

Leadership for India Inc: Practical Concepts and Constructs
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Week - 12
Legendary Leadership
Lecture - 58
Steve Jobs
Technology Visionary Par Excellence

Hi Friends, welcome to the NPTEL course Leadership for India Inc: Practical Concepts and Constructs. We are in week 12, discussing Legendary Leadership. In this week, we will focus on Steve Jobs who was an outstanding technology visionary.

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Steve Jobs (1955 – 2011): Life and Soul of Technology

Steve Jobs, the CEO of Apple, Inc., who passed away on October 5, 2011 was an iconic leader of technology and business. If Apple products have achieved a cult status and if Apple has become the first company in the world to cross USD 2 trillion in market value, Steve's technological genius and business leadership are responsible.





Steve Jobs was undoubtedly one of the greatest technology visionaries and business leaders of all time.

Steve Jobs defined what words like creativity, innovation and connectivity actually mean through his products and customer experiences.

Steve Jobs (1995-2011), CEO of Apple, Inc.

Steve Jobs clearly belongs to the rare class of leaders who give depth and substance to the concepts that are abstractly talked about but are never fully and truly experienced by the users. The world, not merely the domain of technology or the field of consumer electronics, became poorer by his departure.



He represented life and soul of technology, Steve jobs the CEO of Apple Inc who passed away on October 5, 2011 was an iconic leader of technology and business. If Apple products have achieved a cult status, and if Apple has become the first company in the world to cross 2 trillion us dollars in market capitalization, Steve's technological genius and business leadership are responsible. Steve Jobs was undoubtedly one of the greatest technology visionaries and business leaders of all time.

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class of leaders who give depth and substance to the concepts that are abstractly talked about but are never fully and truly experienced by the users. The world, not merely the domain of technology or the field of consumer electronics, became poorer by his departure.

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Unique and Pioneering Contributions

Over the two decades of stewardship, Steve pioneered a computing and connectivity revolution which changed irrevocably how the world networks and experiences itself. Through his several product and process contributions that took creativity and innovation to newer heights, Steve Jobs transformed consumer electronics.



iMac iPod iPhone iPad Apple Watch Apple TV

Each of his devices was an epitome of elegance and aesthetics with high performance, reliability and durability. Each device brought in a level of consumer experience that was never before experienced at that point of time.



He made several unique and pioneering contributions. Over the two decades of stewardship, Steve pioneered a computing and connectivity revolution which changed irrevocably how the world networks and experiences itself. Through his several product and process contributions that took creativity and innovation to newer heights, Steve Jobs transformed consumer electronics.

Whether it was iMac, iPod, iPhone, iPad or Apple watch and Apple TV, each of his devices was an epitome of elegance and aesthetics with high performance, reliability and durability. Each device brought in a level of consumer experience that was never before experienced at that point of time.

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Universal Product

Steve's genius lay in the fact that his products had a universal appeal – from highly developed markets to low income markets, and from affluent consumers to indigent customers. Segmentation, as defined for decades by marketing gurus had no relevance for Apple products and customers. iPhone, for example, has a universal appeal.



iPhone	Reinventing	Convergence
The original iPhone was introduced by Steve Jobs on January 9, 2007 at the Macworld Conference & Expo held in San Francisco, California.	In his address, Jobs said, "This is a day, that I have been looking forward to for two and a half years", adding that "today, Apple is going to reinvent the phone."	Jobs introduced the iPhone as a combination of three devices: a "widescreen iPod with touch controls"; a "revolutionary mobile phone"; and a "breakthrough Internet communicator".



Steve Jobs Launching the first iPhone



The first iPhone, the revolutionary transformation

Collaborators and competitors have been one in praising the enormous transformation he brought about in the deployment of digital technology to improve and enhance everyday living.



Steve's genius lay in the fact that his products had a universal appeal- from highly developed markets to low income markets, and from affluent consumers to indigent consumers. Segmentation has defined for decades by marketing gurus had no relevance for Apple products and customers. iPhone for example, has a universal appeal. I would say that Steve jobs was a pioneer in designing and developing a product with total universality in its appeal in the market place.

The original iPhone was introduced by Steve Jobs on January 9, 2007 at the Macworld conference and Expo held in San Francisco, California. In his address, Jobs said, "This is a day that I have been looking forward to for two and half years", adding that "today, Apple is going to reinvent the phone" and how the phone was reinvented by him is history.

Jobs introduced the iPhone as a combination of three devices: a "widescreen iPod with touch controls"; a "revolutionary mobile phone" and a "breakthrough internet communicator". You can see here Steve Jobs launching the first iPhone and it was a revolutionary transformation priced at that point of time at 199 dollars for an 8 GB configuration.

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Artistic Genius

Even more remarkable is the fact that even as a technologist and businessman, Steve Jobs is compared with some of the greatest artists of all time like Mozart, Picasso and Leonardo da Vinci! Steve Jobs was an artist and genius extraordinaire who integrated many aspects of product design, delivery and usage.

Technology and Art Hardware and Software

Integration, Par Excellence

Materialism and Emotion Business and Life

An amazing inventor of product concepts

An astounding integrator of ecosystems

An awesome creator of customer experiences

This lecture draws certain important lessons and insights from his leadership as to how "thinking differently" can make highly positive and significantly transformative changes to individuals, firms, societies and nations.

He was genius who was also artistic at heart. Even more remarkable is the fact that even as a technologist and business man; Steve Jobs is compared with some of the greatest artists of all type like Mozart, Picasso and Leonardo da Vinci. Steve Jobs was an artist and genius extraordinaire who integrated many aspects of product design, delivery and usage artfully and artistically.

