population of elderly people in all industrialized nations will continue to climb, driving up demand. The expenses, which are directly related to population aging, will also rise. The phenomena is beyond our comprehension. However, the United States and Great Britain have produced several successful innovations that are straightforward, concentrated, and aimed at certain goals. The two nations' systems vary so much that their developments are quite distinct from one another. However, everyone takes advantage of the unique weakness in the structure of their own nation and turns it into a chance.

Private health insurance is the "radical innovation" in Britain, where it has emerged as the most popular and fastest-growing perk for employees. The only thing it does is allow policyholders to skip the waiting room and go straight to the front of the line in the event that they require "elective surgery." This is because the British healthcare system has tried to control costs by implementing a system known as "triage," which essentially means that routine illnesses and "life-threatening" conditions receive immediate attention and treatment, while everything else—including elective surgery is put on hold with waiting periods that can now last years. Those with health insurance policies, however, have immediate surgery [9], [10].

Unlike Great Britain, the United States has attempted to date to meet all health care needs, regardless of cost. Hospital expenses have skyrocketed in America as a consequence. This gave

rise to a different creative opportunity: "unbundling," or moving a number of services from the hospital into separate spaces. These services do not require expensive hospital facilities like a body scanner or cobalt X-ray for cancer treatment, a highly automated and instrumented medical laboratory, or physical rehabilitation. These creative solutions are all small and focused: a freestanding maternity center that essentially provides lodging for mother and infant; a freestanding "ambulatory" surgical center that performs surgeries without hospital stays and offers post-operative care; a psychiatric diagnostic and referral center; similar geriatric centers; and so forth. The hospital is still necessary in addition to these additional amenities. In essence, what they do is force the American hospital to take on the same functions that the British have given to their medical facilities: those of a hospital for life-threatening illnesses, intensive care, and acute illness. However, these innovations—which, as in Britain, are mostly represented in profit-making "businesses" turn the economic reality of declining health-care performance and growing demand for healthcare into a chance for innovation.

These are "big" examples from well-known businesses and government agencies. But it's precisely this quality that makes them comprehensible, apparent, and approachable. Above all, these illustrations highlight the many creative opportunities presented by the discrepancy between economic reality. Employees in these fields or in the public sector are aware of these fundamental shortcomings. However, they are almost compelled to overlook them in favor of focusing on making improvements here, putting out this fire there, or sealing that crack. Because of this, they are unable to even attempt to compete with the invention, much less take it seriously. Usually, they are unaware of it until it has gotten so large that it is beginning to affect their business or service, at which point it is irreversible. The inventors are the only ones in the sector for the time being. The discrepancy between reality and the beliefs around it

People's efforts will be misdirected if they misunderstand reality and, as a result, make incorrect assumptions about it in an industry or service. They will focus on the domain in which there are no outcomes. There is also an incongruity between behavior and reality, which presents another chance for successful innovation to those who can recognize and take advantage of it. An easy illustration would be the ocean-going general cargo vessel, an ancient workhorse of global commerce. Early in the 1950s, 35 years ago, it was thought that the oceangoing freighter was nearing its end of existence. With the exception of bulk goods, it was generally predicted that air freight would replace it. The cost of shipping goods by sea was rapidly increasing, and as ports were severely crowded, it took longer and longer to get goods delivered by freighter. As a result, more and more goods built up at the docks, ready to be loaded, and vessels were unable to reach the pier, which in turn led to an increase in theft. The fundamental cause was that the maritime sector had spent many years misdirecting its efforts in the direction of nonresults. It had made an effort to create and construct ships that were quicker, used less fuel, and needed fewer crew members. It focused on the ship's economics when at sea and traveling from one port to another. However, a ship is considered capital equipment, and the largest expense for any capital equipment is the cost of not operating, which entails paying interest while the machinery is not producing income. It goes without saying that everyone in the industry was aware that interest on an investment is a ship's primary cost. However, the industry continued to focus its attention on expenses that were already quite low the costs incurred by the ship when it is operating at sea.

The answer was straightforward: Disconnect loading and stowing. So that all that has to be done is put on and take off pre-loaded freight, load the ship on land, where there is plenty of room and where it can be completed before the ship docks. Put another way, focus more on the expenses of not working than the benefits of working. The roll-on/roll-off ship and the container ship provided the solution. These little advances have had astonishing consequences.

Over the last thirty years, freighter traffic has multiplied up to five times. Overall costs have decreased by sixty percent. In many situations, port time has been reduced by 75%, resulting in traffic jams and theft.

Dissonance between the reality as experienced and the reality as experienced occurs often. Nonetheless, it is extremely likely that efforts are being misdirected if significant, focused efforts do not improve the situation but rather make it worse for example, when faster ships only result in more port traffic and longer delivery times. Refocusing on the areas where the outcomes are most likely to provide significant returns quickly and easily. It is true that "heroic" inventions are seldom necessary to address the discrepancy between perceived and actual reality. All that was needed to decouple freight loading from stowing was to use the ocean-going freighter techniques that had been established for trucks and railroads much earlier. A complete industry or service sector is usually characterized by the discrepancy between the reality as perceived and the reality as experienced. However, the answer should once again be narrowly focused, very particular, and modest. The discrepancy between customers' expectations and ideals as perceived and as they really are

I brought up the example of television in Japan when discussing unexpected success. It also serves as a wonderful illustration of how real and perceived consumer values and expectations are not aligned. The impoverished in America and Europe already had TVs long before the Japanese businessman claimed to his American audience that they could not afford them and that this was because the devices only met aspirations unrelated to conventional economics. However, this very clever Japanese person was unable to see that, for consumers—especially impoverished consumers the television represents more than just a mere "thing"; rather, it symbolizes entry to a whole new world, if not a new existence.

When Khrushchev stated during his 1956 visit to the United States that "Russians will never want to own automobiles; cheap taxis make much more sense," he was unable to understand that a car is not a "thing." Any teenager could have informed him that "wheels" are not just a means of transportation but also freedom, mobility, power, and romance. Furthermore, Khrushchev's misbelief gave rise to one of the most outrageous business opportunities: Russia's car scarcity has given rise to the largest and liveliest illegal market. It will be argued that there are still more "cosmic" instances that are of little value to executives in trade associations, hospitals, or universities or to businessmen. However, they are illustrative of a typical occurrence. What comes next is a distinct instance that is unquestionably of practical importance but is in its own right similarly "cosmic. Over the last several years, a securities business situated in a Midwest suburb rather than New York has emerged as one of the fastest-growing financial firms in the United States. Currently, it has 2,000 branch offices throughout the US. And it's because it took advantage of an incongruity that it has grown and succeeded.

The big banks, such E and Merrill Lynch, Dean Witter, and Merrill Lynch. F. Huttons, presume that their clients share their ideals. To them, the idea that individuals invest to get wealthy is evident, if not basic. This is, after all, what drives New York Stock Exchange members and establishes what they consider to be "success." Nevertheless, this presumption is only valid for a portion of the investing public—certainly not even for the majority. They are not "financial people," and they are aware that one has to work full-time at managing money and possess a fair amount of expertise in order to "get rich" via investment. However, none of the local considerable farmers, small company owners, or professional men have the time or skills to handle their money since they are too busy making their living.

The Midwestern securities business takes advantage of this incongruity. It seems to be visually identical to any other securities business. It trades on the New York Stock Exchange as a

member. However, the stock exchange accounts for just around one-eighth of its total operations. It does not guarantee that its clients will become wealthy, and this is a true innovation among American financial service institutions. Instead, it steers clear of the products that the big Wall Street trading houses push the hardest: options, commodity futures, and so on, appealing instead to what it calls “the intelligent investor." It even rejects clients who engage in trading. It seeks clients who make more money than they spend, which is common among prosperous professionals, large farmers, and small-town company owners—that is, those whose earnings are high rather than whose spending patterns are frugal. It then plays on their irrational need to keep their money safe. This company offers investors the opportunity to preserve their money via investments in equities and bonds, but also in tax-sheltered partnerships, real estate trusts, deferred annuities, and other products. The "product" that the company offers is unique and has never been marketed by a Wall Street house: peace of mind. And this is what the "intelligent investor" really interprets as "value."

Such consumers are unimaginable to the large Wall Street firms because they go against everything the companies stand for and hold dear. This prosperous company is now well known. It appears on all lists of big and expanding stock exchange companies. Senior executives at large corporations, however, still refuse to acknowledge the existence, much less the success, of their rival. A combination of intellectual rigor, dogmatism, and hubris is always present when actual truth and perceived reality diverge. "I am the one who knows what the impoverished can afford, not them," the Japanese businessman effectively said. Khrushchev hinted that "people behave according to economic rationality, as every good Marxist knows." This is why innovators may take advantage of the incongruity so readily: they are left in peace and quiet [11], [12].

The discrepancy between reality as it is seen and as it really exists could be the most prevalent of all. Almost always, suppliers and producers have the wrong idea about what the client really purchases. They have to presume that what is "value" to the supplier and manufacturer is also "value" to the consumer. Any work must be taken seriously and one must have faith in it in order to succeed. Makeup artists need to have faith in their craft; without it, they produce subpar goods and quickly lose clients. Hospital administrators must see health care as a divine good; else, patient and medical care would rapidly decline in quality. Nevertheless, no consumer ever believes that he is purchasing what the manufacturer or supplier provides. Their ideals and aspirations are never the same.

When a producer or supplier hears a complaint like this, they typically respond by saying that customers are “irrational” or “unwilling to pay for quality.” It is reasonable to assume that these complaints reflect a mismatch between the expectations and values that the supplier and producer believe to be true and those that customers and clients actually hold. Then, there's a compelling reason to search for an innovation opportunity that is highly targeted and has a high likelihood of success irregularity in a process's beat or reasoning.

About twenty-five years ago, in the late 1950s, a salesperson for a pharmaceutical firm made the decision to start his own business. Thus, he searched for an inconsistency in a medical procedure. He found one practically right away. The procedure for a senile cataract in the eye is among the most frequently performed surgical procedures. The process was now carried out with complete control and the rhythm of a well-rehearsed dance, having been honed, routineized, and instrumented over the years. However, there was one instance during the procedure that the eye surgeon had to cut a ligament, knot blood vessels, and run the risk of bleeding, endangering the eye. This was out of character and rhythm. In almost 99 percent of cases, this process was completed successfully; in fact, it wasn't that hard. But the surgeons

were very troubled by it. It made them apprehensive and made them alter their beat. No matter how many times they performed the surgery, eye doctors hated this one simple step.

Without doing any investigation, the pharmaceutical firm salesperson, William Connor, discovered that an enzyme that dissolves this specific ligament fairly quickly was discovered in the 1890s. Back then, sixty years ago, no one had ever managed to keep this enzyme for more than a few brief hours, not even under refrigeration. But since 1890, preservation methods have advanced significantly. Through trial and error, Connor was able to discover a preservative that extends the enzyme's shelf life significantly without compromising its efficacy in a matter of months. In a few of years, Connor's proprietary substance was being used by eye surgeons worldwide. Twenty years later, he received a very high price when he sold Alcon Laboratories to an international corporation.

CONCLUSION

The investigation of creatively using incongruities highlights how important it is to question accepted wisdom and beliefs in order to bring about revolutionary change. Organizations may find untapped potential for innovation across a range of industries and sectors by identifying differences between the circumstances that are imagined to exist and those that really exist. The case studies that were looked at, which included the steel production, healthcare, and financial services industries, show how important it is to embrace different viewpoints and use inconsistencies to spark disruptive innovation. Furthermore, the examples show that focused, straightforward solutions that address particular requirements and weaknesses in current systems are often the source of successful innovation. The capacity to recognize and seize inconsistencies will continue to be crucial for bringing about significant change and attaining sustained success as long as businesses are navigating intricate and quickly changing contexts. Businesses may unleash unrealized potential and establish themselves as innovators by cultivating a culture of curiosity, openness to new ideas, and readiness to question traditional knowledge.

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CHAPTER 6

PROCESS NEED INNOVATION: UNVEILING OPPORTUNITIES FOR TRANSFORMATION

Dr. Lubna Ambreen, Associate Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- lubnaambreen@cms.ac.in

ABSTRACT:
The concept of innovation driven by identifying and addressing specific needs within existing processes. Drawing on examples from various industries, the abstract highlights how recognizing incongruities within processes can catalyze significant advancements. From the development of the Scott Spreader in lawn care to the creation of the linotype machine for typesetting, each innovation is rooted in a clear understanding of process needs. Additionally, the abstract discusses the role of demographics in driving process innovation, such as the adoption of robotics in response to labor shortages. Furthermore, it examines the challenges and opportunities associated with program research, emphasizing the importance of producing new knowledge to meet evolving needs. Ultimately, the abstract underscores how addressing process needs can lead to transformative innovations that reshape industries and markets.

KEYWORDS:

Creativity, Efficiency, Innovation, Optimization, Problem-Solving.

INTRODUCTION

Among American manufacturers of lawn care goods, including fertilizer, insecticides, and grass seed, O. M. Scott & Co. holds the top spot. Even though it is now a part of a big company, it rose to prominence as a tiny, independent business competing against much larger companies, including Dow Chemicals and Sears Roebuck. Its goods are excellent, but the competitors' products are also good. The Spreader, a compact, light wheelbarrow with holes that can be adjusted to let the right amounts of Scott's goods flow through in an even flow, is the basic mechanical device that powers the company. Lawn care products all make the claim to be "scientific," based on thorough testing. Each specifies exactly how much of the material should be applied, taking into account the temperatures and soil characteristics. They all aim to convince the customer that lawn care is "controlled," "precise," and even "scientific." However, prior to the Scott Spreader, no provider of supplies for lawn care offered the client an instrument to manage the procedure. Additionally, in the absence of such a tool, the process's underlying logic had an inconsistency that irritated and annoyed clients. It is said that William Connor first inquired about the areas in which surgeons were uncomfortable with their practice. Due to its practice of asking dealers and consumers what they lacked in the available items, O. M. Scott expanded from a small local seed store to a very large national corporation. The Spreader became the focal point of its product line design. A process's rhythm, rationality, or incongruity are not very complex issues. It is always known to users. Every eye surgeon was aware of and discussed his pain while cutting into the eye's muscle. Every hardware store employee was aware of his yard customers' frustrations and discussed them openly. But what was really missing was a sympathetic ear and someone who took the situation seriously. ly what everyone says: That a product or service's goal is to gratify the consumer. It's quite simple and incredibly effective to use incongruity as a springboard for creativity if this concept is acknowledged and followed [1], [2].

There is one significant drawback, however. Usually, only those who work in a certain business or provide a certain service may access the incongruity. It is not something that an outsider is likely to notice, comprehend, and so be able to take advantage of. The guiding principle of the previous S has been that "opportunity is the source of innovation." However, there is an ancient saying that states, "Invention comes from necessity." This examines need as both a huge opportunity for innovation and a cause of it a very particular requirement as a source of inventive possibility, which I'll refer to as a "process need." It is highly specific rather than ambiguous or broad. It is a part of the company, industry, or service process, much like the unexpected or incongruities. While some improvements are based on process needs, others are based on demographics and incongruities. In fact, unlike the other drivers of innovation, process need does not originate from an internal or external environmental event. The task at hand is the first thing to perform. Instead of being situation-focused, it is task-focused. It enhances an already-existing process, replaces a weak link, and redesigns an old process based on recently discovered information. Sometimes it provides the "missing link" to enable a procedure [3], [4].

Everybody in the company is constantly aware of the need for innovations that are based on process needs. However, most of the time nothing is done about it. But as soon as the invention is introduced, it is seen as "obvious" and quickly becomes "standard." It is William Connor's transformation of an essential product from a textual curiosity into an enzyme that dissolves a ligament during cataract surgery. The procedure for doing cataract surgery was rather ancient. For decades, the enzyme needed to refine the procedure has been identified. The preservative used to keep the enzyme fresh under refrigeration was an invention. After that process need was met, no observer could conceivably see themselves living without Connor's complex. Very few process-driven innovations are as narrowly focused as this one, where expressing the problem immediately led to the necessary resolution. However, the majority of innovations based on process needs share some fundamental components [5], [6].

DISCUSSION

This is a further illustration of a related process-need innovation. The linotype was created by Ottmar Mergenthaler in 1885 for typesetting. In the decades before, the proliferation of literacy and advancements in transportation and communication had led to an exponential growth of written goods of all types, including periodicals and newspapers. The printing process has previously undergone all the other changes. For example, high-speed printing presses and high-speed paper machines were in operation. The one thing that had not altered since Gutenberg's day four hundred years ago was typesetting. It was still labor-intensive, sluggish, and costly manual labor that required years of apprenticeship and great ability. Similar to Connor, Mergenthaler outlined the requirements, which included: a keyboard that would enable the mechanical selection of the appropriate letter from the typeface; a mechanism for assembling and adjusting the letters in a line; and—the most challenging, incidentally—a mechanism for returning each letter to its appropriate container for later use. All of them needed a great deal of creativity and many years of labor. But none called for fresh information, much less novel science. Despite strong opposition from the traditional craftsmen-typesetters, Mergenthaler's linotype became the "standard" in less than five years [7], [8].

The linotype machine and William Connor's enzyme were two examples of processes where a process incongruity led to a need for change. However, demographics often serve as both a strong source of process needs and a catalyst for process innovation. A Bell Telephone System statistician estimated in 1909 or thereabouts the increase of the American population and the number of workers needed to operate central stations in order to handle the increasing amount of calls. These two curves were anticipated to be completed fifteen years apart. According to

these forecasts, if the manual call-handling method was to continue, every American woman between the ages of seventeen and sixty would need to work as a switchboard operator by 1925 or 1930. Bell engineers created and implemented the first automated switchboard two years later.

In a similar vein, the current frenzy over robots is mostly the outcome of a demographic process necessity. Most of the information has been known for a long time. But the need to replace semi-skilled assembly-line workers with machines was not recognized until the effects of the "baby bust" were felt by major firms in the industrialized world, particularly in Japan and the US. The United States has contributed the majority of the Japanese robots designs, not its superior technological know-how. However, the Japanese experienced their "baby bust" around 10 years before West Germany and four or five years before America. The Japanese realized they had a labor deficit just 10 years earlier than either the Americans or the Germans. However, the 10 years in Japan began far earlier than in the US, and as these words are being written, the ten years are still ongoing in West Germany [9], [10].

Demographic forces also had a significant role in the creation of Mergenthaler's linotype. The supply of typesetters, who must have a six- to eight-year apprenticeship, was quickly running short due to the explosive growth in demand for printed products, and typesetters' salaries were rising dramatically. Because of this, printers started to see the "weak link" and were prepared to shell out a substantial sum of money for a machine that could replace five highly experienced artisans with a single, semi-skilled machine operator. Demographics and incongruities can be the most frequent reasons for a process necessity. However, there is another category that is more risky, considerably more difficult, and often even more important: program research. There is a "weak link," and it is observable, palpable, and extremely felt. However, a significant amount of new information must be created in order to meet the process demand.

Photography is one of the innovations that has succeeded the fastest. Twenty years after its creation, it gained international acclaim. Every nation had outstanding photographers within twenty years or so; Mathew Brady's images from the American Civil War remain the best. Every newlywed was required to have her photograph taken by 1860. Prior to the Meiji Restoration, when Japan was still firmly closed to outsiders and outside ideas, photography was the first Western technology to enter the country. By 1870, amateur photography had become firmly established. But they found things challenging due to the technologies at their disposal. Glass plates used in photography were delicate and heavy, and they needed to be handled with great care. It needed an equally massive camera, complex settings, extended pre-take preparations, and so on. Everyone was aware of this. The era's photography magazines, which were among the first specialized mass publications, are, in fact, replete with advice on how to overcome the enormous difficulty of shooting pictures as well as laments about how difficult it is to take good pictures. However, in 1870, the science and technology available could not overcome the challenges. However, by the middle of the 1880s, new information had become available, allowing George Eastman, the company's founder, to design a lightweight camera around his cellulose film and replace the bulky glass plates with practically weightless film that was resistant to even the most severe handling. In only 10 years, Eastman Kodak rose to the top of the photographic industry, a position it now holds [11], [12].

"Program research" is often required to turn a process from an idea into a working system. Once again, the need must be felt and the necessary items must be identifiable. Next, new knowledge has to be generated. Edison was the model inventor for this sort of process-need innovation. Everyone had known for twenty-odd years that there would be a "electric power industry," and over the past five or six of those years, it had become abundantly evident what the "missing link" was the light bulb. There could be no electric power business without it.

Within two years, Edison had created a light bulb by defining the new knowledge required to turn this prospective electric power sector into a real one. The primary approach of top-notch industrial research laboratories, as well as research for military, agriculture, medicine, and environmental protection, is now program research, which aims to turn a possibility into reality. Program research has a lofty tone. Many interpret it as "putting a man on the moon" or as the development of a polio vaccine. However, tiny and well defined initiatives are where it works best; the more concentrated and smaller the project, the better. The highway reflector, which reduced the number of car accidents in Japan by over two thirds, is, in fact, the finest example—possibly the best example of effective process need-based innovation.

Japan has very few paved roadways outside of its major cities as late as 1965. However, the nation was quickly turning to cars, so the government paved the roads hastily. Cars could now go very fast, and they did. However, the roads were still the same ancient ones that the oxcarts of the eleventh century had put down; they were just wide enough for two automobiles to pass, rife with blind turns and secret entrances, and interspersed with crossroads every few kilometers where six routes came together at every possible angle. The number of accidents started to rise alarmingly, particularly at night. The opposition parties in Parliament, the press, and television stations immediately started to demand that the government "do something." Of course, repairing the roads was out of the question since it would have taken twenty years regardless. Additionally, a large public relations effort encouraging drivers to "drive carefully" had the usual outcome of such campaigns: none at all. Tamon Iwasa, a young Japanese person, saw an innovative possibility in this dilemma. His modification of the conventional highway reflector allowed for the adjustment of the little glass beads that act as mirrors to reflect incoming automobiles' headlights in any direction. Thousands upon thousands of Iwasa reflectors were quickly installed by the government. And the incidence of accidents fell sharply.