The integration covered the following: technology and art at one level, hardware and software at a very essential level. Materialism and emotion at the consumer level, and business and life at the firm level, he was an amazing inventor of product concepts an astounding integrator of ecosystems and an awesome creator of customer experiences.

This lecture draws certain important lessons and insights from his leadership as to how "thinking differently" can make highly positive and significantly transformative changes to individuals, firms, societies and nations.

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From Digital Divide to Digital Connectivity

The greatest contribution of Steve Jobs was in making computers and smart devices a part of daily living, at work and off work. This was a key driver of all his work.

Steve Jobs co-founded Apple with Steve Wozniak in 1976

- Invented the world's first truly personal computer in 1977
- Kept on transforming the computing and connectivity world with stunning new products



The Device Divide Bridged

- Until the 1980s, computers were for offices and businesses while entertainment devices were for homes and families
- Steve made computers truly and sensitively personal devices, capable of handling arts, graphics, media and entertainment

Apple brought out new devices that set new standards in elegance and performance

- Pioneered the integration of media in all forms with handheld portable Apple devices such as iPods, iPhones and iPads
- Steve transformed the digital divide into digital connectivity

Productivity that comes out of efficient organization of activities, and motivation that results from sensory satisfaction are achieved through Steve's Apple products, making life both productive and pleasurable.



The greatest contribution of Steve Jobs was in making computers and smart devices a part of daily living, at work and off work. This was a key driver of all of his work. He converted the digital divide into digital connectivity. Steve Jobs cofounded Apple with Steve Wozniak in 1976. He invented the world's first truly personal computer in 1977; he kept on transforming the computing and connectivity world with stunning new products.

He bridged the device divide: until the 1980s, computers were for officers and businesses while entertainment devices were for homes and families. Steve made computers truly and sensitively personal devices, capable of handling, arts, graphics, media and entertainment. Apple brought out new devices that set, new standards in elegance and performance. He pioneered the integration of media in all forms with handheld portable Apple devices such as iPods, iPhones and iPads.

Steve transformed the digital divide into digital connectivity. Productivity that comes out of efficient organization of activities, and motivation that results from sensory satisfaction are achieved through Steve's Apple products and that made life both productive and pleasurable for the consumers.

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Device Socialism

Equally important has been the socialistic philosophy of Steve Jobs, which probably has not been understood well. He believed in device universality and commonness of aspirations across segments.

Pre-Steve Jobs Wisdom

Every other industry or business corporation believed in offering products at a lower level (so called utilitarian) to one stratum of the society and products at a higher level (so called luxury) to another stratum.



Steve's Paradigm

In total contrast to such a practice, Steve offered one standardized high technology, high value product to all sections of the society.

Universality

He also did not believe in the practice of either skimming the market with hyped up value and usurious pricing or fragmenting it with broken technologies and flexible pricing.

In fact, his products are the same - whether for billionaires or for commoners. In the first several years of iPod, iPhone and iPad revolution, he offered only one standardized model for all customer segments.



He was also a pioneer in what I call device socialism. Equally important has been the socialistic philosophy of Steve Jobs unexpressed but expressed in terms of the products, this probably has not been understood well. He believed in device universality and commonness of aspirations across segments. The pre Steve Job wisdom was that every other industry or business corporation should believe in offering products at a lower level so, called utilitarian to one stratum of the society.

And, products should be offered at higher level so, called luxury products to another stratum that was the Pre Steve Jobs Wisdom. Steve's Paradigm was entirely different in total contrast to such a practice, Steve offered one standardized high technology, high value product to all sections of the society.

From the managing director of a corporation to the chauffeur people like to have an iPhone and it was not infradig for the managing director or the chief executive officer to have the same iPhone which his chauffeur had.

He also did not believe in the practice of either skimming the market with hyped up value and usurious pricing or fragmenting it with broken technologies and flexible pricing. He thought he made a great product available at a price point for all consumers in the same common standardized form. In fact, his products were the same whether for billionaires or for commoners. In the first several years of iPod, iPhone, and iPad revolution, he offered only one standardized model for all customer segments.

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The Success Factor



The user experience from his products was so classy, yet so natural and personalized that neither the rich nor the not-so-rich found themselves alienated from his universal designs.

He never had to make his iPhone with titanium or platinum or bedeck it with crystals or diamonds for the rich to differentiate it from the standard iPhone for the masses.

In a sense, Steve achieved an immense measure of social equalization with his technological virtuosity, an achievement which political and social campaigns could not ever achieve.

Steve Jobs' digital connectivity is more than a technological feat; it is a transformational phenomenon of social equalization and universal harmonization.

If only more corporate leaders become attuned to this philosophy of providing high product value and exceptional consumer experience, industries would be more scale-efficient, waste-avoiding and cost-competitive.



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He never had to make his iPhone with titanium, or platinum, or bedeck with crystals or diamonds for the rich to differentiate it from the standard iPhone for the masses. In a sense Steve achieved an immense measure of social equalization, with his technological virtuosity an achievement which political and social campaigns also could not ever achieve.

Steve Job's digital connectivity is more than a technological feat; it is a transformational phenomenon of social equalization and universal harmonization in the device world. If only more corporate leaders become attuned to this philosophy of providing high product value and exceptional consumer experience, industries would be more scale efficient waste avoiding and cost competitive.

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Minimalist Design and Maximal Impact

The contributions of Steve Jobs in the field of design are phenomenal. From form factor simplification to control optimization each generation of products brought out minimalist designs for maximal impact.





Steve's minimalist design has had successive definitions through his products, each topping the other, almost as objects of varied art. Like works of art, the previous versions did not feel obsolete.

His products blended harmoniously with myriad environmental ambiances even while retaining an outstanding differentiation.

Apple products, especially the "i" Series, demonstrate that a well designed and elegantly crafted form factor can be as durable and as compelling as a corporate logo.

His design philosophy defines the term 'trade mark' in terms of emotional ownership by his users, which no amount of legal ownership that trade mark rights can fetch to a company.

Apple's design philosophy set by Steve Jobs has been so strong that successive generations only built on the foundational design strengths, marking change with continuity.



How does this work out through minimalist design and maximal impact? The contributions of Steve Jobs in the field of design are phenomenal. From form factor simplification to control optimization each generation of products brought out minimalist designs for maximal impact. Steve's minimalist design has had successive definitions through his products, each topping the other almost as objectives of varied art.

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Apple products especially the "i" series, demonstrate that a well designed and elegantly crafted form factor can be as durable, and as compelling, as a corporate logo. His design philosophy defines the term 'trademark' in terms of emotional ownership by his users, which no amount of legal ownership the trademark rights can fetch to a company.

The fact that people stood in queues patiently irrespective of the weather conditions, to get their hands on the first released iPhone or iPod was a great testimony to the attachment the customers had for his products and how he converted smart devices into a cult phenomenon for the millennials as also for the elderly people.



Apple's design philosophy set by Steve Jobs has been so strong that successive generations only built on the foundational design strengths, marking change with continuity you can see that in these products.

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Steve Jobs Defined the Making of a Blockbuster Product

The Graphic below presents how Steve Jobs designed and developed Apple products not only as epitomes of technological advancement but also as elegant works of art. Very few manufacturers can match Apple on scoring 10 out of 10 on factors of blockbuster product design, development, manufacture and delivery.

The biggest contribution of Steve Jobs has been in terms of redefining products in terms of customer experience. Connect with customers has been taken to a new level by staying ahead of customer expectations consistently.



Steve Jobs also defined the making of a blockbuster product, the graphic below presents how Steve Jobs designed and developed Apple products not only as epitomes of technological advancement but, also as elegant works of art. Very few manufacturers can match Apple on scoring 10 out of 10 on factors of blockbuster product design, development, manufacturing and delivery.

What are those blockbuster factors? One functionalization beyond imagination, when the iPhone or iPod came out first the functionality and experience which the products provided were beyond imagination of the users at that point of time. Flawless performance was the second factor, unmatched quality again another factor, exceptional price value advantage, reliable service assurance, panache for perfection from product to packaging to delivery, effective customer connectivity and of course, the creative and elegant design representing the Apple trademark of any product.

The biggest contribution of Steve Jobs has been in terms of redefining products, in terms of customer experience. Connect with customers has been taken to a new level by staying ahead of customer expectations consistently.

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Change and Continuity

With Steve Jobs demise, it fell on his successor Tim Cook to carry forward the legacy. Already a part of Steve Jobs leadership team as head of supply chain from 1998 and as chief operating officer from 2007, Tim became the chief executive officer in 2011 upon the demise of Steve Jobs and carried forward the legacy with aplomb.

At times, change becomes inevitable due to internal or external developments. Changing for the better while continuing with what clearly is the best propels a firm to greater successes. Jobs created such a lasting foundation for Apple. Tim Cook developed and built on the 'change with continuity' paradigm admirably.

With Steve Jobs demise, it fell on his successor Tim Cook to carry forward the legacy. Already a part of Steve Jobs leadership team as head of supply chain from 1998 and as chief operating officer from 2007, Tim became the chief executive officer in 2011 upon the demise of Steve Jobs and he carried forward the legacy with aplomb.

Innovation and perfection were the hallmarks of Steve Jobs, Tim Cook brought in more perfection, he also brought in more innovation bringing in greater variety of iPhones and also introducing Apple watch as a health companion.

At times, change becomes inevitable due to internal or external developments. Changing for the better while continuing with what clearly is the best propels a firm to greater successes. Jobs created such a lasting foundation for Apple based on innovation and perfection. Tim Cook developed and built on the 'change with continuity' paradigm admirably.

We discussed the change with continuity paradigm even in respect of Tata conglomerate, particularly various companies which were motivated to do better on their solid foundations, but with appropriate adaptations to the environment. Apple of course, represents the pinnacle of innovation with perfection.

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The Success Factor

The other aspects of Apple's design philosophy are equally compelling. Many of Steve Jobs' design innovations were first-time introductions for the industry and the markets, and had little follow-through competition.

Steve Jobs' product technology had been intuitive, universal and user-friendly.

His products aligned perfectly with natural human behavior of 'explore and experience'.



From the 'scroll and click' mouse he pioneered for his personal computers initially to the 'touch and feel' he developed for his smart devices, Jobs transformed computers into a great sensory and audio-visual experience.

He pioneered the use of intuitive self-use and self-training controls for his devices.

No one needed to read complex manuals or go through multi-step tutorials to start using Apple products.

Highly intuitive, feelingly natural and helpfully self-corrective features distinguished the user experience provided by Apple products.

Steve Jobs pioneered a design philosophy which made the devices the companions of the users; neither the devices controlled the users nor vice versa. This feature thrived continuously, with Apple Watch taking the companionship concept to new horizons.



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Highly intuitive, feeling natural and helpful in terms of self-corrective features, all of Apples products designed by him would distinguish themselves in terms of user experiences. Steve jobs pioneered a design philosophy which made the devices the companions of the users; neither the devices control the users nor vice versa. This feature thrived continuously, with Apple watch taking the companionship concept to new horizons.