In the United States, the Great War had developed a populace interested in both domestic and foreign news. This was known to all of them. In fact, there are plenty of talks on how to satisfy this demand in the news articles and journals from the early post-World War I years. But the local newspaper was unable to complete the task. Leading publications gave it a go, including The New York Times, but none of them were successful. Henry Luce then identified the requirement for the process and specified what was needed to meet it. There would not be enough readers or advertisers if it were a local newspaper; it had to be a nationwide one. It also couldn't be a daily since there wasn't enough content for a big audience to be interested in. These guidelines then served as a practical guide for the creation of the editorial format. Time magazine was an instant hit when it launched as the world's first news magazine.

Herein lies an instance of an invention that satisfies a distinct and significant process requirement, yet it doesn't seem to fit perfectly, leading to its lack of acceptance. For a long time, the amount of information needed by various professionals, including doctors, engineers, accountants, and attorneys, has increased much more quickly than our ability to locate it. Professionals have been grumbling that they have to spend an increasing amount of time looking for information in looseleaf services, hands and texts, legal libraries, and other places. So, one would anticipate such a "databank" would succeed right away. Using a computer software and a display terminal, it provides the professionals with instant access to information on pharmaceuticals and poisons for doctors, court judgments for attorneys, and tax rulings for accountants. However, it has been very difficult for these firms to attract enough users to turn a profit. Certain services, like the legal database Lexis, have required significant financial investments and over a decade to attract new members. The databanks' excessive ease of use is most likely the cause. Experts take great satisfaction in their "memory," which refers to their

capacity to either recall necessary knowledge or identify where to get it. The novice attorney still receives an order from the more experienced attorneys that states, "You have to remember the court decisions you need and where to find them." Therefore, the databank goes against the fundamental principles of the professional, notwithstanding how beneficial it is to the job and how much time and money it saves. If it can be searched up, for what purpose would you require me?When questioned by a patient about why he did not utilize the service that would have provided him with the information to verify and validate his diagnosis and choose which alternative treatment option would be most appropriate in a particular situation, a renowned doctor once stated as such. It is possible to systematically identify opportunities for innovation based on process needs. Edison made significant contributions to electronics and electricity. Henry Luce carried out this action while still a Yale student. It was William Connor who performed this. In actuality, systematic search and analysis are well suited for the field.

Market and industry structures might seem absolutely stale after many, many years. For example, the Pittsburgh-based Aluminum Company of America, which had the initial patents, and its Canadian progeny, Alcan of Montreal, continue to lead the global aluminum business even after a century. Since the 1920s, the global cigarette business has seen just one significant entrant: the South African Rembrandt group. And in a century, just two relative newcomers—Japan's Hitachi and Holland's Philips have become the world's top producers of electrical equipment. Similar to this, forty years passed without a significant new retail chain opening in the US between the early 1920s, when Sears & Roebuck started to transition from mail order to retail shops, and the mid-1960s, when Kresge, an established dime-store chain, introduced the K-Mart discount stores. In fact, those who work in industries and markets tend to believe that these systems are so enduring and predetermined that they are a part of nature's order and will always exist. In actuality, the architecture of markets and industries are quite fragile. They break apart easily and quickly with only a little abrasion. Every person involved in the sector must take action when this occurs. Carrying on with business operations as usual is almost a certain recipe for catastrophe and might perhaps lead a firm to its demise. The corporation will, at the very least, lose its status as a leader, and once lost, it is almost impossible to reclaim. However, a shift in the industry or market structure also presents a significant chance for innovation. Every industry participant must exercise entrepreneurship in order to alter the structure of the industry. They must all ask the same question again:

The car narrative

Early in this century, the automotive industry expanded so quickly that its markets saw significant shifts. This adjustment prompted four diverse, all-effective replies. Up until 1900, the early industry mostly supplied luxury goods to the very wealthy. By then, however, it was outpacing this limited market, rising at a pace that was doubling the sales volume of the sector every three years. However, all of the current businesses continued to focus on the "carriage trade."

In 1904, the British business Rolls-Royce was established as a reaction to this. Seeing that cars were becoming so commonplace that they were becoming "common," the founders set out to create and market an automobile that would, in the words of an early Rolls-Royce prospectus, have "the cachet of royalty." They purposefully returned to earlier, already antiquated manufacturing techniques, where each car was individually assembled with hand tools and machined by a skilled mechanic. They went on to say that the automobile will never break down. They intended for a professional driver trained by Rolls-Royce to operate it. Sales were limited to clients they authorized, ideally those with titles, of course. Additionally, they priced the Rolls-Royce as costly as a small boat, at around forty times the yearly salary of a qualified mechanic or successful artisan, to ensure that no "riff-raff" would purchase their vehicle.

A few years later, in Detroit, the young Henry Ford likewise saw the shift in the American market structure and the end of the car as a toy for the affluent. In response, he created an automobile that could be fully mass-produced, mostly using semi-skilled labor, and that the owner could drive and fix. Despite popular belief, the 1908 Model T was not “cheap”; rather, its price was somewhat more than what the world’s most expensive trained mechanic, an American, could make in a whole year. However, the Model T was simpler to operate and maintain and only cost one-fifth of the most affordable car available at the time. William Crapo Durant, an American, saw the shift in the market structure as a chance to establish a well-managed, sizable car firm that would cater to every part of what he predicted would be a massive "universal" market. In 1905, he established General Motors, started purchasing pre-existing automakers, and combined them into a big, cutting-edge enterprise. The young Italian Giovanni Agnelli had predicted that the automobile would be needed for military purposes a bit earlier, in 1899, especially as an officer's staff vehicle. He established FIAT in Turin, which in a few years rose to prominence as the main provider of staff vehicles to the armed forces of Italy, Russia, and Austro-Hungary.

Between 1960 and 1980, market structures in the global automotive sector underwent yet another shift. National suppliers dominated national markets in the car industry for forty years after World War I. Fiats and a few Alfa Romeos and Lancias were the only vehicles seen on Italian roads and parking lots; these manufacturers were comparatively uncommon outside of Italy. There were Mercedes, Opels, and German Fords in Germany; GM, Ford, and Chrysler vehicles in the US; and Renault, Peugeot, and Citroen vehicles in France. Subsequently, the car business abruptly transformed into a "global" industry about 1960. Various businesses responded in completely different ways. The Japanese, who had been the most closed off and had rarely exported any vehicles at all, made the decision to open up to the rest of the globe. They made a disastrous initial effort at entering the American market in the late 1960s. They got back together, reexamined their approach, and revised it to include providing a car that was more like an American, including American performance, comfort, and styling, but that was also smaller, more fuel-efficient, subject to stricter quality control, and, most importantly, offered better customer service. And they did amazingly well when they were given another opportunity during the 1979 oil scare. Ford Motor Company also made the decision to adopt a "European" approach in order to become "global." By the mid-1970s, 10 years later, Ford had established itself as a formidable contender for the top slot in Europe.

Fiat made the decision to stop being just an Italian firm and become a European one, with the goal of holding the number two spot in every significant European nation while still maintaining its dominant position in Italy. Initially, General Motors made the decision to stay domestic and maintain its customary 50% market share in the United States, but in a method that allowed them to keep around 70% of all earnings from car sales in North America. And it was successful. Ten years later, in the middle of the 1970s, GM made a tactical change and resolved to challenge Ford and Fiat for supremacy in Europe, which it once again achieved. It seems that GM made the decision to eventually go worldwide in 1983–84 and partnered with many Japanese businesses, starting with two smaller firms before settling on Toyota. Additionally, Mercedes in West Germany chose to pursue yet another worldwide strategy, this time focusing on a smaller portion of the global market, such as luxury vehicles, buses, and taxicabs. These tactics were all comparatively successful. It is impossible to determine whether one performed better than the other, in fact. However, the businesses that resisted having to make difficult decisions or acknowledging that anything significant was occurring did not perform well. The only reason they are still alive is because their separate governments are refusing to allow them to fail.

Of course, Chrysler is one such example. Everyone in the business was aware of what was going on, even the employees at Chrysler. But rather than make a choice, they dodged. It's possible that Chrysler adopted a "American" approach and dedicated all of its resources to bolstering its position in the US market, which is still the biggest for autos worldwide. Alternatively, it may have amalgamated with a robust European enterprise with the objective of securing the third rank in the world's foremost automotive markets, namely the United States and Europe. Mercedes was reportedly quite interested, but Chrysler was not. Rather, Chrysler frittered away its money on fantasy. It purchased European "also-rans" that had lost to give the impression that it was worldwide. However, this did not provide Chrysler any more strength; rather, it depleted its capital, leaving it unable to make the necessary investment to give Chrysler a fair shot at success in the US market. Following the 1979 petroleum shock, Chrysler found itself with little in Europe and much less in the US when it came time to make some hard decisions. It was only rescued by the US government. The narratives of British Leyland, the former biggest carmaker in Britain and a serious competitor for European supremacy, and Peugeot, the major French automaker, are essentially the same. They both resisted admitting that a choice had to be made. They thus quickly lost both their market share and their profitability. These days, Peugeot, British Leyland, and Chrysler are all essentially insignificant.

However, the case studies of even smaller businesses are the most significant and fascinating. All automotive manufacturers worldwide, regardless of size, have been forced to take action or risk being permanently eclipsed. Nonetheless, Volvo, BMW, and Porsche—three little, mostly insignificant businesses—saw a significant opportunity to innovate in this. The smart money was heavy on these three firms disappearing during the impending "shakeout" in the automotive industry about 1960, but instead, all three have prospered and carved up leadership positions in their respective markets. They have achieved this via the use of an innovative approach that has effectively transformed them into new businesses. 1965 saw Volvo as a little, struggling company that just about made it. It did experience significant financial losses over a few pivotal years. However, Volvo set out to essentially remake itself. Volvo became an aggressive global marketer—particularly powerful in the US—of what one could refer to as the “sensible” car; not particularly opulent, far from inexpensive, not at all trendy, but sturdy and radiating common sense and “better value.” Volvo has positioned itself as the vehicle for professionals who value being known for their “good judgment” rather than having to prove how successful they are through their vehicle of choice.

BMW has been just as successful as it was in 1960, if not more so, particularly in nations like France and Italy. It has positioned itself as the vehicle of choice for "young corners," or those who want to seem youthful but have already achieved significant success in their line of business and profession and who are prepared to pay a premium to do so. Although Mercedes and Cadillac are the vehicles of choice for heads of state and corporate executives, BMW is undeniably a luxury vehicle for the well-to-do, and it appeals to people in the rich who want to look “no establishment.” BMW is also very masculine and markets itself as the “ultimate driving machine.” Porsche has finally repositioned itself as the sports car—the sole vehicle for those who still want thrill above transit.

However, the smaller automakers that stuck to their tried-and-true methods and failed to innovate and show themselves differently in what is essentially a new industry have fallen victim. For example, thirty years ago the British MG was the ultimate sports vehicle, the equivalent of what Porsche is now. By today, it is all but extinct. And Citroen, where is it? Thirty years ago, it was the automobile with the middle-class dependability, strong construction, and inventive, solid engineering. It would have seemed that Citroen was well

positioned for the market niche that Volvo has occupied. However, Citroen lacks both a strategy and a product since it did not consider its business model or innovate. A shift in the structure of the sector presents remarkable possibilities that are extremely apparent and predictable to outsiders. However, these same developments are typically seen as threats by the insiders. Thus, outsiders who innovate have the potential to quickly and affordably establish themselves as significant players in a crucial sector or business. Here are a few examples.

Three young guys from New York City met practically by chance in the late 1950s. They were all employed by financial firms, mostly Wall Street companies. One thing they could agree upon was that the securities industry, which had hardly altered since the Great Depression two decades before, was about to undergo a swift structural transformation. They concluded that possibilities had to be presented by this transition. In order to identify a chance for newcomers with little financial means and almost no ties, they methodically investigated the financial markets and industry. A new company, Donaldson, Lufkin & Jenrette, was the outcome. It began operations in 1959 and within five years rose to prominence on Wall Street. These three young guys discovered that the pension fund managers were a brand-new, rapidly growing consumer base. These new clients need something different, but they did not want anything that was really challenging to provide. Furthermore, no company had set itself up to provide it to them. In order to concentrate on these new clients and provide them with the "research" they required, Donaldson, Lufkin & Jenrette founded a brokerage business.

Simultaneously, a young guy in the securities sector saw that the industry was undergoing structural transformation and that this may provide him with a chance to establish an alternative securities firm. The previously described "intelligent investor" was the opportunity he discovered. He then used this to create the large and rapidly expanding company that it is today. The form of American health care started to rapidly alter in the early to mid-1960s. Three young professionals, the oldest of whom was not nearly thirty, saw a chance to launch their own creative enterprise. At the time, they were junior managers at a big hospital in the Midwest. They came to the conclusion that hospitals will need more and more experience to manage housekeeping services including cooking, laundry, maintenance, and so on. They put the tasks at hand into a system. Then, they presented hospitals with contracts in which their newly formed company would staff these services with employees who had received training, in exchange for a share of the savings. This business billed for over a billion dollars' worth of services twenty years later.

CONCLUSION

Investigating process demand innovation shows a dynamic environment full of transformational potential. By identifying inconsistencies in current processes, industry may unleash the potential for major breakthroughs and developments. Organizations may enhance efficiency, productivity, and competitiveness significantly as well as better satisfy consumer requests by identifying and addressing particular requirements. Furthermore, the analysis of demographic changes as catalysts for process innovation highlights the significance of flexibility in adapting to changing market conditions. When it comes to innovation, companies need to be flexible and proactive. This includes rethinking conventional procedures to suit changing customer expectations and using new technology to solve labor shortages. The program research debate also emphasizes the critical role that new knowledge creation plays in turning possible ideas into actual, workable solutions. Although there might be a lot of dangers and difficulties involved in this process, the benefits could be enormous and result in ground-breaking discoveries that completely transform whole sectors.

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CHAPTER 7

SEIZING OPPORTUNITIES IN INDUSTRY DISRUPTION: LESSONS FROM INNOVATORS

Dr. Thomas P K, Adjunct Faculty
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- pk.thomas@cms.ac.in

ABSTRACT:
The dynamic landscape of business innovation through a series of insightful case studies. The narrative delves into the strategies employed by outsiders to identify and exploit transformative opportunities within established industries. From the rise of discounters in the telecommunications sector to the convergence of technologies in niche markets, each case study sheds light on the critical factors driving industry disruption. Emphasizing the importance of simplicity in innovation strategies, the abstract highlights how demographic changes serve as catalysts for market evolution. Through these compelling examples, the abstract offers valuable insights into navigating and capitalizing on industry upheaval for sustained success. The study highlights the profound impact of demographic changes on market dynamics. By examining these cases, the research offers valuable insights into the critical factors driving innovation and transformation within industries, providing actionable lessons for businesses seeking to thrive amidst disruption.

KEYWORDS:

Adaptation, Disruption, Innovation, Resilience, Strategic Thinking, Transformation.

INTRODUCTION

The last example is the long-distance phone market in America, where discounters like MCI and Sprint operate. They were complete outsiders; the Southern Pacific railroad, for example, founded Sprint. These outsiders started searching for Bell System's weakness. They discovered it in the long-distance service price schedule. Long-distance calls were considered a luxury reserved for huge corporations and the government, or for dire situations like a death in the family, prior to World War II. Following World War II, they were widely used. In fact, they turned become the telecom industry's fastest-growing segment. However, in response to pressure from the state-level regulatory bodies that set telephone rates, the Bell System persisted in charging much more for long-distance than it really needed to, classifying it as a luxury and using the proceeds to support local service. However, the Bell System provided significant discounts to big long-distance service purchasers to soften the blow [1], [2].

Long-distance service revenues surpassed those from local service by 1970 and had reached parity. Nevertheless, the initial pricing scheme remained in place. And the newcomers took advantage of this. They used the discount to sign up for bulk service, which they subsequently retailed to smaller consumers, sharing the discount with them. They were able to provide their customers long-distance service at a much reduced cost while still making a sizable profit as a result. Ten years later, in the early 1980s, the long-distance discounters handled more calls than the Bell System as a whole had at the beginning of the dis-counter era. If not for one thing, these stories would simply be anecdotes: every entrepreneur involved was aware that the sector offered a significant potential for innovation. Everybody was quite certain that an innovation would be successful and come with little risk. When industry structure changes, there are four much guaranteed, very obvious signs that a shift in the industry's structure is about to occur

[3], [4]. The most dependable and visible indicator among them is the quick expansion of an industry. In essence, this is what all of the aforementioned cases have in common. It is quite likely that an industry's structure will alter dramatically if it expands much faster than the economy or population—at the very least, by the time the business has doubled in volume. Since current procedures are still quite effective, no one is willing to change them. However, they are aging out of use. But neither Bell Telephone nor Citroen were prepared to accept this, which is why "outsiders," "newcomers," or erstwhile "second-raters" were able to outperform them in their respective markets. When a sector experiencing fast growth doubles in size, its approach to understanding and catering to its customers is probably no longer suitable. Specifically, the methods used by the established leaders to define and divide the market no longer accurately represent the state of affairs but rather their past. Still, reports and data continue to reflect the conventional understanding of the industry. This explains the success of two very different innovators: the Midwestern brokerage company known as the "intelligent investor," and Donaldson, Luflun & Jenrette. Each identified a market niche that the already-established financial services firms had failed to recognize and, as a result, did not sufficiently service: the "intelligent investor" because he did not conform to the Wall Street caricature, and the pension funds because they were too young [5], [6].

However, the tale of hospital administration also involves the inadequacy of conventional gates during a period of explosive expansion. Following World War II, a surge in hospital occupations led to the emergence of "paramedics," including X-ray, pathology, medical lab, and other types of therapists. These were seldom around before to World War II. Additionally, hospital administration evolved into a career. As hospital staff, particularly the low-paid ones, started to unionize, the conventional "housekeeping" services that had previously dominated hospital operations gradually became an issue for the administrator. These services also proved to be more expensive and harder to provide. Furthermore, the tale of the chains that were previously documented also involves a structural shift brought about by fast expansion. Neither the publishers nor the conventional American retailers knew that a new demographic of consumers, referred known as "shoppers," was coexisting with the established readership. The conventional business never made an effort to service these new consumers since it did not recognize them.

However, there is also a propensity for a business that expands quickly to become complacent and, more importantly, to attempt to "skim the cream." The Bell System handled long-distance calls in this way. The only outcome is to stimulate rivalry. There is even more evidence in the American art scene. The perception of museums was "upper-class" before to World War II. Attending museums became a middle-class pastime after World War II, with new museums opening in city after city. Prior to World War II, only a small group of very wealthy individuals collected art. Following World War II, thousands of individuals, some of whom were of quite modest means, started collecting art of various types. This trend in art collecting grew in popularity. A young guy who worked at a museum saw this as a chance for creativity. He discovered it in the most unlikely of places in insurance, a field he had never heard of before. He made a name for himself as an art-focused insurance broker, covering collectors as well as museums. Due to his knowledge of art, the big insurance firms' underwriters, who had previously been hesitant to cover art collections, were now prepared to take on the risk albeit at rates that may have been as high as 70% higher. Currently, this young guy has a sizable insurance brokerage company.The convergence of technologies that were previously thought to be clearly different is another phenomenon that will inevitably cause abrupt changes in the structure of the industry.

The private branch exchange, or switchboard for offices and other big telephone customers, is one example. Essentially, Bell Labs, the Bell System's research division, has handled all of the scientific and technological work on this in the United States. However, a few upstarts like ROLM Corporation have benefited most from the situation. Telephone technology and computer technology are two distinct technologies that come together in the modern PBX. The PBX may be seen as a computer that is used in communications or as a communications tool that employs a computer. In theory, the Bell System could have handled this with ease—in fact, it has always been at the forefront of the computer industry. But from Bell System's perspective on the user and the market, the computer was something entirely new and distant. Although it created and unveiled a computer-style private branch exchange, it never promoted it. Consequently, an absolute novice has emerged as a formidable rival. Actually, the four young engineers who created ROLM did so with the intention of building a compact computer for use in fighter planes; they did not want to go into the telephone industry. The Bell System, despite its technological leadership, now holds little more than a third of that market.

If an industry's business practices are changing quickly, it is time for fundamental structural transformation. The vast majority of physicians in America performed alone thirty years ago. By 1980, barely sixty percent of them were. Currently, forty percent work in groups, either as partners or as staff members of hospitals or health maintenance organizations. Some early observers of the developments, circa 1970, saw that they presented a chance for creativity. The group's office might be designed by a service provider, who could also advise the doctors on the necessary equipment and provide group practice management or management training. Particularly effective are innovations that take advantage of shifts in the industry's structure when a small number of extremely big manufacturers or suppliers control the majority of the market. These big, powerful suppliers and manufacturers, even in the absence of a genuine monopoly, sometimes have a haughty attitude since they have been successful and unopposed for a long time. They first write off the newbie as unimportant and downright inexperienced. However, even as the newcomer takes up a growing portion of their business, they struggle to organize a countermovement. Before the Bell System answered the long-distance discounters' and the PBX makers' challenge, it took almost 10 years.

However, the American aspirin producers' reaction was as delayed when Tylenol and Datril, the so-called "non-aspirin aspirins," first surfaced. Once again, based mostly on quick development, the innovators saw an opportunity due to an upcoming shift in industry structure. There was absolutely no reason why the few, very big corporations that now make aspirin could not have introduced and successfully marketed "non-aspirin aspi rin." Ultimately, aspirin's risks and restrictions were well-known; a plethora of medical literature documented them. However, the entrants had the market to themselves for the first five or eight years. In a similar vein, the USPS took years to respond to entrepreneurs who gradually eliminated bigger portions of the most lucrative services. First, ordinary parcel post was eliminated by United Parcel Service. Later, even more professional transportation of letters and urgent or valuable merchandise was eliminated by Emery Air Freight and Federal Express. The Postal Service's explosive expansion was what left it so exposed. Volume increased so quickly that it ignored what seemed to be smaller categories, thereby inviting the innovators to enter the market.

The manufacturers or suppliers that are today's industry leaders will be discovered to be ignoring the fastest-growing market segments time and time again when the market or industry structure changes. They will continue to follow procedures that are quickly becoming outmoded and dysfunctional. Seldom do the new growth prospects align with the way the industry has "always" defined, structured, and handled the market. Therefore, there's a significant likelihood that the inventor in this field will be left alone. Serving the old market in

the traditional manner can help the established companies or services in the industry continue to prosper for a while. They are probably going to ignore this new challenge completely or dismiss it with a condescending attitude.

DISCUSSION

There is, however, a crucial disclaimer. It is essential that innovation in this field remain straightforward. Complex inventions are ineffective. Here's one example, the smartest business plan I've ever heard of, and also one of the most heinous missteps. Around 1960, Volkswagen was the catalyst for the transformation of the vehicle industry into a worldwide business. Since the Model T forty years before, the Volkswagen Beetle was the first automobile to genuinely become a worldwide vehicle. It was as common in the Solomon Islands as it was in Tanganyika, and as common in the United States as it was in its home Germany. Volkswagen, however, lost out on the chance that it had created for itself—mainly due to being too astute [7], [8].

Ten years after the Beetle's global market breakthrough, in 1970, it was losing its relevance in Europe. The Beetle did quite well in its second-best market, the United States. Furthermore, Brazil, the Beetle's third-largest market, seems to still have a long way to go in terms of development. It was obvious that a different approach was required. Volkswagen's chief executive officer suggested completely replacing the Beetle with the new model, which the German manufacturers would also sell to the US market. However, Brazil would be able to meet the ongoing demand for Beetles in the US, providing Volkswagen do Brasil with the necessary capacity to expand its factories and continue the Beetle's supremacy in the expanding Brazilian market for an additional 10 years. Critical components, like engines and transmissions, for every car sold in North America would still be produced in Germany, with the final vehicle for the market's assembly in the US, in order to reassure American buyers of the "German quality" that was one of the Beetle's key selling points [9], [10].

This was, in a sense, the first really global approach, with various components to be produced in several nations and assembled in various locations based on the demands of various markets. If it had succeeded, it was the proper move, and a very creative one at that. It was mostly brought to an end by the German labor organizations. Volkswagen was forced to abandon its brilliant plan because American dealers were skeptical of a car that was "made in Brazil," even though the essential parts would still be "made in Germany." They claimed that "assembling Beetles in th United States means exporting German jobs, and we won't stand for it. The United States, Volkswagen's second market, has been lost as a consequence. When the second oil crisis was set off by the collapse of the Shah of Iran, Volkswagen was the rightful owner of the compact car market, not the Japanese. All the Germans were without any goods. And Volkswagen do Brasil had problems when, a few years later, Brazil experienced a severe economic crisis and a decline in car sales. For the capacity it had to construct there in the 1970s, there were no export customers. The particular causes of Volkswagen's great strategy's failure which may have made the company's long-term future problematic are secondary. The lesson of the narrative is that an inventive and "clever" approach is always doomed to failure, especially when it comes to capitalizing on a shift in business dynamics. Then, the only plan that has any chance of working is the extremely basic, targeted one. These sources include the unexpected, incongruities, changes in market and industry structure, and process demands. In actuality, they could be signs of external shifts in the knowledge base, the economy, and society. However, they manifest inwardly. Demographics, which are defined as changes in population number, age distribution, composition, employment, educational attainment, and income, are the most obvious of all external changes. They are clear-cut. They have the most anticipated outcomes [11], [12].

They also have lead times that are practically known. By now, everyone who was employed in America in 2000 has reached adulthood. In the industrialized world, everyone who will reach retirement age in 2030 is currently employed, and most of them will remain in their current position until they retire or pass away. Furthermore, for the next forty years, a lot will depend on the educational background of those who are now in their early or mid-20s about their professional choices. The things that will be purchased, by whom, and in what amounts are largely determined by demographics. For example, American teens purchase a significant number of inexpensive pairs of shoes annually; their primary consideration is style over functionality, and they own few handbags. Ten years later, the same individuals will purchase a very small number of pairs of shoes annually roughly one-sixth as many as they did when they were seventeen—but they will do it primarily for comfort and durability rather than fashion. In wealthy nations, the core travel and holiday market is made up of persons in their sixties and seventies, or those who are just starting to retire. The same individuals are still clients of extended medical care, retirement communities, and nursing facilities 10 years later. Families with two earners spend more money because they have more money than time. Ten to twenty years later, those who had considerable education in their youth especially professional or technical education—will need additional professional training.

However, those with a lot of education are also readily employed, mostly as knowledge workers. The industrially developed countries of the West and Japan would have had to automate even in the absence of competition from low-wage countries with massive surpluses of youth trained only for unskilled or semi-skilled manual jobs—the youth bulge in the Third World countries brought on by the decline in infant mortality after 1955. Based solely on demographics and the combined effects of the "educational explosion" and the sharp decline in birth rates, it is almost a given that traditional manual blue-collar manufacturing jobs in developed countries will not exceed one-third of what they were in 1970 by the year 2010.

All of this should go without saying since it is so evident how important demographics are. Politicians, businesspeople, and economists have all long recognized the vital significance of population dynamics, trends, and migrations. However, they also thought that they did not need to consider demography while making daily choices. Population changes were believed to happen so slowly and over such long time spans as to be of little practical importance. These changes may be in birth or death rates, educational attainment, labor force composition and participation, or the location and mobility of individuals. It was acknowledged that major demographic disasters, like the European Black Plague in the fourteenth century, had an instantaneous effect on the economy and society. However, other than that, the demo- graphic changes were "secular" developments that would be more interesting to historians and statisticians than to administrators or businesspeople.

This was a risky move from the beginning. The world's political and economic landscape was completely altered by the great nineteenth-century migration of Europeans to Australia, New Zealand, and the Americas, both north and South. An abundance of business prospects sprang from it. The geopolitical theories that had guided European politics and military tactics for many centuries were rendered outdated by it. Still, all happened in only fifty years, from the middle of the 1860s to 1914. Anyone who ignored it would probably find himself falling behind quickly.

For example, the House of Rothschild dominated the global banking system until 1860. But the Rothschilds were unable to understand the significance of the transatlantic exodus; they believed that only "riff-raff" would leave Europe. Consequently, the Rothschilds lost their prominence by around 1870. They were no longer more than wealthy people. J was there. P. Morgan assumed command. His "secret" was to recognize the transatlantic migration as soon

as it began, to recognize its importance right away, and to seize the chance to establish a global bank in New York rather than in Europe, as well as to serve as a conduit for funding the American industries that immigrant labor was enabling. Additionally, it only took thirty years—from 1830 to 1860—for both eastern and Western Europe to transition from rural, farm-based cultures to heavily industrialized, big-city civilizations. In the past, demographic shifts have often happened just as quickly, just as abruptly, and with just as much consequence. It is a complete misconception that populations shifted gradually in the past. Alternatively said, historically, long-term stationary populations have been the exception rather than the norm.

It is utterly foolish in the twenty-first century to ignore demography. Today's fundamental premise must be that people are inherently unstable and prone to abrupt, dramatic shifts; hence, populations should be the first environmental aspect that every decision-maker, whether in business or politics, considers and evaluates. The aging of the population in the rich nations and the tidal surge of young people in the Third World are two challenges that will be crucial to both domestic and international politics in this century. For whatever cause, population shifts that are sudden, drastic, and extraordinarily fast have become common in both developed and emerging cultures of the twentieth century.

In 1938, Franklin D. Roosevelt gathered the most eminent demographic specialists in America, and they unanimously anticipated that the country's population would peak in 1943 or 1944 at around 140 million, and then gradually fall. There are now 240 million people living in the United States, assuming no immigration. Because the United States unexpectedly began a "baby boom" in 1949 that resulted in twelve years of historically huge families before abruptly transitioning into a "baby bust" in 1960 that created equally historically tiny households. The demographers of 1938 were neither ignorant nor stupid; rather, there was no sign at the time of a "baby boom."

Twenty years later, another American president, John F. Kennedy, assembled a group of distinguished specialists to devise his Latin American aid and development program, the "Alliance for Progress." In 1961, not a single expert took note of the sharp decline in infant mortality that, in the next fifteen years, completely transformed the region's economy and society. And without hesitation, every expert presumed a rural Latin America. They were neither stupid nor inept either. However, at that time, the urbanization of society and the decline in infant mortality in Latin America had only started.

The most seasoned labor force observers in the United States in 1972 and 1973 still unquestionably recognized that women's involvement would continue to fall, as it had for a long time. They were concerned about where all the employment for young men would come from when the "baby boomers" entered the workforce in historic numbers. Young women were not expected to require work, so no one inquired where they would come from. After a decade, the percentage of American women under fifty who were employed reached its highest point ever, at 64%. Furthermore, there is no difference in this group's labor force involvement between married and single women, or between women who have children and those who do not. Not only are these changes startlingly abrupt. They often defy explanation and are mysterious. In hindsight, there is an explanation for the decline in infant mortality in the Third World. It was brought on by the combination of relatively modern technology, like as medicines and pesticides like DDT, with very old ones, such as vaccinations, public health nurses, well-placed latrines, and wire screens outside windows. But that was completely unexpected. Furthermore, what accounts for the "baby bust" or "baby boom"? What accounts for the unexpected surge in American women entering the workforce? And why is there such a rush toward Latin American cities' slums?

Although the changes in the population in this century are not predictable by nature, they do have extensive lead periods before they have an influence and lead times that are also predictable. Five years will pass before newborns need classrooms, playgrounds, and instructors in order to become kindergarten students. They will take fifteen years to establish themselves as significant customers, and it will take those nineteen to twenty years to enter the workforce as adults. The high population growth in Latin America coincided with a decline in newborn mortality. Even yet, the newborns that survived did not grow up to be school-age children until five or six years, nor did they become teenagers who were job-seeking for fifteen or sixteen years. Furthermore, it takes at least 10 years—typically fifteen—for any change in educational attainment to have an impact on the skills that are needed in the workforce. The same disregard that demography receives from decision-makers—be they corporate executives, government politicians, or employees of the public sector—is what makes it such a lucrative field for entrepreneurs. They continue to hold onto the belief that demographics remain constant or change slowly. In fact, they deny even the most obvious evidence of shifting demographics. Here are a few somewhat standard instances.

It was obvious by 1970 that, at the very least, 10 or fifteen years would pass before there were 25 to 30 percent fewer students enrolled in American schools than there had been in the 1960s. Since the "baby bust" was firmly entrenched and unlikely to be quickly reversed by 1965, children starting kindergarten in 1970 must be alive by that year. However, American university schools of education vehemently disagreed to this. It seems that they believed the annual increase in the number of school-age children was a natural rule. They thus increased their recruitment efforts, which led to significant unemployment for graduates a few years later, extreme pressure on teacher pay, and widespread closures of educational institutions. And from my own experience, here are two instances. Twenty-five years later, by the midseventies, I predicted in 1957 that there would be 10 to twelve million college students in the United States. It was obtained by combining two demographic trends that had previously occurred: the rise in the proportion of young people attending college and the rise in the number of births. The prediction was spot on. However, almost all reputable universities dismissed it with contempt. Twenty years later, in 1976, I examined the age distribution and projected that, in the next 10 years, the retirement age in the United States would need to be increased to seventy or removed entirely. Even quicker was the change: mandatory retirement at any age was eliminated in California in 1977, and two years later, in 1978, retirement before the age of seventy was eliminated nationwide. The documented and well-known demographics made this prediction all but guaranteed. Yet, the majority of so-called specialists, including statisticians, government economists, labor union economists, and corporate economists, disregarded the prediction as completely nonsensical. It was almost universally expressed that "it will never happen." The conventional, notably the "prestige," colleges, on the other hand, did nothing. Instead, the labor unions organized themselves to accommodate the extra student enrollment or actively suggested decreasing the mandatory retirement age to sixty at the time. Because of this, twenty years later these brazen newcomers had the pupils, and even when enrolment dropped throughout the country due to the "baby bust," they continued to flourish.

Melville, a modest and unremarkable shoe brand, was one American shop that at the time welcomed the "baby boom." Melville focused on this new market in the early 1960s, shortly before the first "baby boom" cohorts entered adolescence. It produced brand-new, unique shops designed with teens in mind. It revamped its line of products. It targeted sixteen and seventeen-year-olds with advertisements and promotions. And it extended beyond shoes to include apparel for male and female youths. Melville thus rose to prominence as one of America's most prosperous and rapidly expanding merchants. After ten years, other stores realized how to appeal to teens, at the same time as the focus of the demo- type began to move from them to

"young adults," defined as those between the ages of twenty and twenty-five. Melville has already started to refocus its attention on the newly dominating age group at that point.

The urbanization of Latin America was not recognized by the experts on the continent that President Kennedy assembled to counsel him on the Alliance for Progress in 1961. However, a particular company, the US retail giant Sears, Roebuck, had seen it a few years prior—not by analyzing data but rather by visiting and observing consumers in Mexico City, Lima, São Paulo, and Bogotá. Because of this, Sears started constructing American-style department stores in significant Latin American cities in the middle of the 1950s. These shops were intended for a new urban middle class that, while not "rich," was a member of the money economy and had middle-class aspirations. In a few of years, Sears rose to the top of the Latin American retail scene.

Here are two more instances of creatively using demographics to create a highly productive work force. Citibank's growth in New York is mostly due to its pioneering role in facilitating the entry of youthful, highly educated, and extremely indecisive women into the workforce. As late as 1980, most major American businesses still saw these women as a "problem." Almost alone among major companies, Citibank saw an opportunity in them. In the 1970s, it actively sought them out, trained them, and sent them around the nation to serve as loan officers. In significant part, these driven young ladies turned Citibank become the top bank in the country and its first really "national bank." Simultaneously, several savings and loan organizations came to the realization that senior married women who had previously left the workforce while their kids were little, made excellent employees when they return as part-time, permanent employees. It was common knowledge in the past that women who have left the labor field never return, and that part-timers are "temporary." These were both extremely reasonable regulations. However, demographics rendered them outdated. The desire to embrace this fact—and remember, this willingness came from searching for things rather than reading statistics—has given savings and loan organizations, especially in California, a very devoted and productive workforce. Club Mediterranée's triumph in the travel and resort industry may be attributed mostly to capitalizing on demographic shifts: a significant influx of well-educated, wealthy young individuals in Europe and the US who are still relatively close to their working-class roots. Their lack of confidence and self-assurance as tourists is evident in their eagerness to have someone with experience plan their travels, holidays, and fun. However, they also struggle to feel comfortable with older, middle-class or working-class individuals. They are thus ready-made customers for a fresh and "exotic" take on the beloved hangout for teenagers.

Population s is where demographic change analysis starts. However, the population's absolute number is the least important one. For example, age distribution is significantly more significant. What proved important in the 1960s was the sharp rise in youth population in the majority of industrialized non-Communist nations. It will be the decline in the number of young people, the steady rise in the number of individuals in their early to mid-middle years, and the very sharp rise in the number of elderly people in the 1980s and much more so in the 1990s. What prospects are presented by these developments? What expectations, values, needs, and desires do these different age groups have?

There is no way to expand the number of regular college students. The most that can be hoped for is that it won't plummet, and that the proportion of 18 and 19-year-olds who continue their education beyond secondary school will rise to the point where it balances out the decrease in the overall number. However, as the proportion of individuals in their mid-thirties and forties who graduated from college earlier rises, a sizable portion of the highly educated population will seek further professional training and retraining in order to pursue careers as doctors, lawyers, architects, engineers, executives, or educators. What are these individuals trying to

find? What is required of them? How are they going to pay? How can a regular institution draw in and fulfill the needs of so diverse students? And lastly, what are the needs, values, and desires of the elderly? Is there really just one "older group," or are there a number of them, each with its own requirements, values, expectations, and satisfactions? Changes in the center of population gravity, or the age group that makes up the biggest and fastest-growing age cohort in the population at any given period, are particularly significant in the age distribution and have the greatest predictive value.

The center of population gravity in the United States reached its highest position ever during the late 1950s, during the close of the Eisenhower administration. But there would inevitably be a drastic change in a few years. Due to the "baby boom," the center of gravity of the American population was projected to fall by 1965 to a position of sixteen or seventeen, the lowest since the early days of the Republic. It was predicted—indeed, everybody who looked at the s and took demography seriously predicted—that there would be a significant shift in values and attitude. The 1960s "youth rebellion" was really a focus shift toward what has long been considered normal teenage conduct. Adolescent behavior used to be written off as "boys being boys," with the center of population gravity in the late 20s and early 30s, age groups that are known for being quite conservative. It all of a sudden became the standard conduct in the 1960s.

However, the age pendulum had already sharply swung back when everyone was talking about a "permanent shift in values" or a "greening of America." The "baby bust" was starting to have an impact by 1969, and not only on the numbers. The last year when the sixteen- and seventeen-year-olds would make up the center of population gravity would be 1974 or 1975. Subsequently, the center would rise quickly, returning to the high twenties by the early 1980s. And along with this transformation would come an evolution in the conduct that was deemed "representative." Naturally, the teens would still act like teenagers. However, it would also be written off as the conduct of teens rather than as the guiding principles and standards of society. Therefore, it would be almost certain that by the mid-1970s, college campuses would no longer be "activist" or "rebellious," and students would once again be focused on their grades and careers. Additionally, the vast majority of the 1968 "dropouts" would have transformed into "upward-mobile professionals" ten years later, concerned with careers, advancement, tax shields, and stock options.

Partitioning the population based on educational attainment might be similarly, or even more, significant for certain purposes. Next are occupational segmentation and labor force participation. The distribution of income, particularly the distribution of disposable and discretionary income, comes last. For example, what happens to the two-earner family's tendency to save? Actually, the majority of the solutions are out there. They are the materials used in market analysis. Being willing to ask the questions is all that is required.

But it goes beyond just studying statistics. Indeed, statistics serve as the foundation. These were the ones that prompted Melville to inquire about the prospects presented by the adolescent population boom for a fashion business, or that led Sears, Roebuck's upper management to consider Latin America as a possible market. However, the managers of these businesses—or the leaders of large, urban universities like Golden Gate in San Francisco and Pace in New York—went out into the field to see and hear.

This is the exact way that Sears, Roebuck chose to enter the Latin American market. Robert E. Wood, the chairman of Sears, learned in the early 1950s that São Paulo and Mexico City were predicted to surpass all American cities in population by 1975. He was so captivated by this that he traveled to see the main cities in Latin America for himself. In Mexico City,

Guadalajara, Bogota, Lima, Santiago, Rio, São Paulo, and each of them, he walked about, saw shops, and observed traffic patterns for a week. He then understood who to target as a consumer, what sort of shop to construct, where to locate the stores, and what goods to put inside of them. In a similar vein, before opening their first resort, the founders of Club Mediterranée observed, conversed with, and listened to package tour customers. And the two young guys who transformed Melville Shoe from a dowdy, unremarkable shoe business into America's fastest-growing popular fashion store really spent weeks and months in malls observing, chatting with, and learning about the values of their patrons. They investigated young people's shopping habits, preferred environments, and what they deemed to be "value" in the goods they purchased.

CONCLUSION

Examining innovation and industry disruption via a variety of case studies reveals important guidelines for managing change and grasping possibilities. These examples highlight the significance of agility, foresight, and simplicity in innovation strategies, from the rise of discounters in the telecom industry to the convergence of technology in communication systems. Through the identification of changes in market dynamics and industry structures, innovators were able to carve out spaces and take on more established firms. Additionally, the report emphasizes how demographic shifts have a significant influence on market behaviors, underscoring the need for firms to anticipate and adjust to changing worker dynamics and customer preferences. The triumphs and setbacks of many entrepreneurs serve as evidence that those who ignore demographic changes run the danger of falling behind in quickly evolving marketplaces. To sum up, this research provides insightful information on the approaches and perspectives that foster effective innovation in the face of market upheaval. Businesses may position themselves to prosper in an ever-evolving world by understanding the factors affecting their surroundings and learning from the lessons of prior entrepreneurs. In the end, lasting success in an age of perpetual upheaval will depend on accepting change and actively looking for possibilities.

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CHAPTER 8

PERCEPTION-BASED INNOVATION: SEIZING OPPORTUNITIES THROUGH CHANGING PERSPECTIVES

Dr. Vijayalakshmi P, Associate Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- dr.vijayalakshmi@cms.ac.in

ABSTRACT:
The process of seizing opportunities through changing perspectives, is a dynamic phenomenon that shapes various aspects of society, from business to social dynamics. This abstract delves into the concept by examining examples across different domains, highlighting how shifts in perception can lead to innovative breakthroughs. Drawing from historical and contemporary contexts, the abstract emphasizes the importance of timing in perception-based innovation and explores the lead time required for knowledge to translate into tangible advancements. By recognizing the significance of changing perceptions and their impact on innovation, this abstract provides valuable insights into navigating and capitalizing on evolving societal perspectives. It emphasizes the critical role of timing in leveraging these opportunities and discusses the inherent lead time required for knowledge to evolve into actionable innovation. Understanding and navigating perception-based innovation can enable organizations and individuals to stay ahead of the curve and harness the potential of evolving societal perspectives.

KEYWORDS:

Creativity, Innovation, Perception, Problem-Solving, Psychology, Sensory.

INTRODUCTION

The health of Americans has improved and advanced in ways never seen before. All measures of physical health and functionality have been rising at a reasonable pace, regardless of whether we look at mortality rates for newborns or survival rates for the very elderly, incidence of tumors or rates of cancer cures, and so forth. And yet, a generalized hypochondria is rife across the country. There has never been such intense anxiety and worry over one's health. All of a sudden, it seems like everything might cause cancer, degenerative heart disease, or early memory loss. Clearly, the glass is "half empty." Instead of seeing significant advancements in health and functionality, what we see now is that we have made no progress toward immortality and are as distant from it as ever. It may be claimed that the intense concern with health and fitness, together with the fixation with aging, losing fitness, and degenerating into long-term disease or senility, are the true causes of the perceived decline in American health during the previous 20 years. Even modest advancements in the country's health were considered significant 25 years ago. Even significant improvements are now seldom acknowledged. Whatever the reasons for this shift in thinking, it has opened up a lot of new creative possibilities. For example, it opened up a market for new health-related journals; in only two years, American Health became available to one million readers. It made it possible for a sizable number of fresh and creative companies to take advantage of people's concern that eating certain traditional dishes might harm them permanently. One of the "flower children" of the late 1960s founded Celestial Seasonings, a Boulder, Colorado-based company that sold herbs on the street after gathering them from the mountains and packaged them. After fifteen years, Celestial Seasonings generated several hundred million dollars in sales annually and was acquired by a major food processing firm for a sum exceeding $20 million. Additionally, there

are quite professional chains of health food shops. The jogging equipment market has grown significantly, and in 1983 the United States' fastest-growing new firm was an indoor exercise equipment manufacturer. Historically, social status and financial level have had a significant impact on how individuals eat themselves. Rich folks "dined," whereas common ones "ate." In the past 20 years, this view has evolved. These individuals now "eat" and "dine." One trend is "feeding," which refers to providing the bare minimum of sustenance in the simplest and most convenient method possible. Examples of this include TV dinners, convenience meals, McDonald's hamburgers, Kentucky Fried Chicken, and so on. However, these same customers have also become into expert chefs. Gourmet chefs have become mass-market best-sellers, and whole new chains of gourmet food shops have arisen. Gourmet cooking-themed TV shows are very popular and get high ratings. Lastly, conventional supermarkets have developed "gourmet boutiques," which are often significantly more sophisticated than their typical processed-food business, despite the fact that they still conduct 90% of their business in goods for "feeding." By no means is this new perspective exclusive to the US. A young female physician from West Germany recently told me, "We only have six days a week, but one day we want to spend it right." Not very long ago, the activities of the ordinary people were considered "Essen" while those of the elite, wealthy, and nobility were considered "specimen" seven days a week [1], [2].