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Design Language

Steve Jobs has done what was for long impossible; he infused life into technology, rendered its functioning soulful, and made technology intelligible to even the uninitiated.

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graph TD; HT((Humanized Technologies)); MG[Mac Graphics]; CM[Computer Mouse]; TSPM[Touch, Slide, Pinch, Move]; SC[Sensory Commands]; VC[Voice Commands]; HT --- MG; HT --- CM; HT --- TSPM; HT --- SC; HT --- VC;
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Apple's design philosophy set by Steve Jobs has been so strong that succeeding leadership generation has only built on the design strengths, marking change with continuity.



What was the design language that Steve Jobs adopted? He has done what was for long impossible; he infused life into technology, rendered its functioning soulful, and made technology intelligible to even the uninitiated. His humanized technologies were visible in the Mac graphics, the computer mouse, touch, slide, pinch, movements, sensory commands and voice commands.

Apple's design philosophy set by Steve Jobs has been so strong that succeeding leadership generation has only built on the design strengths, making change with continuity.

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Design Language

Steve Jobs' design philosophy has been commercially successful while being aesthetically elegant. Diverse smart phone models or portable music players from leading technology companies, in the aggregate, could not make any dent on the leadership position of Apple products in terms of either design strengths or market allure.

The Rise of the iPhone
Source: ComScore Mobilens, U.S.,
3 Month Ave. Ending June 2007 - May 2012

Model	Release Date
iPhone	June 29, 2007
iPhone 3G	July 11, 2008
iPhone 3GS	June 19, 2009
iPhone 4	June 24, 2010
iPhone 4S	October 14, 2011

If more scientific and technology leaders pursue simplicity and focus for optimal performance, the 'design to delivery' value chain would be that much more impactful for the corporations as well as all of their stakeholders.



Steve Jobs' design philosophy has been commercially successful while being aesthetically elegant. Diverse smart phone models or portable, music players from leading technology companies, in the aggregate, could not make any dent on the leadership position of Apple products in terms of either design strengths or market attraction.

This graphic below shows the growth of iPhone from the time the product was launched up to 2011, you can see the successive generations of iPhone and how they built volumes and scale going up to 30 million users in terms of iPhone 4 S by 2011. If more scientific and technology leaders pursue simplicity and focus for optimal performance. The design to delivery value chain would be that much more impactful, for the corporations as well as for all of their stakeholders.

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Digital Ecosystem

One of the fundamental contributions of Steve Jobs has been the creation of a global ecosystem that connected all the stakeholders of the firm value chain, functional-business value chain and customer value chain seamlessly.

From Globally Networked Partnership To



Make or Buy OEM-Component System Outsourcing Network Partnership

Apple's Global Ecosystem: There was a time when "make or buy" was a procurement decision. The concept of integration came up later to define the strategic choice of a corporation to have the full value chain within itself or focus only on a few core competencies internally.

Sufficiently independent to be specialized, and yet strongly connected to the Apple ecosystem. More recently, the wave of outsourcing has overwhelmed the world as a powerful instrument of cost competitiveness and time effectiveness.

No leader, however, has encompassed all of these concepts under one umbrella of creating a virtual ecosystem by which all the current stakeholders and future value drivers would combine to add value.

The ability to conceptualize and establish a global ecosystem connecting all the value chains, all the geographies, and all the stakeholders seamlessly is a unique leadership capability that Steve Jobs possessed.



He also pioneered digital ecosystem; one of the fundamental contributions of Steve Jobs, has been the creation of a global ecosystem that connected all the stakeholders of the firm's value chain, functional business value chain, and customer value chain into one integrated value chain seamlessly. He also made significant changes in how operations are conducted, from make or buy approach, he converted manufacturing and operations into a globally networked partnership.

So, "make or buy" decisions became networked partnership decisions through a globally networked partnership mode of OEM component system and outsourcing. Apple's global ecosystem was sufficiently independent to be specialized and yet strongly connected to the Apple ecosystem.

There was a time when make or buy was a procurement decision. The concept of integration came up later, to define the strategic choices of a corporation to have the full value chain within itself or focus only on a few core competences internally. All of these approaches were based on getting some economics out of the purchasing decision.

More recently, the wave of outsourcing has overwhelmed the world as a powerful instrument, of cost competitiveness with time effectiveness. However, no leader has encompassed all of these concepts under one umbrella of creating a virtual global ecosystem, by which all the current stakeholders and future value drivers would combine to add value. The ability to conceptualize and establish a global ecosystem connecting all

the three value chains, all the geographies, and all the stakeholders seamlessly is a unique leadership capability that Steve Jobs possessed.

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Design Language

Steve Jobs had done what was for long impossible; he had infused life into technology, rendered its functioning soulful, and made technology intelligible to even the uninitiated.

Content First

SONY

- Sony may have realized the importance of media and entertainment to development of electronics much earlier than Apple

Concept Best

Apple

- But it was Steve Jobs who pioneered the integration of music and movies into the Apple ecosystem through his iPod (2001) and iTunes(2003), providing a seamless media connectivity to the user

While some viewed this as an attempt to regulate consumer freedom through proprietary digital platform, eventually his contribution to making unlimited choice available to the consumer and curbing media piracy to support the media corporations is well acknowledged.

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To comeback to design language again, Steve Jobs had done what was for long impossible; he had infused life into technology rendered its functioning soulful, and made technology intelligible to even the uninitiated. Sony must have thought about content first, Sony certainly realized the importance of media and entertainment to development of electronics much earlier than Apple.