If someone had predicted the advancements African Americans would see over the following ten to fifteen years in 1960, at the end of the Eisenhower administration and the start of the Kennedy administration, they would have been written off as unrealistic idealists, if not mad. It would have been regarded wildly optimistic to even estimate half of the advances that the American black really recorded over those ten or fifteen years. Never before has a social group's position changed so drastically in such a short period of time in recorded history. Black students' engagement in post-secondary education at the start of those years was around one-fifth that of White students. It had surpassed that of several white ethnic groups and was on par with Whites by the early 1970s. Employment, salaries, and particularly entry into professional and management roles all advanced at the same pace. If someone had given the "negro problem" in America a heads-up twelve or fifteen years ago, they would have thought it was solved, or at least very close to being addressed [3], [4].

However, a sizable portion of the black community in America today, in the middle of the 1980s, perceives that the glass is still "half empty," not that it has become "half full." For a significant portion of American Blacks, in reality, feelings of alienation, rage, and frustration have grown rather than lessened. The inability of the remaining one-third of Black people to progress is what they perceive, rather than the accomplishments of the two-thirds of Black people who have entered the middle class in terms of economy and society. What people see is not the speed at which things have been progressing, but rather the amount of work that still has to be done, the difficulty and slowness of the process. The trade unions, the Jewish community, or academia—the traditional supporters of American Blacks and White Liberalism—see the advancements. It is evident to them that the glass is now "half full." The result has been a fundamental rift between black people and liberal organizations, which naturally only serves to confirm for black people that the glass is, in fact, "half empty. However, the white liberal has increasingly come to believe that black people are no longer "deprived," that they are not entitled to preferential treatment in the workplace or advancement, or any other kind of special treatment, including reverse discrimination. This gave the Reverend Jesse Jackson, a new breed of black leader, his chance. Historically, a black person could only rise to the position of community leader for nearly a century from Er T. Washington at the beginning of the century through Walter White during the New Deal era to Martin Luther King Jr. during the administrations of John Kennedy and Lyndon Johnson. For American Blacks, it

was the only path to gaining sufficient political clout to accomplish meaningful progress. Jesse Jackson recognized that the shift in attitudes that currently separates American Blacks from their former allies and comrades in arms, white liberals, presents a creative opportunity to forge a completely new kind of black leadership, one that is predicated on open hostility and even outright assault against them. It would have been political death in the past to sound as anti-liberal, anti-union, and anti-Jewish as Jackson has. It elevated Jackson to the position of unquestioned black community leader in the United States in a matter of weeks in 1984 [5], [6].

Modern American feminists see the 1930s and 1940s as the worst periods in history, when women were denied social roles. Nothing could truly be more ridiculous. First-class female stars dominated the American scene in the 1930s and 1940s. Eleanor Roosevelt was the first American president's wife to carve out a significant position for herself as a conscience and as the voice of compassion and principle that no other American man in our history has matched. Her friend Frances Perkins served as President Roosevelt's cabinet's strongest and most capable member and was the first American woman to hold the position of secretary of labor. As the nation's largest retailer at the time, R. H. Macy, Anna Rosenberg was the first woman to hold a senior executive position in a large firm. Later, during the Korean War, she rose to the position of Assistant Secretary of Defense for manpower, thus serving as the "boss" of the generals. Numerous powerful and well-known women held national office as presidents of universities and colleges. The two most prominent writers were women, Clare Booth Luce and Lillian Heliman. Clare Luce went on to become a prominent political figure, serving as a Connecticut representative in Congress and then as an ambassador to Italy. A woman's effort produced the most widely reported medical advancement of the time. The "blue baby" procedure, created by Helen Taussig, was the first successful operation on a living heart. It saved the lives of many children worldwide and marked the beginning of the era of cardiac surgery, which in turn led directly to the heart transplant and bypass surgery. Marian Anderson was a black singer who was the first to perform in every American living room via radio. She touched the hearts and consciences of millions of Americans in a way that no other black person had touched before, and no one else would touch them again until a quarter of a century later with Martin Luther King Jr. One could go on forever with this list. These were proud women, aware of their accomplishments, notoriety, and significance. However, they didn't consider themselves to be "role models." They considered themselves persons rather than ladies. They saw themselves as exceptional rather than "representative. I will leave the explanation of how and why the transition happened to historians of the future. However, it was about 1970 that these outstanding female leaders effectively stopped existing as "persons" in the eyes of their feminist successors. The woman who does not work in a typically "male" occupation or is not in the labor force is now seen as the exception rather than the rule. A few companies saw this as an opportunity, Citibank being among them. However, it was completely ignored by the very sectors of the economy—department shops, advertising agencies, magazines, and publishers—where women had long been regarded as professionals and executives. There are substantially fewer women in prominent positions now than there were thirty or forty years ago at these typical employers of professional and managerial women. Contrarily, Citibank was very masculine, which may have contributed to its realization that something had changed. It recognized that women had a significant chance to attract, acquire, and retain exceptionally talented, exceptionally ambitious, and exceptionally striving women in the new perception of themselves. Furthermore, it may do this without facing competition from conventional professional women recruiters. As we've seen, innovators who successfully capitalize on a shift in perception may often anticipate having the field to themselves for a considerable amount of time [7], [8].

DISCUSSION

An earlier example, from the early 1950s, also included a similar exploitation of a shift in perception. The majority of Americans started identifying as "middle-class" about 1950, and they did so almost independent of their income or line of work. It was obvious that Americans' perceptions of their own social status had shifted. What did the alteration signify, though? William Benton, an advertising professional, went out and asked individuals what they understood the term "middle class" to signify. The findings were clear: being "middle class" meant having faith in your children's potential to succeed academically, as opposed to being "working class." After that, Benton acquired the Encyclopedia Britannica firm and began marketing the Encyclopedia to parents whose children were the first in their family to graduate from high school, mostly via high school teachers. Benton turned around the almost dying firm in three years. "If you want to be "middle-class," the salesperson effectively stated, "Your kid needs to have the Encyclopedia Britannica to perform well in school." And 10 years later, the business started using the exact same approach in Japan for the same objectives and with the same level of success.

Unexpected success or failure is often a sign of a shift in understanding and interpretation. Customers now perceive the automobile industry to be divided into "lifestyles" rather than economic divisions, as it was just a few years ago. The facts remain the same when there is a shift in perspective. Their significance does. From viewing oneself as "working-class" and thus born into one's "station in life," to viewing oneself as "middle-class" and thus very much in command of one's social position and economic opportunities, the meaning shifts from "The glass is half full" to "The glass is half empty." This shift might occur quickly. The majority of Americans most likely changed their self-perception from "working-class" to "middle-class" in less than ten years. These shifts are not always dictated by economic factors; in fact, they may not even be significant. Great Britain is a more equitable nation than the US in terms of income distribution. Even though at least two-thirds of British people earn more than the "working-class" income by economic standards alone, and almost half of them are also above the "lower middle class," over 70% of British people still identify as belonging to the working class. Mood, not facts, is what decides whether the glass is "half full" or "half empty." The "existential" experiences that lead to the feeling that "the glass is half empty" among African Americans have as much to do with unresolved historical traumas as they do with current issues in American culture. The nineteenth-century divide between "church" and "chapel," which still heavily influences the majority of English people's perception of themselves as "working-class," is also largely responsible for the American health hypochondria, which expresses more American values than anything found in health statistics, such as the worship of youth. It doesn't matter whether sociologists or economics can explain the phenomena of perception. It is still true. It is often impossible to quantify, or if it is, it is usually too late to provide a chance for innovation. However, it is neither intangible nor strange. It is measurable, testable, and most importantly, tangible [9], [10].

The timing issue

Administrators and executives acknowledge the power of perception-based innovation. However, they prefer to avoid it since they see it as "not practical" and think the perception-based inventor is strange or insane. However, there is nothing peculiar about Celestial Seasonings, the Ford Thunderbird, or the Encyclopedia Britannica. Naturally, those who are successful innovators in any subject are often associated with that field. However, their ability to see opportunities is the only thing that makes them unique. A young guy who began his career as the food editor of an airline magazine went on to develop one of the most prestigious gourmet publications of today. When he saw three items that contradicted one another in the

same Sunday newspaper, he became aware of the shift in perspective. According to the first, prepared foods like TV dinners, freezer dinners, and Kentucky Fried Chicken made up more over half of all meals eaten in the US and were predicted to do so within a few years, making up three-quarters. According to the second, one of the top audience ratings was being given to a TV show on gourmet cookery. And the third, written by a gourmet chef, shot to the top of the best-seller charts in its paperback form—that is, an edition intended for a wider audience. He wondered, "What's going on here?" in light of these seeming conflicts. After a year, he launched a gourmet magazine that was quite different from any other that had ever been available.

When college recruiters at Citibank reported that they were unable to fulfill their mandate to employ the top male business school students in finance and marketing, the company saw the potential that the entry of women into the workforce presented. They stated that more and more women were among the top pupils in these professions. At that time, college recruiters informed management of many other companies—including a number of banks—the same narrative. Most were told to "just try harder to get the top-flight men" in response. At Citibank, senior management seized the opportunity presented by the shift and took appropriate action. However, each of these instances also demonstrates the crucial issue with perception-based innovation, which is time. Ford may have lost the "lifestyle" market to GM's Pontiac if it had waited just a year after the Edsel debacle. Had Citibank not been the pioneer in hiring female MBAs, it would not have emerged as the top choice for the brightest and most driven young women hoping to pursue careers in business.

However, nothing is riskier than jumping the gun and taking advantage of a shift in perspective. First of all, a significant portion of apparent shifts in perception are really passing fads. In a year or two, they vanish. Furthermore, it's not always clear what constitutes a real shift versus a fad. It was a craze, these youngsters playing computer games. Businesses that, like Atari, experienced a shift in attitude from them persisted for one or two years before failing. But their dads' purchase of personal computers marked a real shift. Furthermore, it is very difficult to foresee the outcomes of a shift in perspective of this kind. The fallout from the student uprisings in West Germany, France, Japan, and the US is a prime example. By the late 1960s, everyone was certain that these would have far-reaching and long-lasting effects. However, what are they? Regarding the universities, it seems that the student uprisings have had little enduring influence. Who would have thought that the disobedient students of 1968 would have evolved into the "Yuppies," the young, upwardly mobile professionals who were job-conscious, ultra-materialistic, and always vying for promotions, to whom Senator Hart appealed in the 1984 American primary, fifteen years later? The media's focus on "dropouts" is the only thing that has changed, other than the fact that there are really significantly less of them than there formerly were. Is the student uprising the only reason why gays and lesbians are coming into the open? These outcomes were undoubtedly not what the 1968 students could have expected, nor could any of the commentators and watchers of the time. However, there's not much time to spare. It is unsuccessful to use "creative imitation" to take advantage of shifts in perception. One must come first. Perception-based innovation, however, must start small and be extremely particular precisely because it is so difficult to determine if a shift in perception is a passing trend or permanent, as well as what the true repercussions will be. In entrepreneurship, knowledge-based innovation is the "super-star." It receives media attention. It receives the funds. That's what most people mean when they discuss innovation. Naturally, not every invention based on knowledge is significant. Some are really insignificant. However, knowledge-based breakthroughs are highly regarded among the innovations that make history. However, the information isn't always technological or scientific. Knowledge-based social innovations may have just as much, if not more, of an influence. Basic features of knowledge-based innovation include time span, fatality rate, predictability, and obstacles to the

entrepreneur that set it apart from all other types of innovation. Furthermore, knowledge-based innovation is erratic, unpredictable, and challenging to control, much like most "super-stars [11], [12].

The traits of creativity based on knowledge

Out of all the innovations, knowledge-based innovation has the longest lead time. First of all, there is a considerable lag between the creation of new information and its technological application. Prior to the new technology being implemented into goods, procedures, or services for the market, there is still a protracted waiting time. The principle of chemotherapy, which involves using chemical substances to inhibit pathogenic germs, was established by scientist Paul Ehrlich between 1907 and 1910. He was the one who created Salvarsan, the first antibacterial medication used to treat syphilis.

The sulfa medications, which are Ehrlich's chemotherapy applied to the management of a wide range of bacterial illnesses, were introduced to the market 25 years after 1936. In 1897, Rudolph Diesel created the engine that is now named after him. Everyone recognized right once that this was a significant invention. Nevertheless, there weren't many real-world uses for many years. Then, in 1935, an American named Charles Kettering completely revamped Diesel's engine, making it suitable for use as a propulsion system in a variety of vehicles, including passenger cars, trucks, buses, and locomotives.

The computer is the result of several different fields of expertise coming together. The first was the binary theorem, a seventeenth-century mathematical theory that allows every number to be stated using only two numbers: one and zero. In the first portion of the 1800s, Charles Babbage implemented it on a computing device. The punch card was created in 1890 by Hermann Hollerith, who traced its origins to J-M. Jacquard, a French inventor from the early nineteenth century. Punch cards allow numbers to be converted into "instructions." In 1906, Lee de Forest, an American, devised the audion tube, which led to the development of electronics. Then, in their Principia Mathematica, Bertrand Russell and Alfred North Whitehead developed symbolic logic between 1910 and 1913, allowing us to describe every logical idea as a number. Lastly, the ideas of feedback and programming were established during World War I, mainly for antiaircraft gunnery. Put otherwise, by 1918, all the information required to create the computer was accessible. In 1946, the first computer went online. In 1951, a manufacturing executive at Ford Motor Company first used the term "automation" and went into great detail about what automation would entail for the whole production process. For twenty-five years, "robotics" and industrial automation were hot topics, but not much really transpired during that period. at Japan, robots were first used at Nissan and Toyota factories in 1978. In Erie, Pennsylvania, General Electric constructed an automated locomotive facility around the beginning of the 1980s. At that point, General Motors started automating a number of its accessory and engine factories. Volkswagen started using its "Hall 54" as a nearly fully automated production facility from the beginning of 1985.

half mathematician, half philosopher, and self-described geometer, Buckminster Fuller used topology and mathematics to construct what he termed the "Dymaxion House"—a name he came up with because it sounded good. The Dymaxion House blends the most amount of living space with the least amount of surface area. As a result, it offers excellent acoustics, efficient heating and cooling, and ideal insulation. It may also be constructed using lightweight materials, need no foundation, have very little suspension, and endure even the worst gale or earthquake. Approximately in 1940, Fuller built a Dymaxion House on a tiny New England college's campus. And it remained there. There aren't many Dymaxion Houses in existence since Americans don't seem to appreciate living in circular structures. However, from 1965,

Dymaxion buildings started to be built in the Arctic and Antarctic, where traditional constructions are impractical, costly, and challenging to construct. Since then, they have been used for bigger constructions like sports stadiums, music tents, auditoriums, and so on.

Its lead time can only be shortened by significant external crises. Although De Forest's 1906 audion tube would have made radio possible almost instantly, it wouldn't have gone on sale until the late 1930s or so if World War I hadn't pushed governments—especially the American government—to advance the development of wireless sound transmission. Wireless telegraphy was limited to dots and dashes, and field telephones linked by cables were just too erratic. Thus, radio was introduced to the public in the early 1920s, a mere fifteen years after the development of the underlying body of knowledge.

Similar to this, if not for World War II, penicillin might not have been discovered until the 1950s or later. In the mid-1920s, Alexander Fleming discovered penicillium, a mold that kills germs. Ten years later, English scientist Howard Florey started working on it. However, World War II was the driving cause for penicillin's early adoption.

The British government encouraged Florey's study because they needed a strong medication to combat infections, and they provided him with English troops to use as test subjects wherever they fought. If the Second World War had not forced the American government to push computer development and dedicate significant financial and human resources to the field, computers too would have likely had to wait until the 1947 discovery of the transistor by Bell Lab researchers.

Science and technology are by no means the only fields where knowledge-based breakthroughs take a long time to develop. It holds true for innovations based on both nontechnological and nonscientific knowledge. Following the Napoleonic Wars, the Comte de Saint-Simon formulated the notion of the entrepreneurial bank, which involves the deliberate use of money to foster economic growth. Before then, bankers were lenders of money, making loans secured by "security." The task assigned to Saint-Simon's banker was to "invest," or develop fresh potential for generating riches. During his extraordinary popularity in his day, Saint-Simon's ideas and memory became the center of a popular cult after his death in 1826. However, it wasn't until 1852 that two of his pupils, the brothers Jacob and Isaac Pereire, founded the Credit Mobilier, the first entrepreneurial bank, which helped to develop the modern concept of finance capitalism. Similar to this, many of the components required for what we now refer to as management were available immediately following World War I. In fact, the first International Management Congress was convened in Prague in 1923 by Thomas Masaryk, the president of Czechoslovakia, and Herbert Hoover, the soon-to-be US president. Around the same time, a few big businesses started to rearrange themselves in accordance with the new management theories. In the US, this included DuPont and General Motors. A few "true believers," notably an Englishman named Lyndall Urwick, who founded the first management consulting business that carries his name, started writing management books in the next ten years. However, management did not become a discipline that was available to managers everywhere until my Concept of the Corporation and Practice of Management were published. Up until that point, every learner or "management" practitioner concentrated on a different topic; Urwick studied organization, others studied people management, and so on. It was systematized, structured, and codified by my s. In a few of years, management spread over the globe.

We still go through a similar lead period when it comes to studying theory nowadays. Around 1890, Wilhelm Wundt in Germany and William James in the US launched the scientific study of learning. Following WWII, two U.S. citizens B. Basic theories of learning were established and tested by Harvard professors F. Skinner and Jerome Bruner, with Skinner concentrating in

behavior and Bruner in cognition. However, learning theory is only now starting to play a role in our educational system. Maybe the time has come for an entrepreneur to open schools based not on the old wives' stories that have been passed down through the decades, but on what we really know about learning.

Put another way, it takes between twenty-five and thirty-five years for knowledge to become relevant technology and start to be recognized on the market. Throughout documented history, not much has changed in this regard. It is generally accepted that scientific discoveries are transformed into technology, goods, and procedures now much more quickly than they were in the past. However, much of this is a delusion. In the year 1250, Roger Bacon, an English Franciscan friar, demonstrated that ocular refractive abnormalities could be rectified by the use of spectacles. This contradicted what everyone at the time knew: the renowned medical expert Galen's "proven conclusively" that it could not be done, according to the "infallible" authority of the Middle Ages. In the untamed regions of northern Yorkshire, Roger Bacon lived and worked at the very edge of civilization. However, a fresco depicting senior cardinals using reading glasses was painted at the Palace of the Popes in Avignon thirty years later. Similarly, miniatures depicting elderly courtiers in the Sultan's Palace in Cairo 10 years later also include the elderly wearing spectacles. Around the year 1000, Benedictine monks in northern Europe invented the mill race, the first real "automation," to grind grain. Within thirty years, the invention had spread across all of Europe. The woodcut and moveable type were created by Gutenberg within thirty years of the West learning about Chinese printing. It seems that information has an innate lead time before it may be used to inform knowledge-based innovation. We're not sure why. However, the fact that new scientific theories follow the same lead time may not be a coincidence. In his seminal book The Structure of Scientific Revolutions, Thomas Kuhn demonstrated that new scientific theories often take thirty years to mature into new paradigms, or new claims that scientists take seriously and apply to their own research.

Convergence

The second, and most distinctive, feature of knowledge-based breakthroughs is that they are virtually never founded on a single component, but rather on the convergence of several types of information, not all of which are technical or scientific.

The hybridization of crops and animals is among the few knowledge-based breakthroughs of this century that have been more beneficial to mankind. It makes it feasible for the planet to feed a lot more people than anybody could have imagined fifty years ago. Hybrid corn was the first new seed to be successful. After twenty years of arduous labor, it was developed by Henry C. Wallace, an Iowan farm newspaper owner and later U.S. Under Harding and Coolidge, the only person to occupy this position and maybe deserve to be recognized for anything other than handing out money was the Secretary of Agriculture. Two sources of information inform hybrid corn. One was the work of William J. Beal, a Michigan plant breeder, who found hybrid vigor about 1880. The other was the Dutch researcher Hugo de Vries' rediscovery of Mendel's genetics. The guys were strangers to one another. Their art differed greatly in both purpose and subject matter. However, developing hybrid corn would require bringing everything together.

CONCLUSION

Perception-based innovation is a potent strategy for negotiating the intricacies of our quickly changing global environment. Through acknowledging that innovation encompasses not just ground-breaking technologies or revolutionary concepts but also altering viewpoints and questioning preconceived notions, people and institutions may open new avenues and capitalize on chances that would otherwise go overlooked. By accepting other points of view,

developing empathy, and encouraging a culture of inquiry and experimentation, we can use perception to effect significant change and provide answers to the complex problems of our day. As we go on our innovation journey, let's keep in mind that the most revolutionary discoveries often result from our perspective rather than from what we really see. We may steer toward a future characterized by innovation, resilience, and good effect by adopting an open and flexible mentality.