However, the best concept came from Apple and Steve Jobs; it was Steve Jobs who pioneered the integration of music and movies into the Apple ecosystem through his iPod 2001 and iTunes 2003 providing a seamless media connectivity to the user.

While some viewed this as an attempt to regulate consumer freedom through proprietary digital platform, eventually his contribution to making unlimited choice available to the consumer and curbing media piracy to support the media corporations is well acknowledged.

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Application Development





Equally impactful has been his unprecedented contribution to application development for his devices. In fact, the true era of application development has arrived with only the iDevices, more particularly iPhone and iPad.

Application development is the model of virtual integration at its best, providing unlimited computing, connecting, reading, gaming, and entertainment capability to the Apple devices through third party applications.

Apple could secure over 500,000 applications for its iPhone, in the very first few years - speaks off the success of the Apple digital ecosystem wherein any creative and capable software developer could come up with front-ranking applications.

Some of these application developers could themselves evolve into medium and mega enterprises in due course (Angry Birds, for example).

Also, at a time when manufacturers consider retailing to be a different expertise, Steve Jobs propounded the concept of Apple Stores to enable and enhance integrated user experience.



Equally impactful has been his unprecedented contribution, to application development for his devices. In fact, the true era of application development arrived with only the iDevices, more particularly the iPhone and iPad. Application development is a model of virtual integration at its best providing unlimited computing, connecting, reading, gaming, and entertainment capability to the Apple devices through third party applications.

Apple could secure over 500,000 applications for its iPhone, in the very first few years. This speaks of the success of the Apple digital ecosystem, wherein any creative and capable software developer could come up with front ranking applications. Coming up with that kind of application ecosystem was the first in the consumer electronics industry and that was pioneered by Steve Jobs.

Some of the application developers could themselves evolve into medium scale and mega scale enterprises in due course, angry birds is a great example of this. Also, at a time when manufacturers consider retailing to be a different expertise Steve Jobs propounded, the concept of Apple stores to enable and enhance integrated user experience.

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Digital Ecosystem

Steve Jobs infused life not only into technology, rendering its functioning soulful but also made retailing and consumer experience truly emotive and of lasting attachment.

Retailing or Customer Experiencing? At a time when manufacturers consider retailing to be a different expertise, Steve Jobs propounded the concept of Apple Stores to enable and enhance integrated user experience.

Within 3 years, with 320 retail stores, 237 of which are in USA, Apple retail network has extended the integration of the ecosystem further. Each store set new standards for customer experience.

In 2011, Apple started its iCloud service which seamlessly stores all of the music, photos, movies, documents, applications, mails, calendars and many others, and wirelessly pushes them to all of the Apple device users.

The strategies of integration, outsourcing and collaboration thus became one under a vision of digital ecosystem for Apple products, services and consumers. For all the participants, it was as if it was one's own world to live in as a digital home.



What is the digital ecosystem that he pioneered? He not only infused life into technology, rendering its functioning soulful, but also made retailing and consumer experience truly emotive and of lasting attachment. Is it retailing or is it customer experiencing and Steve Jobs answered by saying, it is customer experiencing.

At a time when manufacturers consider retailing to be a different expertise, Steve Jobs propounded the concept of Apple stores to enable and enhance integrated user experience within 3 years, with 320 retail stores 237 of which were in USA. Apple retail network extended the integration of the ecosystem further.

Each store set new standards for customer experience, in 2011 Apple started its iCloud service which seamlessly stores all of the music, photos, movies, documents, applications, mails, calendars and many others.

And, wirelessly pushes them to all of the Apple device users the strategies of integration outsourcing and collaboration thus became one under a vision of digital ecosystem for Apple products, services and consumers. For all the participants it was as if, they were living in their own world to live in as a digital home individualized customized for each individual.

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Global Value Chain





Until Jobs came on the scene, the automobile industry and consumer electronics industries were two industries that had a global value chain, that were both standalone and networked. It was Jobs who created a completely unified global R&D and manufacturing network for Apple products in the consumer electronics space.

Industries were characterized by generational, performance and styling differentials in the models offered for different countries, constraining the operation of a true global value chain.

Industries exerted to retain critical components within the developed country supply chains and within collaborating groups, tied together by ownership or loyal supply history.

Steve Jobs had a different concept of a unified product design for the globe, with R&D being under total control in the US and the rest distributed across the globe for optimal techno-economics.

In one of the previous lectures, Apple's global supply chain system was illustrated. Steve designed the devices for the globe from America, sourcing components from even potential competitors (for example, Samsung), basing the final assembly in China and generating huge value for Apple and USA through global sales. Not recognizing the potential of India in manufacturing and marketing was his failing, however, Tim Cook corrected it.



He was also a pioneer of the global value chain approach, until jobs came on the scene. The automobile industry and consumer electronics industries were two industries that had a global value chain. That were both standalone and networked; however, it was Jobs who created a completely unified global R&D and manufacturing network for Apple products in the consumer electronic space.

Industries were characterized at that point of time by generational, performance and styling differentials in the models offered for different countries, constraining the operation of a true global value chain. Industries exerted to retain critical components within the developed country supply chains and within collaborating groups tied together by ownership or loyal supply history.

Steve Jobs had a different concept of a unified product design for the globe, with R&D being under total control in the US. And the rest distributed across the globe for optimal techno economics; you can see the Apple global chain in the image that is provided here. In one of the previous lectures I presented to you Apple's global supply chain system with illustration.

Steve Jobs designed the devices for the globe from America, sourcing components from even potential competitors for example, Samsung in respect of displays. Basing the final assembly in China and generating huge value for Apple and USA through global sales.

Not recognizing the potentially of India in manufacturing and marketing of course, was his early failing; however, Tim Cook corrected it.

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Global Value Chain

Steve Job's contributions in bringing Asia on its own as the global production hub of smart phones and tablets is acknowledged by not only the leaders of the component firms but also the leaders of the governments.

Taiwan, China, Korea, Singapore and Japan drive the availability of critical components for Apple devices. Despite huge scale of procurement and critical scope, Apple has followed single vendor, and concentrated country, supply chain policy to great success.

Part of the answer could lie in Apple's penchant for integration under one ecosystem and the consequent assurance stakeholders perceive in terms of sustainable co-existence and growth.

That said, Apple's supply chain strategy is perhaps one of the more guarded aspects of the even otherwise secretive company. Flawless launch of products in millions of units the world over is possible only through a finely coordinated supply chain system as Apple's.

The lesson for leaders is that global value chain can only be optimal on the basis of two primary factors: design superiority that provides the strength to source even from competitors as much as from dependent vendors, and an overall ecosystem that provides assurance to all stakeholders through collaborative forecasting and planning.

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Steve Jobs contributions in bringing Asia on its own as the global production hub of smart phones and tablets is acknowledged, by not only the leaders of the component firms, but also the leaders of the governments. Taiwan, China, Korea, Singapore and Japan, drive the availability of critical components for Apple devices. Despite the huge scale of procurement and critical scope, Apple has followed single vendor and concentrated country's supply chain policy to great success in most cases.

Part of the answer could lie in Apple's penchant for integration under one ecosystem. And the consequent assurance stakeholders perceive in terms of sustainable coexistence and growth that said Apple supply chain strategy is perhaps one of the more guarded aspects of the even otherwise secretive company.

Flawless launch of products in millions of units of any product the world over is possible, only through a finely, controlled and coordinated supply chain system and Apple has achieved this feat.

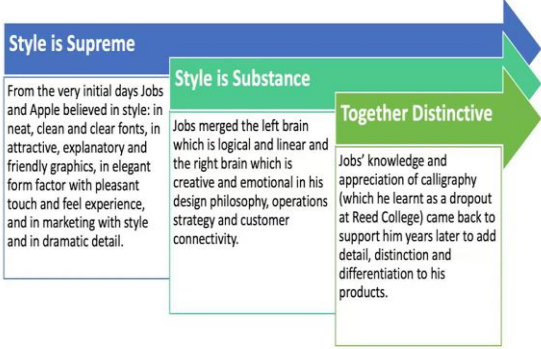

The lesson for leaders is that global value chain can only be optimal on the basis of two primary factors, one design superiority that provides the strength to source, even from

the competitors as much as from dependent vendors and, 2 an overall ecosystem that provides assurance to all stakeholders through collaborative forecasting and planning.

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Simple Elegance as Strategy

The achievements of Steve Jobs are built on just two core foundations of simplicity and elegance. These have supported a superstructure of seven principles that drove every aspect of his technology and management.




Style is Supreme
From the very initial days Jobs and Apple believed in style: in neat, clean and clear fonts, in attractive, explanatory and friendly graphics, in elegant form factor with pleasant touch and feel experience, and in marketing with style and in dramatic detail.

Style is Substance
Jobs merged the left brain which is logical and linear and the right brain which is creative and emotional in his design philosophy, operations strategy and customer connectivity.

Together Distinctive
Jobs' knowledge and appreciation of calligraphy (which he learnt as a dropout at Reed College) came back to support him years later to add detail, distinction and differentiation to his products.

These unique competences enabled Steve Jobs to develop a unique design language and execute it perfectly in R&D, manufacturing, marketing and the overall ecosystem. He established that style is indeed the substance.



Simple elegance as strategy: the achievements of Steve Jobs are built on just two core foundations of simplicity and elegance. Although, lot of science and technology went behind these two core foundations, these two core foundations have supported a super structure of seven principles that drove every aspect of his technology and management. We will consider each of those seven principles one by one, but fundamentally if you look at the whole range of Apple products we can conclude that style is substance.


In his point of view, style of a product is the supreme consideration, from the very initial days Jobs and Apple believed in style, in neat clean and clear fonts in attractive, explanatory and friendly graphics. In elegant form factor with pleasant touch and feel experience, and in marketing with style and in dramatic detail.

Style is also substance for him, Jobs merged the left brain which is logical and linear and the right brain which is creative and emotional in his design philosophy, operation strategy and customer connectivity. And together these became distinctive Jobs knowledge and appreciation of calligraphy, which he learnt as a dropout at reed college came back to support him years later to add detail distinction and differentiation to his products.

These unique competencies enabled Steve Jobs to develop a unique design language and execute it perfectly in R&D, manufacturing, marketing and the overall ecosystem. He established that style is indeed the substance, we have considered in the previous lecture how core competency is a cluster of competencies of a firm which are difficult to replicate by any other firm.

If you look at Apple's core competency which is supported by the cluster of competencies, I talked about. And, would talk about and see how difficult it has been for any other company to replicate you will understand the concept of core competence, and it is demonstrated very effectively by Apple under Steve Jobs.

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Timeliness as Strategy

Steve Jobs utilized timeliness as a competitive strategy. The concept of time as he executed was not one of go-to-market with the least time lapse from the first ideation. Rather, it was one of providing speed and efficiency in the hands of the users.


Time as Advantage to the User and the Firm

From the response time to the navigation speeds, his devices delivered the time advantage to the users.