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CHAPTER 9

DYNAMICS OF KNOWLEDGE-BASED INNOVATION: UNDERSTANDING CONVERGENCE AND TIMING

Dr. Kumar Mukul, Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- dr.kumar_mukul@cms.ac.in

ABSTRACT:
The intricate dynamics of knowledge-based innovation, focusing on the crucial elements of convergence and timing. Through historical examples spanning various industries such as aviation, computing, banking, media, and materials science, the study highlights how successful innovations often arise from the convergence of diverse knowledge bases. Drawing on case studies like the development of the airplane, computer, entrepreneurial banking, modern newspapers, and plastics, the paper elucidates how innovations emerge when disparate knowledge domains intersect. Moreover, it underscores the significance of timing, illustrating how innovations may remain dormant until all necessary knowledge components are available. The analysis reveals that meticulous analysis, clear strategic focus, and entrepreneurial management are imperative for mitigating the inherent risks associated with knowledge-based innovation. By examining the rise and fall of numerous industries and companies, the study emphasizes the critical role of foresight, market orientation, and adaptability in navigating the turbulent landscape of knowledge-based innovation. Ultimately, this research provides valuable insights into the complex interplay of factors that underpin successful innovation endeavors.

KEYWORDS:

Creativity, Innovation, Knowledge, Learning, Market.

INTRODUCTION

There were two knowledge bases for the Wright Brothers' aircraft as well. The first was the gasoline engine, which was created in the middle of the 1880s by Karl Benz and Gottfried Daimler, respectively, to power their respective first cars. Aerodynamics, which was mostly established via glider experiments, was the other one that was mathematical. Every one of them evolved rather independently.

The aircraft was only made feasible by their combined efforts. As previously said, the creation of the computer required the convergence of no less than five distinct bodies of knowledge: the audion tube, a scientific breakthrough; the binary theorem, a significant mathematical discovery; novel logic; the punchcard design idea; and the notions of programming and feedback. It was not possible to build a computer until all of these were accessible.

The English scientist Charles Babbage is sometimes referred to as the "father of the computer." It is stated that Babbage's inability to create a computer was due only to the lack of electric power and the appropriate metals at the time. However, this is a misinterpretation. Babbage could only have created the mechanical calculator that we now refer to as a cash register if he had the right tools. Babbage could only see a computer in the absence of logic, the punch card design idea, program, and feedback all of which he lacked. The first entrepreneurial bank was established in 1852 by the Brothers Pereire. Due to their lack of two knowledge bases—an entrepreneurial bank requires two it collapsed in a matter of years. They were exceptional venture investors because they had a theory of creative finance. However, they lacked the

British's systematic banking expertise, which was created at precisely the same period over the Channel and documented in Walter Bagehot's seminal work, Lombard Street [1], [2].

Following the Brothers Pereire's failure in the early 1860s, three young men independently continued where they left off, incorporating banking expertise into the venture capital idea, and ultimately succeeding. The first was J. P. Morgan, who studied the Pereires' Crédit Mobilier in great detail in addition to receiving his training in London. In 1865, he established the most prosperous bank for entrepreneurs in the 19th century in New York. The second bank was created by young German Georg Siemens across the Rhine. By "Universal Bank," he intended a bank that combined the features of an entrepreneurial Pereires-style business with a British deposit bank. Another young man, Shibusawa Eichii, who had been among the first Japanese to visit Europe to study banking firsthand and had lived in both Paris and London's Lombard Street, established a Japanese branch of the Universal Bank in distant Tokyo, going on to become one of the pioneers of the modern Japanese economy. The biggest banks in their respective nations are still Shibusawa's Daichi Bank and Siemens's Deutsche Bank [3], [4].

American James Gordon Bennett, the founder of the New York Herald, was the first person to envision the contemporary newspaper. Bennett was well aware of the issues: A newspaper needed to be both inexpensive enough to be widely distributed and earn enough money to maintain editorial independence. Earlier publications, like the majority of American and almost all European journals of his day, either made their money by surrendering their independence and turning into the pawns or hired propagandists of a political group. Alternatively, they were "written by gentlemen for gentlemen," but only a select few could afford them because to their high cost, much as the renowned aristocrat of the day, The Times of London.

Bennett skillfully took use of the two technical know-hows—high-speed printing and the telegraph that form the foundation of a contemporary newspaper. They made it possible for him to create a paper at a fraction of the usual price. Even though high-speed typesetting had not been developed until after his passing, he was aware that he required it. Additionally, he recognized mass literacy as one of the two non-scientific foundations that enabled widespread distribution of an inexpensive newspaper. However, he overlooked the fifth fundamental element: widespread advertising as the revenue stream that enables editorial independence. Bennett was the first of the press lords and individually had great success. However, neither financial stability nor leadership were attained by his journal. Only two decades later, around 1890, were these goals accomplished by three men who understood and took advantage of advertising: Joseph Pulitzer, who worked in both St. Louis and New York; Adolph Ochs, who revived the New York Times and turned it into the country's most influential newspaper; and William Randolph Hearst, who created the modern newspaper chain [5], [6].

DISCUSSION

The development of many distinct new body of knowledge, each appearing around 1910, came together to provide the foundation for the discovery of plastics, starting with nylon. One was organic chemistry, which was developed by the Germans and influenced by the Belgian Leo Baekeland, who lived and worked in New York; other innovations included high-vacuum technology and X-ray diffraction, which helped to comprehend the structure of crystals. The strain of World War I shortages was the last element, which led the German government to substantially engage in polymerization research in an effort to find a rubber alternative. However, it took a further twenty years for Nylon to be prepared for sale.

Innovation based on knowledge is premature and will not succeed until all necessary information is available. Most of the time, innovation only happens when these different components are already understood, accessible, and being used in some capacity. This was the

situation with the 1865–1875 Universal Bank. As was the case with the computer after World War II, an inventor might sometimes locate the missing components and go about creating them. Modern advertising was primarily developed by Adolph Ochs, William Randolph Hearst, and Joseph Pulitzer. The combination of information and advertising in "mass communications" is what we now refer to as media. The Wright Brothers identified the knowledge gaps, primarily in mathematics, and developed the missing pieces by constructing a wind tunnel and conducting empirical tests of mathematical theories. However, an invention based on knowledge will not succeed until all the necessary information is gathered. It is going to stay stillborn [7], [8].

For example, Samuel Langley was a considerably better qualified scientist than the Wright Brothers and was anticipated by his peers to be the creator of the aircraft. He also had complete access to all of the country's scientific resources since he served as secretary of the Smithsonian, Washington, which at the time was the country's preeminent scientific organization. However, Langley chose to disregard the fact that the gasoline engine had already been developed by the time he lived. He was a steam engine believer. His aircraft could now fly, but it was unable to support a pilot or any other load due to the weight of the steam engine. To produce the aircraft, mathematics and a gasoline engine had to come together. In fact, the lead time of a knowledge-based innovation often doesn't even start until all the knowledge's converge.

Knowledge-based innovation has special needs due to its nature. And they are not the same needs as any other kind of innovation. First and foremost, knowledge-based innovation requires a thorough examination of all relevant elements, including knowledge itself as well as social, economic, and perceptual aspects. In order for the entrepreneur to determine whether these missing components can be produced—as the Wright Brothers determined with regard to the missing mathematics—or if the invention would be better served by being delayed as not yet viable, the analysis must determine which variables are now unavailable. The Wright Brothers are the perfect example of the approach. They carefully considered what information would be required to construct an aircraft that could be piloted by humans. After that, they went about creating the necessary knowledge by taking the existing data and testing it theoretically, in a wind tunnel, and finally in real flight experiments. Eventually, they had the mathematics required to build ailerons, form wings, and other devices. For knowledge-based innovation that is not technical, the same examination is required. Georg Siemens and J. P. Morgan did not publish their studies; however, Shibusawa in Japan did. We thus know that he carefully considered the information required and accessible before deciding to launch a bank instead of pursuing a bright government position. In a similar vein, Joseph Pulitzer determined that advertising had to be developed and could be invented after carefully examining the information required to establish what would become the first modern newspaper [9], [10].

To add a personal perspective, an analogous study from the early 1940s served as the foundation for my own success as an inventor in the area of management. Many of the necessary knowledge elements were already in place, such as organization theory and a good deal of information about work and worker management. However, my investigation also revealed that these fragments were dispersed and categorized into six different fields of study. Next, it determined which crucial pieces of information were lacking: the goal of a company; any understanding of the duties and organizational structure of upper management; what we now refer to as "business policy" and "strategy"; targets; and so on. I concluded that all of the knowledge that was lacking could be generated. However, I would never have known what they were or that they were absent if such analysis had not been done. Ignoring to do such an examination is a near-certain recipe for catastrophe. That is, either knowledge-based innovation

fails, as was the case with Samuel Langley. Alternatively, the creative person fails to reap the benefits of their invention and just creates a chance for someone else. The British inability to profit from their own knowledge-based inventions is especially illuminating.

Penicillin was first discovered and developed by the British, but it was eventually adopted by the Americans. The technical work done by the British scientists was excellent. They produced the appropriate materials for the appropriate purposes. However, they overlooked the fact that the capacity to produce the material was a crucial piece of information. They didn't even attempt to get the fermentation technology expertise they might have. Consequently, a little American business called Pfizer set out to further our understanding of fermentation and grew to become the leading producer of penicillin worldwide. In a similar vein, the first passenger jet aircraft was imagined, created, and constructed by the British. However, the British corporation de Havilland failed to analyze the necessary elements and as a result, failed to recognize two crucial components. One was configuration, or matching the correct size and cargo to the routes where a jet would be most advantageous to an airline. The other was as unremarkable: how would the airlines pay for such a costly plane? Due to de Havilland's inability to do the necessary study, the project was taken up by Boeing and Douglas, two American businesses. Furthermore, de Havilland has long ago vanished [11], [12].

Even though this kind of analysis seems quite straightforward, scientific or technological innovators seldom ever perform it. Precisely because they believe they already know, scientists and technologists are hesitant to undertake these assessments. This explains why the father of many of the major knowledge-based discoveries has been a layperson, or at least their godfather, rather than a scientist or technology. A financial guy is significantly responsible for the creation of the General Electric Company. He devised the plan that turned G.E. the top provider of big steam turbines worldwide, and therefore the top supplier to generators of electric power. In a similar vein, IBM became the industry leader in computers thanks to two laymen, Thomas Watson, Sr. and his son Thomas Watson, Jr. The chemists who created the technology at DuPont did not analyze what was required to make the knowledge-based invention of Nylon effective and successful; instead, business executives on the executive committee did so. And under the direction of marketing professionals who knew what the public and airlines required, Boeing rose to become the world's top manufacturer of jet aircraft.

But this is not a natural rule. It mostly comes down to willpower and self-control. Many scientists and technologists have made themselves consider what their knowledge-based invention needs; Edison is one such example. A distinct emphasis on the strategic position is the second need for knowledge-based innovation. It can't be presented in a tentative manner. The inventor must do it right the first time because the presentation of the idea generates excitement and draws a large crowd. It's doubtful that he'll receive another opportunity. In every previous invention that has been covered so far, the inventor may anticipate being left alone for a considerable amount of time when his idea is successful. With regard to knowledge-based innovation, this is untrue. Here, the inventors have considerably more company than they want practically quickly. It takes them only one misstep to be overwhelmed.

The three main areas of knowledge-based innovation are essentially limited to this. Initially, Edwin Land's goal with Polaroid was to create a comprehensive system that would eventually rule the industry. This is precisely what IBM did in its early years when it decided to lease computers to its clients instead of selling them. It provided them with programming, programming teaching, computer language instruction for programmers, computer usage instruction for client executives, and software that was readily accessible. Also, this was what G.E. accomplished in the early years of this century when it became the pioneer in the knowledge-based innovation of massive steam turbines. A focus on the market is the second

obvious emphasis. One goal of knowledge-based innovation is to develop a market for its goods. DuPont used Nylon in this way. It did not "sell" nylon; instead, it developed a consumer market for nylon-based women's hosiery and undergarments, a market for nylon-based car tires, and so forth. After that, it supplied Nylon to the manufacturers so they could produce the goods for which DuPont had already generated demand and had, in a sense, already sold. In a similar vein, aluminum created a market for pots and pans, rods, and other aluminum extrusions from the start, after Charles M. Hall's creation of the aluminum reduction process in 1888. The aluminum firm was responsible for producing and marketing these finished goods. It established the market, discouraging any rivals in the process.

Taking up a strategic position and focusing on a vital role is the third goal. In what way would the knowledge innovator be able to avoid most of the severe complexities of a knowledge-based sector in its early stages? After giving this some thought, Pfizer in the US decided to focus on perfecting the fermentation process, which allowed them to gain the early advantage in penicillin that they have kept ever since. Boeing gained the lead in passenger jets, which it has maintained ever since, by concentrating on marketing and mastering the demands of airlines and the general public with regard to configuration and financing. Additionally, despite the current turmoil in the computer business, a small number of top producers of semiconductors—the essential component of computers are able to hold onto their market dominance almost independent of what happens to individual computer makers. Intel is one such.

Knowledge-based innovators may have to choose between these options even within the same sector. When DuPont, for example, chooses to establish markets, Dow Chemical, its nearest American rival, attempts to hold a prominent position in each market segment. One century before, J. P. Morgan chose the method based on core functions. He founded his bank to act as a middleman for European investment funds in American business, particularly in a nation lacking in money. At the same time, the systems approach was adopted by Shibusawa Eichii in Japan and Georg Siemens in Germany.

The success of Edison serves as an example of the value of having a focused focus. It wasn't only Edison who realized what innovations were needed to make a lightbulb. Joseph Swan, an English physician, also accomplished this. Swan and Edison both invented light bulbs at precisely the same time. Because of Swan's bulb's better technical design, Edison purchased the Swan patents and used them in his own light bulb manufacturing facilities. However, Edison considered his attention in addition to the technical needs. His light bulb was made to fit an electric power company for which he had secured financing, the rights to string wires to deliver power to his light bulb customers, and the distribution system, all before he even started the technical work on the glass envelope, the vacuum, the closure, and the glowing fiber. Edison created an industry, whereas Swan, the scientist, created a product. So while Swan was still attempting to find someone who would be interested in his technical breakthrough, Edison could sell and install electric power. The knowledge-based innovator must choose a distinct area of concentration. It is true that all three of the above are very dangerous. However, attempting more than one emphasis or trying to be in between is considerably riskier than failing to choose a distinct concentration. It's probably going to be lethal.

Lastly, the knowledge-based innovator has to study and put entrepreneurial management into practice, particularly if their idea is founded on scientific or technical expertise. To be more precise, knowledge-based innovation depends more on entrepreneurial management than any other kind. Because of its high risks, it places a greater emphasis on having good financial and management foresight as well as being motivated and market-focused. But innovation that is knowledge-based, particularly high-tech innovation, often lacks entrepreneurial management.

The high number of casualties in the knowledge-based economy may be attributed mostly to the knowledge-based entrepreneurs, particularly those in the high-tech sector. They often treat everything that is not "advanced knowledge" with disdain, especially those who are not experts in their field. They are often enamored with their own technology and mistakenly think that "quality" refers to technical prowess rather than usefulness for the consumer. In this way, they are still primarily innovators from the nineteenth century rather than businesspeople from the twentieth. In reality, there are enough businesses operating today to demonstrate that, with careful application of entrepreneurial management, the risk associated with knowledge-based innovation including high tech—can be significantly decreased. Hewlett-Packard, Intel, and the Swiss pharmaceutical business Hoffmann-LaRoche are a few more examples. Because knowledge-based innovation has such significant inherent risks, entrepreneurial management is very important and successful.

The particular dangers

Knowledge-based innovation nonetheless faces special dangers and, worse, inherent unpredictability even when it is founded on painstaking analysis, given a clear purpose, and diligently controlled. First of all, it is tumultuous by nature. The distinct rhythm of knowledge-based innovations stems from the confluence of two of its characteristics: extended lead periods and convergences. There has been talk for a while about an impending invention, but it never materializes. Abruptly, there's a near-explosion, which is followed by a few brief years of intense hype, a flurry of startup activity, and extensive media coverage. A "shakeout" occurs five years later, of which few make it out.

The first dynamo, or predecessor of the electrical motor, was designed in 1856 by Werner Siemens in Germany using electrical theories that Michael Faraday had established in 1830. It made headlines all across the globe. From that point on, it was inevitable that a "electrical industry" would emerge and that it would be significant. Many scientists and innovators started working. But for twenty-two years, nothing took place. The elaboration of Faraday's ideas by Maxwell was the knowledge that was lacking.

When Edison created the light bulb in 1878 and it became widely accessible, the competition began. All of the main electrical equipment manufacturers in Europe and America were established in the next five years. In Germany, Siemens acquired Schuckert, a modest electrical apparatus manufacturer. On the foundation of Edison's work, the General Electric Company, or AEG, was established. There emerged in the US what are now known as G.E. and Westinghouse; Brown Boveri existed in Switzerland; ASEA was established in Sweden in 1884. However, these few are the remnants of a hundred such businesses—American, British, French, German, Italian, Spanish, Dutch, Belgian, Swiss, Austrian, Czech, Hungarian, and so forth—all of which were eagerly funded by the investors of the day and all of which anticipated to become "billion-dollar companies." This surge in the electrical apparatus business was what sparked the first major science-fiction boom, making Jules Verne and H. C. Wells writers who have sold millions of copies worldwide. But by 1895–1900, the majority of these businesses had already vanished—either via bankruptcy, going out of business, or being absorbed by the few that remained. In the United States alone, there were as many as 200 automotive companies in 1910. Their numbers had dropped to twenty by the early 1930s and to four by 1960.

Hundreds upon hundreds of businesses were producing radio sets and setting up radio stations throughout the 1920s. By 1935, just twelve radio set makers remained, and three "networks" had taken over control of transmission. Once again, the number of newspapers created between 1880 and 1900 increased dramatically. Newspapers were really one of the main "growth industries" during the period. Every major nation's newspaper population has been

progressively declining since World War I. Likewise, this is true for banking. Following the founders, the Morgans, Siemens, and Shibusawa families, there was an almost meteoric rise in the number of new banks in both Europe and the US. However, barely twenty years later, around 1890, consolidation began. Banks started to combine or fall out of business. Only a small number of banks—whether commercial or private banks that were more significant than local ones remained after the conclusion of World War II in every major nation. However, the firm that has survived each time is the one that was founded during the first phase of exponential growth. For all intents and purposes, admittance into the sector is closed beyond that time.

In each new knowledge-based sector, there is a "window" of a few years that a new enterprise must establish itself. Nowadays, it's generally accepted that the "window" has shrunk. However, this is just as false as the widespread assumption that there is now less of a wait between the creation of new information and its application to technologies, goods, and procedures.

Almost a hundred railroad firms were founded in England in the few years after the first train on a commercial railroad being pushed by George Stephenson's "Rocket" in 1830. The speculative frenzy of the ten years when railroads were "high-tech" and railroad entrepreneurs "media events" is sharply satirized in Dickens's book Little Dorrit; it was not that unlike from the speculative fever of Silicon Valley today. However, the "window" suddenly closed in 1845. After then, England ran out of money to build new railroads. The roughly one hundred English railroad businesses in 1845 had decreased to five or six fifty years later. The industries that produced electrical apparatuses, telephones, cars, chemicals, home appliances, and consumer electronics all followed this similar pattern. The "window" has never been very lengthy or broad.

However, it is undeniable that the "window" is becoming more congested in the modern day. The 1830s railroad boom was exclusive to England; thereafter, each nation saw a local boom that was distinct from the previous one in the surrounding nation. Both the electrical device boom and the vehicle boom, which occurred 25 years later, had already transcended national boundaries. However, both were restricted to the industrially advanced nations at the time. However, the definition of "industrially developed" nowadays is rather broader. Japan is included, for example. Brazil is included. Singapore, Taiwan, and Hong Kong, three non-Communist Chinese regions, may soon be included. These days, communication is almost immediate, and travel is simple and quick. Furthermore, many nations now possess what a very tiny number of isolated areas had only a century ago: sizable pools of highly skilled laborers ready to start working in any field involving knowledge-based innovation, particularly that involving science or technology. There are two significant consequences to these data.

First, inventors who focus on science and technology equally realize that time is against them. Time is on the innovator's side in any innovation based on any other source, including the unexpected, incongruities, process necessity, and changes in industry structure, demography, or shifts in perception. Innovation leaders may fairly anticipate being left alone in any other kind of innovation. They should have enough time to fix any mistakes they make. Additionally, they have many windows of opportunity to start their new business. This isn't the case for knowledge-based innovation, particularly when it comes to inventions built on technical and scientific knowledge. There is a brief period of time—the "window"—during which no admission is permitted. Here, inventors must do it right the first time; they do not get a second opportunity. It's an uncompromising and severe environment. Additionally, the opportunity vanishes irrevocably once the "window" closes.

However, in certain knowledge-based businesses, a second "window" really opens up twenty to thirty years after the first one closes. One example would be computers. The first computer "window" was in use from 1949 until around 1955. Every single electrical equipment firm in the world entered the computer business at this time, including Philips in Holland, Siemens and AEG in Germany, the British General Electric firm, Plessey, and Ferranti in Great Britain, and GE, Westinghouse, and RCA in the United States. Embarrassedly, all of the "biggies" had run out of computers by 1970. Companies that had either not existed at all in 1949 or had only existed in small and marginal capacities were in this field: IBM, of course, and the "Seven Dwarfs," the seven smaller US computer companies; ICL, the surviving portion of the General Electric Company, Plessey, and Ferranti computer businesses in Great Britain; some fragments in France that were supported by significant government subsidies; and a complete newcomer, Nixdorf, in Germany. Government assistance allowed the Japanese firms to continue operating for a very long period. Then, in the late 1970s, a second "window" appeared with the development of microchips, which paved the way for the creation of word processors, minicomputers, personal computers, and the combination of telephone switchboards and computers. However, the businesses who had lost in the first round did not reappear in the second. Even those who made it through the first round either did not participate in the second or entered grudgingly and late. It was not Univac, Control Data, Honeywell, Burroughs, Fujitsu, Hitachi, or Fujitsu who emerged as leaders in the minicomputer or personal computer space. IBM, the clear winner of the first round, was the lone exception. This has also been the trend in previous inventions based on knowledge. The "window" is far more crowded, making it much less likely for any one knowledge-based entrepreneur to survive.