Whether at Apple or the intervening Next Computer Services or Pixar Studios, he utilized every moment to develop or ideate on novel products.

His brightest ideas were well-timed (for example, he waited to launch the devices, ready in the late 1990s, only after the broadband revolution in 2000s).

Steve Jobs proved that timeliness does not merely mean fast "go-to-market". It involved, for him, developing things in advance and timing them for entry along with other supportive technological developments for optimal benefits to the users.



Let us look at timeliness as strategy Steve Jobs, utilized timeliness as a competitive strategy. The concept of time as he executed was not one of go to market with the least time lapse from the first ideation. Rather it was one of providing speed and efficiency in the hands of the users.

The time factor was used by him as an advantage to the user and the firm, not merely for the firm to put products at early point of time and earn dollars that was not the case. From the response time to the navigation speeds his devices delivered time advantage to the users.

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Thrill Enthral

A key leadership trait is the ability to be inspiring for an organization. But few leaders extended it to the entire ecosystem as Steve Jobs did. There lied his unique enthralling capability.

Future Possibilities

As he launched his devices, Steve Jobs created a rare thrill which transported his entire ecosystem of the Apple organization, component suppliers and vendors, application developers and more importantly the users into a world of immense future possibilities.

Intuitive Futurism

By eschewing market research and instead relying on his own perception of futuristic consumer needs, Jobs converted launch events into much anticipated dramatic rides into future.

Customer Connect

All Apple semi-annual launch events, helmed by Steve Jobs were inevitably thrilling and enthralling, representing an epitome of masterly showmanship and universal marketing.

The Apple tradition of global launch of operating systems and devices is followed up with dedication by his successor, Tim Cook and emulated by other competitors. However, Steve Jobs continues to be unmatched in the inspirational thrill that he alone could generate.

NPTL

He believed in thrill being an enthralling phenomenon, a key leadership trait is the ability to be inspiring for an organization. But, few leaders extended it to the entire ecosystem as Steve Jobs did, there lied his unique enthralling capability.

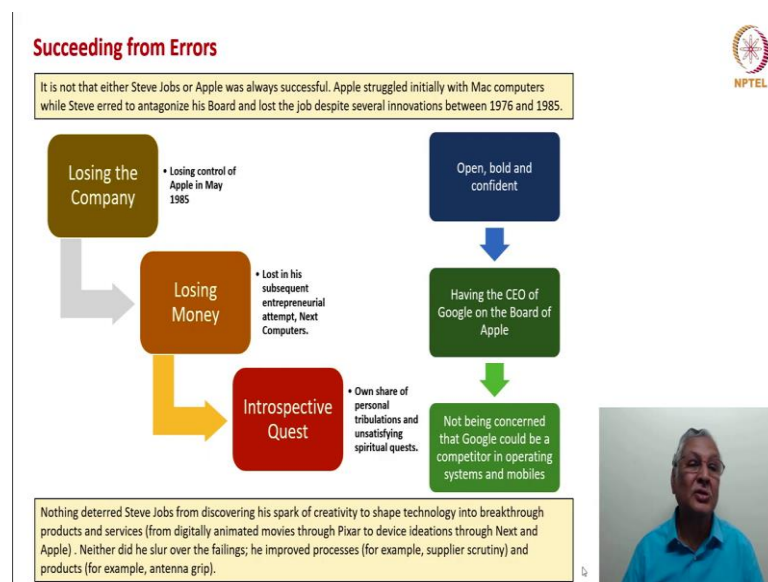
He always looked at the future possibilities even as he launched the current products. As he launched his devices Steve Jobs created a rare thrill which transported his entire ecosystem of Apple organization, component suppliers and vendors, application developers and more importantly the users into a world of immense future possibilities.

He also had a fine sense of intuitive futurism, by eschewing market research and instead relying on his own perception of futuristic consumer needs. Jobs converted launch events into much anticipation dramatic rights into future. All Apple semiannual launch events helmed by Steve Jobs were inevitably thrilling and enthralling.

Representing an epitome of masterly showmanship and universal marketing, you can look at this as the intuitive way of leadership. Apple did not rely on data market research, and a whole lot of surveys to conclude which products would be required in future. Steve Jobs relied on his inner voice, the intuitive feel to develop products which consumers would love and embrace.

The Apple tradition of global launch of operating systems and devices is followed up with dedication by his successor, Tim Cook and emulated by other companies. However, Steve Jobs continues to be unmatched, in the inspirational thrill that he alone could generate when launching products or when speaking about them.

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He also succeeded from errors it is not that either Steve Jobs or Apple was never in fault. However, they converted every error into a success trigger, Apple's struggled initially with Mac computers while Steve erred to antagonize his board, and lost the Job despite several innovations between 1976 and 1985. He lost the company especially the control of Apple in May 1985.

He lost money in his subsequent entrepreneurial attempt Next Computers; however, he went through an introspective quest, his own share of personal tribulations and unsatisfying spiritual questions had more questions than answers. Yet he came out of all of that a completely rejuvenated person and a leader, whose intuitive thinking, became

the better of his personality. Whose passion for perfection and innovation got the better of his professional personality.

He became open bold and confident, to the extent that he was happy to have the CEO of Google on the board of Apple. And, he was not concerned whether Google could be a competitor in operating systems and mobiles in the future era. Nothing deterred Steve Jobs from discovering his spark of creativity, to shape technology into breakthrough products and services, from digitally animated movies through Pixar to device ideations through Next and Apple.