There will probably be a lot more entries throughout the "window" time. However, after stabilizing and maturing, the industries' structures seem to have been relatively constant, at least for the last century. Naturally, the structures of different sectors vary greatly based on factors like technology, capital needs, entrance barriers, whether a product may be delivered or sold locally, and more. However, every sector has a typical structure at any given moment. For example, there are a lot of huge, medium-sized, small, and specialty enterprises in every market. Furthermore, the international market is becoming the sole "market" for every new knowledge-based sector, such as computers or contemporary finance. So, as an industry develops and stabilizes, the number of knowledge-based innovators that will survive will not be more than it has historically been. However, the number of participants during the "window" era has significantly expanded, primarily due to the establishment of a worldwide market and global communications. As a result, there are much more casualties than there were before the shake-out. And it is inevitable that there will be a shakeout.

CONCLUSION

The investigation of the dynamics of knowledge-based innovation highlights how crucial it is to comprehend convergence and timeliness in order to shape good results. It is clear from a study of past instances from a variety of sectors that innovation flourishes when different knowledge areas converge. Scientific, technical, economic, and social aspects coming together creates the conditions for innovations that propel development and reshape sectors. The importance of timing innovation is further highlighted by the possibility that it may stagnate until all relevant knowledge components are at hand, highlighting the need of strategic planning and forethought. Case study research shows that minimizing the risks that come with knowledge-based innovation requires careful consideration, a distinct strategic goal, and innovative management. Furthermore, in an environment that is changing quickly, the capacity to adjust to shifting conditions and market dynamics is essential for maintaining success. This research offers important insights into the intricate interactions among variables that affect

innovation efforts by exploring the emergence and collapse of different sectors and businesses. It emphasizes the need of an all-encompassing strategy that combines many knowledge areas, encourages cooperation, and places a premium on market orientation.

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CHAPTER 10

EXPLORING THE PRINCIPLES OF INNOVATION: A REVIEW STUDY

Dr. Lubna Ambreen, Associate Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- lubnaambreen@cms.ac.in

ABSTRACT:
The fundamental tenets that underpin successful innovation endeavors. Drawing on insights from various disciplines including business, technology, psychology, and sociology, this paper elucidates key principles that drive innovation across diverse contexts. Through a comprehensive analysis, it identifies critical factors such as creativity, problem-solving, collaboration, adaptability, and risk-taking as essential elements of effective innovation processes. Moreover, the paper explores the role of leadership, organizational culture, and strategic vision in fostering an environment conducive to innovation. By examining case studies and real-world examples, it illustrates how adherence to these principles can lead to transformative outcomes and sustainable competitive advantage. Ultimately, "Principles of Innovation" provides a holistic framework for understanding and implementing innovation strategies, guiding individuals and organizations towards achieving their innovation objectives in an ever-evolving landscape.

KEYWORDS:

Iteration, Leadership, Open-Mindedness, Problem-Solving, Resilience, Risk-Taking.

INTRODUCTION

The moment the "window" closes, the "shakeout" begins. Additionally, most business endeavors launched during the "window" era fail to withstand the shakeout, as has already happened with yesterday's high-tech businesses like railroads, manufacturers of electrical gear, and autos. Just five or six years after the "window" opened, the shakeout among microprocessor, minicomputer, and personal computer companies has started as these words are being written. Currently, the industry comprises just a hundred enterprises in the United States. It seems improbable that more than a dozen of any kind will remain by 1995, ten years later. However, it is unpredictable which ones will endure, which ones will pass away, and which ones will suffer irreversible damage that will prevent them from living or dying. To be honest, speculating is pointless. Size alone might guarantee survival. However, it does not ensure that the shakeout would be effective; if it were, Allied Chemical would already be the largest and most prosperous chemical firm in the world, not DuPont. When the United States' chemical industry's "window" opened in 1920, Allied Chemical seemed unstoppable, if only because it had acquired the German chemical patents that the American government had seized during World War I. After the shakeout, seven years later, Allied Chemical had devolved into a poor also-ran. It has never been able to pick up speed again. In 1949, few could have imagined that IBM would become the dominant force in computers, much less that such large, seasoned companies as Siemens or G.E. would go bankrupt. When automobile companies were the New York Stock Exchange's favorite stocks in 1910 and 1914, nobody could have imagined that General Motors and Ford would thrive while such perennial favorites as Packard or Hupmobile would vanish. When the modern banks first appeared in the 1870s and 1880s, nobody could have imagined that Deutsche Bank would swallow up other outdated commercial banks in Germany and become the nation's top bank. It is not too difficult to predict when a given sector

will grow in importance. No business that has ever reached the explosive phase—or the "window" period, as I dubbed it—has ever failed to grow into a significant industry. This pattern, which alternates between a time of intense speculation and enthusiasm and a harsh "shakeout," is especially noticeable in the high-tech sectors [1], [2].

First of all, since these businesses are well-known, they draw a lot more cash and new participants than more obscure fields. Furthermore, there are far higher expectations. It's likely that more individuals have amassed wealth via low-tech ventures like shoe polishing or watch manufacturing than through high-tech enterprises. However, nobody views shoe shine manufacturers as failures or expects them to create a "billion-dollar business" if all they manage to create is a respectable but small family firm. High tech, on the other hand, is a "high—low game" where having a middle hand is useless. Consequently, high-tech innovation has an inherent risk. However, high tech hasn't been profi for a very long period. The global computer industry had its start in 1947–48.

The industry as a whole didn't break even until the early 1980s, more than thirty years later. Undoubtedly, some businesses started turning a profit far sooner. And the front-runner, IBM, started turning a tidy profit much sooner. However, the terrible losses suffered by the majority in the sector more than made up for the profits made by the few successful computer manufacturers. Take the huge losses incurred by the major worldwide electrical firms in their failed efforts to become computer manufacturers.

The same thing also occurred in every previous "high-tech" boom that preceded it, including the railroad booms of the early nineteenth century, the vehicle and electrical equipment booms between 1880 and 1914, the radio and electric appliance booms of the 1920s, and so on. The need to continuously invest more funds in technological advancement, research, and services is a primary cause of this. Indeed, high tech has to operate at ever-increasing speeds in order to remain still [3], [4].

DISCUSSION

Of course, part of its allure is this. However, it also implies that very few companies in the sector will have the financial wherewithal to weather even a brief storm when the shakeout occurs. This is the reason financial foresight is even more important for high-tech companies than for other new initiatives, but it is also the reason financial foresight is even harder to come by for high-tech ventures than for new ventures in general.

The only thing that can keep you alive throughout the shakeout is entrepreneurial management. Deutsche Bank was set apart from other popular financial institutions during that era by Georg Siemens, who conceptualized and established the first executive team in history. The three things that set DuPont apart from Allied Chemical in the early 1920s were the creation of the first long-range planning, systematic organizational structure, and management information and control system in history. In contrast, Allied Chemical was managed arbitrarily by a single, talented, egocentric person. However, this is not the whole tale. The majority of the big businesses that didn't make it through the most recent computer shakeout, including G.E. and Siemens, for example are often regarded as having excellent management. And despite horrifyingly poor management throughout the shakeout years, Ford Motor Company managed to survive, if only just. It seems likely that entrepreneurial management is a prerequisite for survival, but it is not a guarantee. Furthermore, during the shakeout, only insiders have a true understanding of whether a knowledge-based innovator that has expanded quickly over a few boom years is fundamentally poorly managed, like Allied Chemical, or properly managed, like DuPont. It could be too late by the time we find out [5], [6].

The Gamble of Receptivity

Knowledge-based innovations must be "ripe" that is, there must be openness to them in order to succeed. This danger is a natural byproduct of knowledge-based innovation's special strength. Every other invention takes use of an already-occurring change. They meet an already-existing demand. However, with knowledge-based innovation, the change is brought about by the invention. It seeks to arouse desire. Furthermore, no one can predict whether a user would be aggressively resistive, indifferent, or receptive.

Of course, there are exceptions. The creator of a cancer cure should not be concerned about "receptivity," however there aren't many of these cases. Receptivity in most knowledge-based inventions is a risk. Furthermore, the probabilities are unclear and somewhat strange. Though no one knows it, there could be a lot of receptivity. Furthermore, when everyone is certain that society is really anticipating the innovation with great anticipation, there could be little to no receptivity or even strong rejection. Narratives abound of the high and powerful's obliviousness to knowledge-based innovation. A common story tells of a King of Prussia who foresaw that the railroad would fail because "no one will pay good money to get from Berlin to Potsdam in one hour when he can ride his horse in one day for free." However, the King of Prussia was not alone in misjudging the public's receptivity to the railroad; most "experts" of the time agreed with him. Furthermore, hardly a single "expert" could have predicted that companies would ever need such a device when the computer first arrived [7], [8].

But the opposite mistake is as frequent. When in fact there is complete opposition or apathy, "everyone knows" that there is a true need and need. A few years later, around 1955, the same experts who in 1948 could not have imagined that a company would ever desire a computer anticipated that the computer would "revolu-tionize the schools" in less than ten years. In Germany, Philip Reis is credited with inventing the telephone, not Alexander Graham Bell. In 1861, Reis did in fact create a device that was almost perfect for sending voice and capable of transmitting music. But suddenly, completely disillusioned, he quit up. A telephone was met with no curiosity, no yearning, and no receptivity. The general mindset was, "We can get by with the telegraph." Nonetheless, there was an instantaneous and warm reception when Bell, fifteen years later, received his telephone patent. And it was highest in Germany of all places.

It is not too hard to explain the shift in receptivity during the last fifteen years. The telegraph was by no means "good enough" throughout two significant conflicts, the American Civil War and the Franco-Prussian War, but that is not the fundamental point of why receptivity changed. It seems that when Reis presented his device at a scientific gathering in 1861, every authority excitedly promised tremendous reception. And all the authorities were in error. Of course, however, the authorities are often correct. For example, they were all correct when they observed that there was receptivity for both a light bulb and a telephone in 1876–1879. When Edison started working on the phonograph in the 1880s, the professional opinion of the day encouraged him, and once again, the experts were correct to predict that there would be a large market for the new technology. However, we cannot determine if the experts' assessments of the public's receptivity to a particular knowledge-based innovation were accurate or inaccurate until after the fact.

Furthermore, even in retrospect, we may not always understand why a certain knowledge-based innovation succeeds or fails in finding receptivity. For example, no one knows why phonetic spelling has been resisted for so long. Everyone acknowledges that nonphonetic spelling is a significant challenge to learning to read and write, necessitates that schools dedicate disproportionate time to reading instruction, and contributes to a disproportionate number of emotional traumas and reading difficulties in young people. Phonetics has at least a century of

history. In the two languages where the issue is most severe, phonetic spelling may be achieved using a variety of phonetic alphabets for English and the much older, 48-syllable Kana scripts for Japanese. There are nearby instances of both nations successfully switching to phonetic writing.

The Japanese achieved a similarly effective—and somewhat earlier—phonetic reform of the Korean alphabet, while the English have the precedent of the successful German spelling reform in the mid-1900s. However, there is not even the smallest openness to an invention that is, one might argue, desperately needed, logical, and has been shown by success to be safe, manageable, and effective. The element of danger cannot be completely eliminated or even significantly reduced. Because it is impossible to do market research on an imaginary entity, market research is ineffective. Opinion research is probably not only worthless but also dangerous. The experience with "expert opinion" about the openness to knowledge-based innovation would seem to suggest at least this. However, there isn't an option. Knowledge-based innovation requires us to take a chance on being open to it [9], [10].

Innovations based on fresh insights from science and technology carry the greatest dangers. Naturally, they are especially high in innovations in fields that are "hot" right now, like biotechnology and personal computers. Conversely, places that are not well known to the public are far less dangerous, if only because there is more time. Furthermore, the risks are much smaller in breakthroughs when the knowledge basis is not science or technology—social innovations, for example. However, innovation based on knowledge always carries a considerable risk. It is the cost we must bear for its influence and, more importantly, it’s potential to alter not only goods and services but also our perception of the world, our role in it, and ultimately our own selves.

However, by combining new information as the source of innovation with one of the previously established sources—the unexpected, incongruities, and notably process need—the dangers, even of high-tech innovation, may be significantly mitigated. Receptivity may either be verified very readily and reliably, or it has already been proven in certain domains. Furthermore, the information or know-edges that must be generated in these fields as well in order to finish an invention can often be identified with a high degree of accuracy. This explains the growing popularity of "program research." However, even program research has to be structured, goal-oriented, and demand a lot of self-discipline and system. Thus, there are a lot of expectations placed on knowledge-based innovators. They vary from those in other innovative fields as well. They also confront various hazards; time is not on their side, for example. However, the potential benefits also increase with the level of risk. Perhaps the other inventors will make a fortune. The inventor who relies on knowledge might also aspire to renown [11], [12].

The Brilliant Concept

Probably more innovations based on brilliant ideas than all other categories combined. For example, seven or eight of every 10 patents qualify here. The zipper, the ballpoint pen, the aerosol spray can, the tab to open soft drink or beer cans, and many more examples of "bright ideas" form the foundation of a significant number of new firms that are detailed in the books on entrepreneurs and entrepreneurships. Furthermore, in many industries, "research" refers to the process of identifying and capitalizing on innovative concepts, such as those for novel flavors for soft drinks or breakfast cereals, improved running shoes, or even another clothes iron that doesn't burn. However, the riskiest and least effective source of new potential is brilliant ideas. There are a tonne of casualties. For an invention of this kind, hardly more than one patent in a hundred is profitable enough to cover the expenses of research and patent fees.

A far lower percentage—possibly as low as 1 in 500—makes money beyond what they have to pay out of pocket. Furthermore, nobody can predict which innovations based on clever ideas will succeed and which will fail. For example, why did the aerosol succeed? And why did a dozen or more such devices that attempted to deliver particles uniformly fail miserably? What makes one universal wrench popular while the majority of the many others vanish? Even if the zipper jams sometimes, why did it become widely accepted and essentially replace buttons?

There hasn't been much progress in trying to increase the predictability of inventions based on clever concepts. There have also been equally fruitless efforts to pinpoint the characteristics, actions, or routines of a great inventor. An ancient proverb states that "successful inventors keep on inventing." They take advantage of the odds. They will be successful if they work hard enough. But this conviction that you'll win if you just keep trying out clever ideas is no more reasonable than the widely held misconception that all it takes to win the lottery in Las Vegas is to keep pressing the lever. Unfortunately, the machine is set up such that 70% of the time, the house wins. You lose more often the more you pull. Just as there is no evidence of any "system" to beat the slot machines, there is also no factual support for the concept that tenacity pays off in pursuing the "brilliant idea." Some well-known innovators, like the creators of the ballpoint pen and zipper, only had one great idea before giving up. Furthermore, there are thousands of innovators in the world with forty patents between them—not a single winner. Of course, innovators become better with experience. But only if they use the proper methodology, that is, if they begin their job with a methodical examination of the origins of creative opportunity.

The causes of the high casualty rate as well as the unpredictable nature are somewhat clear. Brilliant thoughts are hazy and hard to pin down. It is unlikely that anyone other than the creator of the zipper ever considered buttons or hooks and eyes to be insufficient for fastening garments. Similarly, nobody else could have identified the specific shortcomings of the fountain pen, which was a nineteenth-century invention. One of the 1960s' biggest hits on the market: the electric toothbrush, which met what need? After all, it still has to be held in the hand. Furthermore, it is often impossible to specify the remedy even when the requirement is clear. The idea that those stuck in traffic in their automobiles may want some kind of distraction was maybe not that hard to come up with. But why did the much more costly vehicle radio succeed in the market while Sony's compact TV set, which it built about 1965 to satisfy this requirement, failed to do so? Answering this is simple in hindsight. But was there any chance that it was addressed in advance?

Therefore, despite the allure of success tales, entrepreneurs would be well advised to pass on inventions based on brilliant ideas. Even if a jackpot is won on a Las Vegas slot machine every week, the most a player can hope to achieve is limit their losses to what they can afford. There is enough in these areas to occupy the time of any one public-service organization, entrepreneurial enterprise, or individual entrepreneur. As a matter of fact, there is considerably more than one could ever hope to completely use. We also know what to look for, how to look, and what to do in these areas. The only thing that can be done for brilliant idea seekers who are innovators is to advise them on what steps to take in the unlikely event that their concept is successful. Then, new venture regulations are in effect. Naturally, this explains why a large portion of the literature on entrepreneurship covers the launch and management of new businesses rather than innovation itself.

However, an entrepreneurial economy cannot disregard innovation based on a clever concept with impunity. This kind of individual invention is unpredicted, disorganized, unsystematized, and fails far more often than not. Many, many of them are also insignificant from the beginning. New wig stands, new belt buckles, and new can openers consistently get more patent

applications than anything else. Additionally, at least one foot warmer that doubles as a dish towel is always included in lists of new patents. However, the number of these brilliant idea innovations is so great that the very small percentage of successes amounts to a significant source of new employment, businesses, and economic performance.

The bright-idea invention belongs in the appendix of the theory and practice of innovation and entrepreneurship. However, it need to be recognized and honored. It stands for traits like initiative, ambition, and inventiveness that society requires. Perhaps not much can be done by society to encourage this kind of creativity. One cannot advocate for what they do not comprehend. At the very least, however, society shouldn't support, punish, or hinder these kinds of developments. From this angle, it is clear that the current practice in developed nations, particularly the US, of discouraging anybody who attempts to come up with a novel concept and of characterizing patents as "anticompetitive" is harmful and short-sighted.

The Fundamentals of Innovation

Patients suffering from grave diseases can recover suddenly—sometimes spontaneously, sometimes by visiting religious healers, sometimes by adopting an odd diet, or sometimes by resting during the day and being active during the night. All seasoned doctors have seen "miracle cures." Such treatments are so genuine that only a bigot would deny their existence and brush they off as "unscientific." However, no doctor will include miraculous treatments in a textbook or a course that medical students are supposed to take. They are not able to be learnt, taught, or recreated. Furthermore, they are quite uncommon—after all, the vast majority of terminal cases actually end in death.

In a similar vein, certain inventions are generated in a way that is not planned, intentional, or systematic and do not originate from the sources mentioned in the previous sections. Some inventors are "kissed by the Muses," and their creations come from a "flash of genius" as opposed to laborious, methodical, purposeful labor. However, such ideas are not replicable. They are not anything that can be learnt or taught. It is unknown how to impart brilliant knowledge to someone. But in addition, "flashes of genius" are very unusual, despite the perception that creation and creativity often romanticized. Even worse, I have not come across a single instance of a "flash of genius" that resulted in an invention. They were all still really good ideas.

Leonardo da Vinci was perhaps the most creative person in history. Every every page of his notes has an astounding concept, whether it automated forging, submarines, or helicopters. But given the resources and technology available in 1500, not a single one of these could have been transformed into an invention. Yes, as there wouldn't have been any of them in the context of the era's culture and economy. Although James Watt was not the "inventor" of the steam engine, every schoolboy knows that he was. Technology historians are aware that Thomas Newcomen created the first steam engine in 1712, and that machine was really able to do some good by pumping water out of an English coal mine. Both guys were methodical, intentional inventors who were well-organized. Specifically, Watt's steam engine is the epitome of an invention whereby newly acquired information and the creation of a "missing link" were integrated into a process that was driven by need and for which Newcomen's engine had established the receptivity. However, neither Newton nor Watt can be considered the real "inventor" of the combustion engine or of what we now refer to as modern technology. In a "flash of genius," the renowned Anglo-Irish scientist Robert Boyle accomplished this; yet, Boyle's engine was inoperable and could not have operated. Boyle drove the piston with an explosion of cannon power, so fouling the cylinder that it had to be disassembled and cleaned after every stroke. Boyle's invention made it possible for Denis Papin, Newcomen, and Watt

to create a functional combustion engine in order of priority. Boyle, the genius, had nothing but an idea. It should be included under the history of ideas rather than the history of invention or technology.

It is only the deliberate innovation that comes from study, system, and laborious effort that can be analyzed and presented as innovation practice. However, because this covers the majority of successful innovations—at least 90 percent—this is all that has to be shown. Furthermore, just as in any other field, exceptional performers in innovation can only be really successful if they are well-versed in and grounded in their profession. What then are the tenets of innovation, which constitute the rigid center of the field? There are many "do's"—tasks that must be completed. Additionally, there are a few "dont's" items that should probably be avoided. There are also what I would refer to as "conditions."

Analyzing the potential is the first step in deliberate, methodical innovation. The first step is to consider what I've referred to as the sources of inventive possibilities. Various sources will carry varying weights at various points in time in different contexts. For example, innovators in basic industrial processes, such as those searching for the "missing link" in a process like papermaking when there is a glaring discrepancy between economic realities, may not be very concerned about demographics. Conversely, fresh information may not mean much to someone who is creating a new social instrument to meet a need brought about by shifting demographics. However, every source of inventive possibility has to be thoroughly examined and examined. Being aware of them is insufficient. It is necessary to do the search methodically and on a regular basis.

Innovation is perceptual as well as intellectual. Going out to look, inquire, and LISTEN is, therefore, the second requirement of creativity. One cannot emphasize this enough. Innovative people that are successful employ both their left and right sides of the brain. They observe both individuals and objects. They determine analytically what innovation is required to take advantage of a given opportunity. After that, they go out and observe the users and consumers to find out what their requirements, values, and expectations are. Both receptivity and values are perceivable. It is possible to have the impression that a certain strategy won't mesh well with the standards or routines of those required to use it. The question then becomes, "What has to this invention reflect in order for the people who have to use it to want to utilize it and find their potential in it? Otherwise, there is a chance that the right innovation will be implemented incorrectly, as was the case with the top developer of computer-based learning programs for American schools, whose top-notch and successful programs were not utilized by instructors who were afraid of computers and thought they posed a threat rather than a help.

For an invention to be successful, it must be focused and straightforward. It should only do one task; otherwise, it causes confusion. It won't function if it is not straightforward. Every new object encounters difficulties; if it becomes complicated, it cannot be remedied. Every really innovative idea is quite straightforward. It's true that the best compliment an idea can get is when someone says, " Even innovative ideas that open up new markets and applications must to be focused on a well-defined, well-designed usage. It need to be concentrated on a particular need that it fills and on a certain outcome that it generates.

Small inventions are the foundation of effective ones. They lack ostentation. They aim to accomplish a single goal. It may be to allow a moving vehicle to use the same idea that made the electric streetcar possible—to draw electricity as it travels along tracks. Alternatively, it might be as simple as filling a matchbox to the same capacity, which allowed for the automated filling of matchboxes and granted the Swedish inventors of the concept a worldwide monopoly on matches for over fifty years. Plans and grandiose concepts aimed at "revolutionizing an

industry" are unlikely to succeed. Innovations need to be able to begin modestly, requiring initially little capital, a small workforce, and a narrow market. If not, there won't be enough time to make the modifications and tweaks that are almost always required in order for an idea to be successful. Innovations are seldom more than "almost right" at first; necessary adjustments can only be done if the scope is limited and the personnel and financial requirements are reasonable.

However, and here's the last "do," a successful invention strives for leadership. It does not necessarily aspire to become a "big business" in the end; in reality, no one can predict whether a particular invention will turn out to be a modest success or a major corporation. However, an invention is unlikely to be innovative enough and, thus, unlikely to be able to establish itself if it does not strive for leadership from the start. Strategies differ greatly; some seek to locate and occupy a tiny "ecological niche" in a process or market, while others strive for domination in an industry or market. However, all entrepreneurial strategies—that is, strategies meant to capitalize on an innovation—must become leaders in their respective fields. If not, they will only provide a venue for the tournament.

CONCLUSION

The importance of foundational ideas in spearheading effective innovation initiatives. The study has provided insight into critical elements of successful innovation processes, including creativity, problem-solving, teamwork, flexibility, and risk-taking, by using an interdisciplinary perspective. It has also brought attention to how important leadership, corporate culture, and strategic vision are in creating an atmosphere that is creative. We have seen how adherence to these principles may result in revolutionary results and a sustained competitive advantage by looking at case studies and real-world examples. Using these ideas enables people and organizations to overcome obstacles, seize opportunities, and effect significant change in any sector—business, technology, education, or elsewhere. It is crucial for stakeholders to be aware of these principles and incorporate them into their plans and practices as the innovation environment changes. By doing this, individuals may put themselves in a position where they can prosper in a setting that is becoming more competitive and dynamic.

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CHAPTER 11

PRINCIPLES OF SUCCESSFUL INNOVATION IN BUSINESS AND PUBLIC SERVICE

Dr. Thomas P K, Adjunct Faculty
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- pk.thomas@cms.ac.in

ABSTRACT:
The principles of successful innovation in both business and public service settings are critical for driving economic progress and societal advancement. This abstract distills key insights from a comprehensive discourse on innovation principles, emphasizing the importance of simplicity, focus, and market-driven approaches. It highlights the need to avoid excessive complexity and fragmentation in innovation efforts, advocating instead for a unified core idea, whether rooted in market knowledge or technological expertise. The abstract underscores the significance of innovating for present needs rather than distant futures, drawing parallels from historical examples like Thomas Edison's methodical approach. Furthermore, it dispels the myth of inherent risk-taking in innovation, emphasizing instead the value of calculated risk management and opportunity-focused strategies. Lastly, it emphasizes the necessity of disciplined, purposeful work in innovation, applicable to both established enterprises and new ventures, and underscores the pivotal role of market-driven innovation in effecting meaningful economic and societal change.

KEYWORDS:

Government, Innovation, Leadership, Partnership, Public Service.

INTRODUCTION

First, just don't attempt to be too smart. If innovations are to be handled by regular people, they must be handled by morons or nearly-morons. Otherwise, they will never grow to be significant and important. After all, the one thing that is always and abundantly available is incompetence. Anything that is too smart, conceptually or practically, is nearly certain to fail. Avoid fragmenting, diversifying, and attempting to achieve too much at once. Naturally, the corollary to the "do" is to be focused! Deviation from a core will probably lead to dispersed innovations. They don't develop into inventions; they stay ideas. Technology or knowledge need not be the central idea. In actuality, market knowledge provides a more solid foundation for unity than either knowledge or technology in any kind of firm, whether it be a corporation or a public-service organization. Innovative endeavors, however, must have a central point of unity, otherwise they will probably fall apart. An invention requires the focused energy of a cohesive team to support it. It also needs that those who implement it comprehend one another, which calls for unity and a shared core. This is also threatened by fragmentation and variety [1], [2].

Lastly, avoid attempting to innovate in the future. Invent for the here and now! Even while an idea may not fully mature for twenty years, it may nevertheless have long-term effects. As we've seen, the introduction of the computer did not significantly alter business practices until the early 1970s, a full 25 years after the first functional models were released. However, there have been certain specialized present uses for computers since their inception, such as payroll processing, scientific computation, and training pilots via simulation. Saying, "There will be so many very old people that they will need this in twenty-five years," is not good enough. Saying, "There are enough elderly people around today for this to make a difference to them,"

is necessary. Of course, time passes; there will be a lot more in 25 years. However, an invention is only a "brilliant idea," much like the sketches in Leonardo da Vinci's note, unless there is an instant application in the present. Not many of us possess Leonardo's brilliance, so we can't expect our notes to be everlasting on their own [3], [4].

Edison was most likely the first inventor to completely grasp this third caution. Around 1860 or 1865, every other electrical inventor of the day started working on the project that would ultimately become the light bulb. Before the information became accessible, Edison had to wait 10 years to begin working on the light bulb, since it was considered a project "of the future." However, when the information became available that is, when a lightbulb might become “the present” Edison gathered his immense resources and a highly skilled team and focused for a few years on that one unique chance.

Sometimes there are considerable lead periods for innovative possibilities. Ten years of research and development effort is neither unusual nor especially lengthy in pharmaceutical research. Nevertheless, no pharmaceutical corporation would consider initiating a research study for something that, even if it were to succeed, would not provide an instant medication to address existing health requirements [5], [6].

Three prerequisites

Work goes into innovation. It calls for expertise. Often, it calls for a lot of creativity. It's obvious that certain individuals are more gifted innovators than the rest of us. Furthermore, inventors seldom ever work in many fields. Despite having a remarkable propensity for invention, Edison limited his activities to the electrical industry. Furthermore, Citibank in New York, a pioneer in the banking sector, is unlikely to go into new ventures in the retail or healthcare sectors. Like any other task, invention requires ability, inventiveness, and a propensity. Ultimately, however, innovation is hard, intentional labor that requires a tremendous deal of dedication, perseverance, and diligence. No amount of skill, creativity, or knowledge will help if they are absent. Innovators need to develop their talents if they are to succeed. Promising innovators consider a broad spectrum of options. Subsequently, they inquire, "Which of these opportunities fits me, fits this company, and utilizes our strengths and capabilities in performance?" Naturally, innovation is not any different from other types of labor in this regard. But given the risks associated with innovation and the accompanying premium on knowledge and performance capability, it could be more crucial than ever to capitalize on one's skills. Like any other endeavor, invention also requires a temperamental "fit." Companies struggle in areas they don't really respect. No pharmaceutical firm has succeeded in anything as "frivolous" as lipsticks or fragrances, despite having to be controlled by scientifically minded individuals who consider themselves to be "serious." Similar to this, innovators must have a temperament that is tuned in to the creative potential. If it doesn't make sense to them and isn't essential to them, they won't be prepared to put in the kind of relentless, difficult, and painful labor that effective innovation always demands. Lastly, innovation has an impact on the economy and society by altering the ways that people in general—including consumers, teachers, farmers, and eye surgeons—behave. Alterations may also be made to a process, or the way that individuals labor and produce something. Thus, innovation must constantly be driven by the market, concentrated on the market, and in close proximity to it.

DISCUSSION

I went to a university conference on entrepreneurship a year or two ago, when many psychologists gave talks. They all discussed the concept of an "entrepreneurial personality," which was defined by a "propensity for risk-taking," despite the fact that their papers differed on every other point.

The next person to speak was a well-known and accomplished inventor and entrepreneur who, in the span of 25 years, had grown a process-based invention into a sizable global business. "I find myself baffled by your papers," he said. Starting with myself, I believe I know more successful inventors and entrepreneurs than anybody else. I have never seen a "entrepreneurial personality," but the successful people I know all have one trait in particular: they are not "risk-takers." Instead, they work to identify the risks they must take and to reduce them as much as they can. Without it, none of us could have been successful. Personally, I believe that if I had been more adventurous, I would have pursued a career in real estate or commodities trading, or I would have followed my mother's wish and become a professional painter. I also know a fair number of successful entrepreneurs and inventors. They are all devoid of any "propensity for risk-taking [7], [8].

A common perception of inventors resembles a mix between Superman and the Knights of the Round, with elements of pop psychology and Hollywood. Innovation is dangerous, of course, but the majority of them in real life are unrealistic and much more inclined to spend hours on a cash-flow projection than to go out hunting for "risks." However, getting in the vehicle and heading to the store to buy a loaf of bread is as important. Every economic action is by definition "high-risk," and creating future is significantly less hazardous than protecting yesterday, which is to say not inventing. The innovators I am familiar with are effective to the degree that they identify and limit risks. Their success is on their ability to identify and seize creative opportunities via a methodical analysis of potential sources. Whether there are chances of much bigger but still clearly defined risk, like knowledge-based innovation, or chances of much smaller and clearly defined risk, such taking advantage of an unexpected or process requirement. Conservatives make good inventors. They must be. They are "opportunity-focused," not "risk-focused.

The act of becoming an entrepreneur

Different management is needed for entrepreneurial endeavors than for established ones. But like the current, it has to be managed in a methodical, planned, and intentional manner. Even while all entrepreneurial organizations follow the same set of guidelines, the public-service institution, the new venture, and the current firm all face unique difficulties and must be on the lookout for distinct degenerative tendencies. It is essential that individual entrepreneurs confront choices pertaining to their own responsibilities and obligations [9], [10].

Management of Entrepreneurship

The fundamentals of entrepreneurship are the same regardless of the kind of entrepreneur a huge, established organization or a lone person launching a new business. If an entrepreneur is a company or a nonbusiness public-service organization—or even a governmental or non-governmental institution—it makes little to no difference. The guidelines, the things that work and those that don't, the types of innovation and where to find them are all essentially the same. There is a field of study that we may refer to as entrepreneurial management in each scenario. However, compared to a lone proprietor, an established firm has various issues and has distinct demands and limits. To put it too simply, the current company understands how to run, but it needs to develop its innovative and entrepreneurial skills. The nonbusiness public-service organization also encounters unique challenges, has unique learning requirements, and is prone to unique errors. In addition, the new business must learn how to create and become an entrepreneur, but management skills should come first.

A special guide to the practice of entrepreneurship has to be developed for each of these three: the new enterprise, the public-service institution, and the current firm. What is required of each? What must everyone be on the lookout for? And what had each of them best not do? Just

as the study of medicine may properly begin with the embryo and newborn, so too can the conversation logically begin with the latest endeavor. However, just as a medical student begins by studying adult anatomy and pathology, so too does the practice of entrepreneurship best begin with a discussion of the "adult," the current company, and the relevant regulations, practices, and issues that are relevant to managing it for entrepreneurship [11], [12].

Without developing entrepreneurial ability, today's businesses—especially the larger ones—will not be able to survive in this era of fast innovation and change. In this regard, the late 20th century differs greatly from the previous great entrepreneurial era in economic history, which lasted for fifty or sixty years and ended with the outbreak of World War I. During that time, there were relatively few large enterprises, and even fewer middle-sized ones. These days, learning how to manage oneself for entrepreneurship is not only in the best interests of the many large companies already in existence, but it is also their societal duty. Compared to a century ago, the current state of affairs is markedly different due to the swift demise of established businesses, particularly large ones, due to innovation. This phenomenon, known as "creative destruction" as coined by Joseph Schumpeter, presents a real threat to social order, employment, financial stability, and government accountability. In any case, established firms will need to undergo significant adjustment. In twenty-five years, the blue-collar labor force in manufacturing in every industrially developed non-Communist country will decrease to a third of what it is today, while manufacturing output should increase three- or four-fold. This development will parallel the growth in agriculture in the twenty-five years following World War II in the industrialized non-Communist countries. Existing businesses will need to learn how to survive, in fact, how to prosper in order to provide stability and leadership during a transition of this magnitude. And only if they acquire the skills necessary to succeed as entrepreneurs.

The necessary entrepreneurship is sometimes limited to already-existing companies. It's possible that some of today's titans won't be there in 25 years. It is increasingly understood, however, that medium-sized businesses are especially well-positioned to succeed as innovators and entrepreneurs all they need to do is set themselves up for entrepreneurial management. Existing businesses are more capable of assuming entrepreneurial leadership roles than tiny ones, especially when it comes to fair-sized businesses. It has all the resources it needs, particularly the people resources. It has already assembled a management team and gained managerial expertise. It has the capacity for successful entrepreneurial management as well as the responsibility for it. The same applies to public-service institutions, particularly those carrying out nonpolitical functions, whether they are funded by taxes or not; hospitals, schools, and universities; local governments' public services; community organizations and volunteer groups like the Girl Scouts, Boy Scouts, and Red Cross; churches and church-related organizations; as well as professional and trade associations and many other organizations. During a time of rapid transformation, several long-standing issues become outdated, or at the very least, render many of the approaches used to address them ineffective. In addition, a moment like this presents chances for trying new things, experimenting, and social innovation.

Above all, there has been a significant shift in the public sphere's perspective and attitude. The century of laissez-faire that started with Adam Smith's Wealth of Nations in 1776 came to an end a century ago with the "panic" of 1873. Being "modern," "progressive," or "forward-looking" means turning to the government to bring about social change and improvement for a century starting in 1873. For better or worse, all non-Communist developed nations have reached the end of that epoch. What the next wave of "progressivism" will entail is yet unknown. We don't know whether privatization, or moving backward from government to nongovernmental operation, will succeed or go very far, but we do know that anyone who

continues to preach the "liberal" or "progressive" gospel of 1930 or even of 1960, of the Kennedy and Johnson years—is not a "progressive," but a "reactionary." However, we do know that no industrialized non-Communist society would go toward nationalization and centralized authority due to optimism, anticipation, or faith in the historical assurances. It will only act in this way out of irritation and a feeling of defeat. Public-service institutions thus have a duty as well as a chance to be innovative and entrepreneurial in this setting. However, since they are organizations that provide public services, they are more likely to make errors and encounter unique difficulties. Therefore, it is necessary to have a distinct discussion on entrepreneurship in public service institutions.

And lastly, there is the new project. This will remain the primary means of invention, as it has been in all significant eras of entrepreneurship and is once again in the contemporary American entrepreneurial economy. In fact, there is no scarcity of new business endeavors or aspiring entrepreneurs in the United States. However, the majority of them—particularly the tech-savvy ones have a lot to learn about entrepreneurial management and will need to do so in order to thrive. In all three areas, there is a huge discrepancy between the typical practitioner's and leaders' success in entrepreneurship and innovation. Thankfully, there are enough real-world instances of successful entrepreneurship to provide a systematic presentation of entrepreneurial management that combines theory and practice, description and advice.

The Business of Entrepreneurship

The common belief is that "big businesses don't innovate." This seems reasonable enough. It is true that the big, established companies of the past did not produce the modern, significant inventions of this century. The railroads did not even attempt to create the vehicle or the truck. All of today's major aircraft and aviation industries have developed out of separate new endeavors, despite the automotive corporations' best efforts. Similar to this, the majority of the pharmaceutical industry's titans today were tiny or nonexistent when the first modern medications were created, fifty years ago. The titans of the electrical industry, including Toshiba in Japan, Siemens and Philips on the Continent, and Westinghouse, RCA, and General Electric in the United States, all jumped into computers in the 1950s. Not a single one succeeded. IBM, a business that was hardly middle-sized and most certainly not high-tech forty years ago, dominates the market.

However, the widely held notion that big companies are incapable of innovating is a misconception rather than even a partial fact. First off, there are many notable exceptions—many big businesses that have succeeded as inventors and entrepreneurs. In terms of hygiene and healthcare, Johnson & Johnson is a US company, while 3M is a US company that produces highly designed goods for both industrial and consumer sectors. With almost a century of experience, Citibank is the biggest non-governmental financial institution in both the United States and the globe. It has led the way in several innovations related to banking and finance. One of the biggest chemical firms in the world, Hoechst has been around for more than 125 years and is currently a prominent developer in the pharmaceutical sector in Germany. Founded in 1884 and growing significantly over the previous sixty or seventy years, ASEA is a real pioneer in Sweden when it comes to robotics for industrial automation and long-distance electrical power transmission. To make matters even more confusing, a number of large, established businesses have been innovators and successful entrepreneurs in certain industries while failing miserably in others. The General Electric Company was a successful inventor in aviation engines, engineered inorganic polymers, and medical electronics, but it failed at computers. RCA was successful in color television but failed in computers as well. Undoubtedly, the situation is more complicated than what is often believed.

Secondly, the claim that "bigness" impedes innovation and entrepreneurship is untrue. The "bureaucracy" and "conservatism" of large companies are often brought up in debates about entrepreneurship. These issues do exist, of course, and they seriously hinder not just entrepreneurship and innovation but also every other performance. Nonetheless, the data clearly shows that small businesses and public sector institutions are the least inventive and entrepreneurial of all the current firms. There are a lot of extremely large entrepreneurial enterprises now in operation; it would not have been difficult to expand the list above to include one hundred businesses worldwide, and a list of cutting-edge public-service institutions would likewise contain a lot of huge businesses. Large middle-sized businesses, like the American corporation that generated $500 million in sales in the mid-1980s, are perhaps the most entrepreneurial of all. However, tiny businesses already in operation would be noticeably missing from any list of entrepreneurial businesses.

Entrepreneurship and innovation are hindered by existing operations, particularly those that are successful, rather than by their size. Furthermore, a large or at least moderately sized company will find it simpler to overcome this challenge than a tiny one. Everything that has to be operated demands continuous effort and undivided attention, including production facilities, technologies, product lines, and distribution networks. In whatever form of enterprise, the daily crisis is the one thing that is always certain. The everyday situation has to be addressed immediately; it cannot wait. Furthermore, the current operation merits and needs top emphasis. The size and performance of maturity usually seem so impressive, so big, so promising, that the new always seems so little. It is wise to be skeptical of anything that seems to be really novel. There are several obstacles in the way of its success. However, as was previously said, successful inventors begin modest and, most importantly, straightforward.

Many firms make the boastful assertion that, in ten years, ninety percent of their profits will come from goods that do not even exist today. Yes, there may be changes made to current goods; variants are also possible; and existing products can even be extended into new markets and end uses, either with or without changes. However, a really novel endeavor usually requires more lead time. In 10 years, successful companies with the appropriate goods and services in the right markets will probably get three-quarters of their income from current products and services, or from their linear descendants. In reality, the business won't be able to make the significant investment in the future that innovation demands if its current offerings don't provide a steady and sizable income stream. Thus, it requires extra work for the current firm to adopt an innovative and entrepreneurial mindset. The "normal" response is to apply productive resources to the ongoing business, to the ongoing crisis, and to eke out a bit more time with the resources we now possess. In the current business, there is always a temptation to eat now and go hungry tomorrow.

Of course, it's a fatal temptation. A business that doesn't innovate eventually ages and becomes less successful. And the decrease will happen quickly during an entrepreneurial age of rapid change like the one we are now seeing. It is very difficult, if not impossible, to turn around an industry or business once it has begun to look back. However, the success of the current firm is a genuine obstacle to entrepreneurship and innovation. The enterprise's success has made it "healthy" rather than deteriorating due to bureaucracy, red tape, or complacency, which is the exact issue.

Because of this, it is crucial to look at examples of current companies that have managed to effectively innovate, particularly those that are sizable and represent a range of industries and are also successful entrepreneurs and innovators. These companies demonstrate that it is possible to overcome the obstacles to success and existence. It may also be overcome in a manner that benefits and advances both the new and the old, the adult and the child. It is evident

that the big businesses that are successful inventors and entrepreneurs—Joseph & Johnson, Hoechst, ASEA, 3M, or the one hundred medium-sized "growth" companies—know how to accomplish it. The premise that innovation and entrepreneurship are organic, creative, or spontaneous is where common wisdom goes awry. Something has to be restricting innovation and entrepreneurship in an organization if they are not flourishing. It is thus considered definitive proof that current corporations stifle the entrepreneurial spirit, given that only a small percentage of prosperous, established companies are inventive and creative.

However, becoming an entrepreneur involves effort; it is neither "natural" nor "creative." Therefore, the conclusion that is valid based on the facts is the reverse of what is typically concluded.

The fact that a sizable portion of currently operating businesses—among them a sizable number of medium-sized, large, and very large ones—succeed as innovators and entrepreneurs suggests that any kind of firm may engage in entrepreneurship and innovation. However, they need to be actively pursued. They are teachable, but it takes work. Businesses run by entrepreneurs see entrepreneurship as a responsibility. They practice it, work at it, and approach it with discipline.

In particular, there are four main areas where rules and practices are needed for entrepreneurial management. Initially, the company has to be made open to new ideas and prepared to see change as an opportunity rather than a danger. To do the arduous labor of the entrepreneur, it has to be structured.

The entrepreneurial atmosphere must be created by activities and policies. Second, a company's success as an inventor and entrepreneur must be measured or at least evaluated systematically, and there must be built-in learning to enhance performance. Third, unique approaches to organizational structure, stalling and managing, and remuneration, incentives, and rewards are needed for entrepreneurial management. Lastly, there are a few "dont's"—i.e., things that should not be done in entrepreneurial management.

CONCLUSION

The fundamentals of effective innovation in the commercial and public service sectors are critical to long-term development, competitiveness, and advancement of society. Organizations may negotiate the complexity of innovation with clarity and purpose by following these guidelines. A cornerstone of simplicity is revealed, emphasizing the need of staying focused and eschewing needless complication. Whether based on technical know-how or market information, a single central concept acts as a unifying principle that keeps innovation efforts from dispersing and fragmenting. Furthermore, the need of innovating for current needs rather than hypothetical possibilities emphasizes how important instant application is. By taking inspiration from past inventors such as Thomas Edison, who personified perseverance and patience in invention, companies are reminded of the need of approaching present problems with workable solutions. The idea that innovation is inherently risk-taking is debunked, and opportunity-driven strategies and thoughtful risk management are given priority. The hallmarks of successful innovators are methodical planning and planned execution rather than careless behavior.

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CHAPTER 12

FOSTERING ENTREPRENEURIAL MANAGEMENT FOR INNOVATIVE SUCCESS

Dr. Vijayalakshmi P, Associate Professor
Department of Entrepreneurship & New Venture Creation & Family Businss Management
Faculty of Management Studies, CMS Business School
Jain (Deemed to be University), Bangalore, Karnataka, India
Email Id- dr.vijayalakshmi@cms.ac.in

ABSTRACT:
The specific policies required to cultivate a culture of innovation within businesses. It emphasizes the need for managers to perceive innovation as essential for organizational preservation and personal success. The text advocates for systematic abandonment of outdated practices, accompanied by clear innovation plans with defined objectives. Additionally, it stresses the importance of recognizing the limited lifespan of products, services, and technologies, and the necessity of continuous adaptation to remain competitive. The Business X-Ray methodology is presented as a strategic tool for assessing innovation gaps and directing resources effectively. Furthermore, the article discusses managerial practices that promote an entrepreneurial mindset, such as focusing on opportunities, recognizing and rewarding innovative achievements, and fostering open communication channels for idea generation. Finally, it underscores the significance of measuring innovative performance to ensure alignment with organizational objectives and market leadership.

KEYWORDS:

Creativity, Entrepreneurial Management, Innovation. Leadership, Resilience, Risk-Taking.

INTRODUCTION

This calls for certain regulations. Initially, innovation has to be made appealing and advantageous for management, as opposed to clinging to what currently works. The organization as a whole has to realize clearly that innovation is the greatest way to maintain and grow the company and that it is the cornerstone of each manager's success and job security. Secondly, it is essential to clearly identify and articulate the significance of the need for innovation as well as the parameters around its timeline. Lastly, a strategy for innovation that outlines precise goals must exist. Managers can only be attracted to innovation if they adopt a methodical approach of discarding anything that is outdated, unproductive, and out of style, along with any errors, missteps, and misdirected efforts. The company has to put every single product, procedure, technology, market, distribution route, and internal staff activity on life trial every three years or so. Abandonment is not always the solution and may not even be feasible. However, one then ensures that future efforts are constrained and that money and human resources are not being sucked dry by the past. In any case, doing this is the correct thing to do to keep the organization healthy—every living entity must get rid of its waste products in order to avoid poisoning itself. However, it is a must if a business is to be open to innovation and capable of implementing it. Dr. Johnson used to remark, "Nothing concentrates a man's mind so powerfully as to know that he will be hung on the morning." There is nothing that can focus a manager's attention on innovation more than the awareness that the current product or service will likely be discontinued in the near future. Innovation demands a lot of work. Effective and competent individuals—the most valuable resource in every organization—must put in a lot of effort to achieve this. An ancient medical saying goes, "Nothing requires more heroic efforts than to keep a corpse from stinking, and yet nothing is quite so futile." The greatest people are involved in this pointless endeavor in almost every firm

I have seen, but all they can expect to do is postpone accepting the inevi for a little while longer and at significant expense. However, if the surviving are aware that the deceased will be allowed to rest in peace, the living will be more than happy to focus on innovation. A firm must be able to release its top performers for the demands of innovation in order for it to be able to innovate. It must also have the financial means to invest in innovation. If it doesn't arrange itself to shed similar failures, triumphs, and particularly "near-misses," or things that "should have worked" but didn't, it won't be able to do either. Executives will be inspired to explore for new ideas, to support entrepreneurship, and to acknowledge the need of starting their own businesses if they are aware that it is company policy to do otherwise. This is an organizational hygiene initial step [1], [2].

Recognizing that all current markets, goods, services, distribution channels, procedures, and technology have finite and often brief—health and life expectancies is the second stage, or the second policy required to make an established firm "greedy for new things." Since the 1970s, analyzing the life cycle of currently available goods, services, and so forth has gained popularity.

The Harvard Business School professor Michael Porter's lectures on strategy, the Boston Consulting Group's recommended strategies, and "portfolio management" are a few instances. The results of this kind of research, particularly in the case of portfolio management, are enough to make an action plan in and of itself for the techniques that have been heavily promoted over the last 10 years. Many firms discovered that this was a misconception and would not provide satisfactory outcomes when they hurriedly adopted such methods in the late 1970s and early 1980s. A diagnosis ought to result from the results. Thus, judgment is needed. It requires knowledge of the industry, the company's goods, markets, clients, and technologies. Experience is needed instead than just analysis. To put it bluntly, it is sheer quackery that intelligent young individuals fresh out of business school, with just sharp analytical tools at their disposal, could crunch out of their computer life-and-death judgments about firms, products, and markets. Rather than providing a formula for automatically generating the correct answers, the goal of this study is to help identify the relevant questions to ask. It is a test of all the expertise and knowledge present in a certain organization. Dissent will and ought to be sparked by it. Making the risky choice to designate a certain product as "today's breadwinner" is the next step. Concerns about what to deal with a product that is about to become "yesterday's breadwinner," an "unjustified specialty," or an "investment in managerial ego" are also pertinent [3], [4].

The data required to determine the amount, types, and timing of innovation that a particular firm needs is provided by the firm X-Ray. Michael J. Kami, who was a member of the Entrepreneurship Seminar at the NewYork University Graduate Business School in the 1950s, created the finest and most straightforward method for handling issue. First, Kami used this method at IBM, where he was the chief of business planning. Later, in the early 1960s, he applied it to Xerox, where he worked for many years in a similar role. Using this method, a business estimates where each product or service falls in the product life cycle by listing it together with the markets it serves and the distribution channels it employs. For what duration will this product continue to grow? For what duration will it continue to be the market leader? When and how quickly may it be anticipated to age and decline? When will it stop being relevant? This helps the business project where it would be if it limited itself to managing what is currently in place as effectively as possible. And this then creates a gap between what is reasonably anticipated and what a business still has to do in order to meet its goals, whether they related to profitability, market position, or sales [5], [6].

DISCUSSION

The minimal amount that has to be filled in order to prevent the firm from failing is the gap. In actuality, the organization will quickly begin to fail if the gap is not addressed. The entrepreneurial success has to be significant enough to close the gap and come about quickly enough to prevent the outdated technology from becoming outdated. However, there is no certainty associated with inventive initiatives; there is a high likelihood of failure and an even larger likelihood of delay. Therefore, a firm should be working on at least three times as many creative projects as it would need to close the gap, assuming they are successful.

For the most part, CEOs think this is too high. However, past performance has shown that its errors are minor, if they occur at all. Undoubtedly, some creative endeavors will succeed beyond everyone's expectations, while others will do much worse. Furthermore, everything demands more work and takes longer than we anticipate or wish for. Ultimately, one thing that can be guaranteed in each significant inventive endeavor is the occurrence of unforeseen complications and delays at the eleventh hour. It is only basic prudence to expect creative efforts that, under ideal circumstances, provide three times the required minimum outcomes. A company can create an entrepreneurial plan with deadlines and objectives for innovation by combining systematic abandonment, the Business X-Ray of the current business, its products, services, markets, and technologies, and the definition of innovation gap and innovation need.

A scheme like this guarantees a sufficient money for innovation. The most significant outcome of all is that it establishes the number and kind of personnel who are required. We have a plan only once individuals with shown performance ability have been allocated to a project, provided with the resources, funds, and information necessary to complete the task, as well as when precise and unambiguous deadlines have been set. We have "good intentions" up to that point, and everyone is aware of their benefits [7], [8].

These are the core principles required to give a company its own entrepreneurial management, to instill a voracious appetite for novelty in the management, and to help the company see innovation as a normal, healthy, and essential course of action. The foundation of this approach is a "Business X-Ray," which is a comprehensive examination and diagnosis of the current business, its offerings, and its markets. This ensures that the opportunities present in the current products, services, and markets will not be overlooked in the pursuit of novelty, nor will the current business be neglected in the process of searching for something new.

A decision-making tool is the Business X-Ray. It allows us—indeed, compels us—to devote resources to the outcomes of the current business. However, it also enables us to calculate the amount required to establish the future firm and its novel goods, services, and markets. It makes it possible for us to translate creative intentions into creative output. Management must take the initiative to make its own goods and services outdated rather than waiting for a rival to do so in order to transform an established company into an entrepreneurial one. The company has to be run such that the new is seen as an opportunity rather than a danger. Working on the goods, services, procedures, and technology that will change tomorrow requires management today [9], [10].

Entrepreneurship techniques

In the current corporate environment, entrepreneurship also calls for managerial techniques. The first and easiest of them is to center management vision on opportunity. People tend to notice what is put in front of them and ignore what is not. Additionally, most managers are given "problems" to deal with, particularly when performance is below expectations, which makes it difficult for them to see opportunities. It's just that they're not getting them. Even in

tiny businesses, management often receives a report on operating performance once a month. Every month at the management meeting, everyone gets to work on the so-called difficulties, which are listed on the first page of this report as areas where performance has gone short of budget, where there is a "shortfall," and where there is a "problem." The whole morning has been devoted to discussing such issues by the time the conference adjourns for lunch.

Problems must, of course, be acknowledged, addressed, and treated seriously. However, opportunities will be neglected if they are the sole topic of conversation. Special attention is therefore given to the opportunities in businesses that seek to foster receptivity to entrepreneurship. In these businesses, the operating report consists of two "first pages": the traditional one enumerates the issues, and the other one enumerates all the areas in which performance exceeds expectations, budgets, or plans. Because, as been previously emphasised, unexpected success in one's own enterprise is a significant indicator of inventive opportunity. It is quite improbable that the company will be considered entrepreneurial if it is not seen as such. In actuality, the company and its management are likely to disregard the unexpected success as an encroachment on their time and attention since they are fixated on the "problems." "Why should we do anything about it?" they'll ask. Without our tampering, it's running well, but this only makes room for the rival who is a little more circumspect and a bit less conceited. Therefore, there are usually two meetings on operational outcomes in organizations that are managed for entrepreneurship: one to concentrate on the potential, and another on the challenges [11], [12].

Every month on the second and last Monday, a medium-sized firm that supplies medical supplies to physicians and hospitals and has emerged as a leader in many emerging and promising industries hosts a "operations meeting." The first meeting is all about difficulties; that is, anything that has performed below expectations in the past month and continues to perform below expectations after six months. There is not a single difference between this meeting and any other operations meeting. However, the second meeting which is held on the last Monday of the month talks about the areas in which the business is doing better than anticipated. For example, it talks about a product's sales that have increased more quickly than anticipated or the orders for a new product that are pouring in from markets for which it was not intended. The company's senior management thinks that incorporating this opportunity emphasis into its monthly management meetings is largely responsible for the company's success. The CEO has often said, "The entrepreneurial attitude that the practice of searching for chances fosters across the whole management group is much more essential than the opportunities we identify in there.

This business employs a second strategy to foster an entrepreneurial mindset among all members of its management team. It has a two-day management conference every six months for all of the executives (about forty to fifty individuals) who oversee divisions, markets, and main product lines. On the first morning, three or four executives whose units have performed extremely well as innovators and entrepreneurs over the last year report to the group. They are required to provide an explanation for their achievements. Once again, the influence on attitudes and values is more significant than the actual reports from these sessions. However, the company's operational managers also highlight how much they learn from each of these meetings, how many fresh ideas they take away, and how they come home from these sessions with a ton of ideas and an eagerness to put them into practice. Entrepreneurial firms are always searching for individuals and groups that perform better and in unique ways. They make a point of highlighting them, asking them repeatedly, "What are you doing that explains your success? What actions do you do that the others do not, and what do you not take that the others do?"

A third technique that is very significant in big companies is an informal but well-planned meeting when a senior manager meets with junior members of research, engineering, manufacturing, marketing, accounting, and other departments. "I'm not here to make a speech or to tell you anything, I'm here to listen," declares the senior as she starts the meeting. Above all, I would want to know where you see potential and risks for our organization. Please share your objectives with me. And what innovative ideas do you have for us to try? What new goods should we create? How should we approach the market? What inquiries do you have about the business, its practices, its outlook, and its role in the market, industry, and technology?"

Seniors should not have to spend a lot of time attending these sessions, thus they shouldn't be conducted too often. Therefore, it should not be anticipated of any senior executive to spend more than three lengthy afternoons or evenings with a group of maybe twenty-five or thirty juniors every year. But it's important to keep up the training in a methodical manner. They are the ideal way to let juniors, and particularly professionals, look up from their specialized fields and view the whole company. They are also an effective source of upward communication. They make it possible for juniors to comprehend the issues and motivations of upper management. As a result, they provide the seniors with much-needed understanding of the goals, objectives, and worries of their junior colleagues. Above all, these workshops are among the most effective means of fostering an entrepreneurial mindset inside the organization.

There is a single prerequisite for this procedure. It should be required of anyone who make any new suggestions, or even just modifications to the way things are done, to report to work. This applies to suggestions for products, processes, markets, or services. They have to be required to provide a working paper, in which they attempt to develop their proposal, to the senior presiding over the session as well as their peers, within a fair time frame. How would it seem if it were made a reality? In turn, how must reality seem for the concept to make sense? What presumptions are made about markets, consumers, and other topics? What is the required amount of effort, money, personnel, and time? And what outcomes may one anticipate? Once again, even while the output of entrepreneurial ideas from all of this has been consistently strong in many firms, it may not be its most essential product. The organization-wide "greed for new things," openness to innovation, and entrepreneurial vision may be the most significant accomplishment.

Assessing creative output

A firm has to have creative performance as one of its self-control mechanisms in order to be open to entrepreneurship. Entrepreneurship won't materialize unless we evaluate a company's entrepreneurial performance. People often act in ways that are expected of them. Typically, creative performance is conspicuously absent from corporate evaluations. However, building it is not extremely tough. Every creative endeavor starts with a phase that incorporates input from outcomes to expectations. This shows the caliber and dependability of our creative strategies as well as our creative endeavors. This will reveal to them if they have a tendency to be too optimistic or overly pessimistic, whether they anticipate results too quickly or are prepared to wait too long, and whether they have a tendency to exaggerate or underestimate the significance of a well completed research project. And as a result, they are able to identify the areas in which they do well and the ones in which they tend to perform badly, as well as to remedy those patterns. Of course, all innovative endeavors need this kind of input; it is not limited to technological research and development.

The initial goal is to identify our strengths because, while we often have no understanding why we are succeeding in a certain area, we can always continue doing what we are doing. The next step is to identify one's areas of weakness. These could include a propensity to overestimate or

underestimate the amount of time needed, or to overestimate the amount of research needed in a particular field while underestimating the resources needed to turn the research's findings into a process or product. Alternatively, there is a widespread but harmful propensity to reduce marketing or promotion activities for a new enterprise just before its launch.

One of the biggest banks in the world with the greatest success rates credits its accomplishments to the input it incorporates into all new endeavors, whether it expanding into a new market like South Korea, leasing equipment, or credit card issuance.

The bank and its senior management have also learnt what to anticipate from new ventures by adding feedback from outcomes to expectations for all new endeavors: When to support a new effort with more resources and effort, and how soon to expect returns from it. All creative endeavors, such as the creation and implementation of a new safety program or a new remuneration scheme, need this kind of input. What are the first signs that this new endeavor is going to be problematic and needs to be reevaluated? And what are the indications that allow us to state that this endeavor is proceeding as planned, despite the fact that it seems to be heading for difficulties, even if it could take longer than we had anticipated? The next stage is to create an organized analysis of all of the creative endeavors together.

An entrepreneurial management team reviews all of the company's creative endeavors every few years. Which ones, at this point, need more encouragement and pushing? Which ones have shown fresh prospects? Conversely, which ones are not performing to our expectations, and what steps should we take as a result? Is it now appropriate to give up on them, or should we instead intensify our efforts going forward? If so, by when and with what standards?

Once a year, the senior executives of one of the biggest and most prosperous pharmaceutical businesses in the world convene to discuss the company's creative initiatives. Every new medication development is first examined, and the question "Is this development proceeding in the correct direction and at the proper speed? Will it result in something we wish to carry in our own line, or should we rather license it to another pharmaceutical company since it won't work in our markets? Or should we maybe give it up? The same individuals then pose the same questions when examining all the other creative endeavors, particularly in marketing. Lastly, they examine their main rivals' inventiveness with the same level of scrutiny. This corporation barely ranks in the middle when it comes to its overall innovation expenditures and research budget. Its track record as an entrepreneur and inventor, however, is exceptional. Lastly, entrepreneurial management include evaluating the company's overall inventive performance in relation to its goals for innovation, its status in the market, and its overall business performance. Maybe once every five years, senior management invites its staff in each main department to convene a meeting and share their accomplishments over the previous five years that they believe have had a significant impact on the firm. What contributions do you want to make during the next five years?"

However, aren't creative endeavors intangible by nature? How are they to be measured? It is accurate to say that there are some topics about which nobody should or can determine the relative significance. Which is more important: a new formulation that makes it possible for patients to take an outdated but effective medication themselves, saving them from having to visit a doctor or a hospital three times a week, or a breakthrough in basic research that years later might result in an effective cure for certain cancers? It is impossible to make a decision. A business must also decide between a new product that gives it leadership in markets that, while still small, may grow into significant ones in a few years and a new method of serving customers that allows the business to keep a valuable account that it otherwise would have lost. Rather than being measures, they are assessments. However, they are neither subjective nor

even arbitrary. They are also highly rigorous while not being able to be quantified. Above all, they allow us to take deliberate action based on information rather than conjecture or opinion—exactly what a "measurement" is supposed to facilitate.

In this analysis, the most crucial issue for the average firm is probably: Have we maintained or even acquired creative leadership? Being large does not always translate into leadership. Above all, it means having the freedom to lead rather than feeling compelled to follow. It involves being acknowledged as the leader and regarded as the one who sets standards. This is the litmus test for entrepreneurial success in an already-established company.

Frameworks

Innovation and entrepreneurship are made feasible by policies, practices, and measures. They eliminate or lessen potential obstacles. They provide the right tools and cultivate the right mindset. However, innovation is a human endeavor. And inside a framework, individuals operate. The current company must have a framework that encourages entrepreneurship if it is to be innovative. It must create connections with an emphasis on entrepreneurship. It must ensure that all of its rules, decisions about hiring, incentives, and awards promote healthy entrepreneurial activity rather than discourage it. First and foremost, this implies that the innovative and entrepreneurial must be structured differently from the established and old. We have never been successful in trying to make an already-existing unit the leader of an entrepreneurial endeavor. Naturally, this is especially true for huge firms, but it also holds true for medium-sized and even tiny enterprises.

One explanation for this is that the company that is now in operation demands time and effort from those in charge of it, and it is worthy of their attention. When compared to the reality of the enormous, continuous company, the new always seems so little and unpromising. The striving innovation must, after all, be fed by the current company. However, there is also a "crisis" in today's industry that has to be addressed. Therefore, there is always a temptation for those in charge of an established firm to put off taking any new, entrepreneurial, or creative action until it is too late. Existing units have been shown to be primarily capable of extending, altering, and adapting what currently exists, regardless of what has been tried—and we have now been attempting every imaginable mechanism for thirty or forty years. The novel belongs somewhere else. This implies that the new endeavor has to have a specific location inside the company, and it needs to be rather high up. As an entrepreneur and innovator, someone in high management has to have the particular assignment to work on the new project tomorrow, even when it does not rank with existing products in terms of size, revenues, and markets.

This doesn't have to be a full-time position; in smaller businesses, it often can't be. However, it must be a precisely defined position, and someone with complete power and reputation must be qualified for it. These individuals are typically also in charge of developing the innovation objectives that bridge the gap between what is required for the company's survival and expansion and what can be expected of its current products and services. They are also typically in charge of the policies required to integrate entrepreneurship into the existing business, the abandonment analysis, and the Business X-Ray. Additionally, they are often tasked with doing a methodical examination of inventive prospects, namely the analysis of the opportunities that were previously discussed in the Practice of Innovation. They should also be in charge of analyzing the creative and entrepreneurial ideas that the company generates, such as during the advised "informal" meeting with the younger staff members.

Furthermore, this "executive in charge of innovation" should typically get direct reports from inventive endeavors, particularly those focused on creating new companies, goods, or services, as opposed to managers lower on the organizational ladder. They should never submit reports

to line managers who are in charge of carrying out daily tasks. In most businesses, especially "well-managed" ones, this will be seen as heresy. However, the new endeavor is still in its infancy and will stay so for some time to come; newborns belong in the nursery. The executives overseeing established businesses or products, sometimes referred to as "adults," will lack the necessary time and comprehension for the fledgling endeavor. They are not able to bear to be disturbed.

One large machine-tool maker lost its robotics leadership as a result of breaking this guideline. The business had the fundamental patents for automated mass manufacturing machine tools. It was manufactured to the highest standards, had outstanding engineering, and a stellar reputation. When industrial automation first started, about 1975, everyone anticipated it to take the lead. It had completely withdrawn from the event ten years later.

The organization's machine tool development unit for automated production was positioned three or four tiers below the others in the unit and reported to the individuals in charge of creating, manufacturing, and marketing the company's conventional machine tool lines. These folks were encouraging; in fact, they had been the primary inspiration for the robots work. However, they were much too preoccupied with maintaining their traditional lines against a plethora of new rivals, including the Japanese, revamping them to meet new requirements, marketing, financing, and providing service. Robotics was, after all, only a promise; the current machine-tool lines earned millions of dollars annually. Whenever the personnel in charge of the "infant" went to their managers for a decision, they were told, I have no time now, come back next week.

CONCLUSION

Building an entrepreneurial management culture is essential to a company's creative success. Organizations may foster a change-embracing and opportunity-seeking culture by enacting policies that place a premium on creativity and flexibility among management. Businesses may deploy resources efficiently and remain ahead of market trends by methodically abandoning outmoded methods and using tools like the Business X-Ray approach in conjunction with well-defined innovation strategies. Furthermore, firms may stay competitive and maintain their position as industry leaders by promoting management strategies that concentrate on seeing and exploiting chances as well as tracking innovative performance. In the end, companies may successfully negotiate the complexity of the current market environment and promote sustainable development via ongoing innovation by fostering an entrepreneurial attitude across the whole company.

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