Neither did he slur over the failings he improved processes for example, supplier scrutiny and products for example, antenna grip. So, wherever he was he came up with innovations, even if those innovations did not prove to be commercial successes the way he anticipated. He understood what was the missing link, and then filled in those gaps and made better products out of his next ventures and that was succeeding from errors for Steve Jobs.

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Technology for All

In the fast changing technology world, established companies are often overtaken by younger startups with more creative and disruptive technologies.

Steve Jobs demonstrated that Apple, even at 25, and he himself at 56, could be more creative than anyone else.

Apple products were not merely cool to the adolescents and young professionals but equally appealing to the elderly and home making wives.

Jobs continued to brim with creativity in his 50s as he had been in his 20s. Despite undergoing a decade long traumatic fight with cancer, Jobs continued to ideate and execute on his dream devices.

Creativity → **Non-aging** → **Undeterred**

Indefatigable spirit marked Steve Jobs' leadership. It is this passion for perfect innovation that drove Steve to bring in amazing new products, each time.

NPTEL


(Video inset shows a man in a blue shirt speaking)

He also believed in technology for all. In the fast changing technology world established companies are often overtaken by younger startups with more creative and disruptive technologies. But, did that happen to Apple no; Apple remains as young and as creative as it was when Steve Jobs took over the reins again. He demonstrated that Apple even at 25 and he himself at 56 could be more creative than anyone else. Apple products were

not merely cool to the adolescents and young professionals, but equally appealing to the elderly and home making wives.

Jobs continued to brim with creativity in his 50s as he had been in his 20s, despite undergoing a decade long dramatic fight with cancer. Jobs continue to ideate and execute on his dream devices creativity, non aging capability and being undeterred by life's challenges were the hallmarks of his personal passion. Indefatigable spirit marked Steve Jobs leadership, it is this passion for perfect innovation that drove Steve to bring in amazing new products each time.





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Team Perfection

While there is no denying Steve Jobs' singular leadership, he had also built an outstanding team of ten creative and differentiated leaders who delivered perfection in their domains.

Team Work

-  Jonathan Ive who headed design is credited with Apple's minimalist snow-white design
-  Scott Forstall drove successive IOS developments.
-  Tim Cook demonstrated exemplary supply chain prowess
-  Ron Johnson's retail strategy provided end-to-end competencies

The smooth succession of Tim Cook to the CEO role, upon the demise of Steve Jobs, also signifies the timely development of internal leadership talent at Apple.



He also believed in team perfection, while there is no denying Steve Jobs singular leadership. He had also built an outstanding team of ten creative and differentiated leaders, who delivered perfection in their domains I talk about four people here. Jonathan Ive who headed design is credited with Apple's minimalist snow white design; Scott Forstall drove successive IOS developments.

Tim Cook demonstrated exemplary supply chain prowess. Ron Johnson's retail strategy provided end to end competencies. This smooth succession of Tim Cook to the CEO role upon the demise of Steve Jobs also signifies the timely development of internal leadership talent at Apple.

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Wealth is Business Health

Steve Jobs is not known to have contributed or part-transited wealth to charity as Bill Gates and Warren Buffet have done. He, however, believed in creation of business health with generation of employment and elevation of quality of life. The current status of Apple built on Steve Jobs' foundations is as below.

Number of Employees 137,000	Global Revenue USD 260 billion (2019)	Global Profits USD 57 billion (2019)
At Least 200 Top Global Vendors	Countries of Operation	Market Capitalization USD 2 trillion (August 2020)

The national wealth he generated through Apple, and the sheer scale of his product development and manufacturing and the global marketing of his products created more jobs and career opportunities than any comparable industrial or charitable activity could. Jobs illustrated that wealth earned innovatively through humanization of technology is the best way to ensure sustainable health of businesses.



Wealth is business health that was a dictum for Steve Jobs, Steve Jobs is not known to have contributed or part transited wealth to charity. As Bill Gates and Warren Buffet have done. He, however, believed in creation of business health with generation of employment and elevation of quality of life. The current status of Apple built on Steve Jobs foundations illustrates this.

Today, Apple employs 137000 employees globally, its global revenues have crossed 260 billion US dollars 2019 figures, its global profits crossed 57 billion 2019 figures again. At least 200 top global vendors support the supply chain of Apple phones and other devices. And the countries of operations are virtually the entire world, and its market capitalization has crossed USD 2 trillion as of August 2020.

The national wealth he generated through Apple. And, the sheer scale of his product development and manufacturing. And the global marketing of his products created more jobs and career opportunities, than any other comparable industrial or charitable activity. Jobs illustrated that wealth earned innovatively, through humanization of technology is the best way to ensure sustainable health of businesses.

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Apple iPod, iPhone and iPad sales grew phenomenally together. The sales of these three devices from first quarter of 2006 to 4th quarter of 2018 in million units illustrates this, each generation of iPod, iPhone and iPad had surge buying in the quarter of introduction followed by steady demand.

This annual cycle was a response to generational innovations in 2019 Q 4, the category revenue is constituted by iPhone 52 percent, iPad 7 percent, Mac 11 percent wearable's 10 percent and services 20 percent. This innovation spree also saw the phasing out of iPod, once iPhone became the mainstream device. He was not doggedly and dogmatically in love with his first innovative devices.

When he thought that iPhone completely over shadowed iPod, he was not unwilling to let go of iPod. He brought in successive new devices and, if necessary phased out the earlier devices to make sure that the technological innovation continued without getting hamstrung, by the product legacies that was his contribution to the product philosophy.

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As an Apples cofounder and as a leader of an era he has got several credits to his profile, between 1984 and 1992. He got the early success with Mac, in 91 and to 1997 period, he had decline and restructuring experience at Apple. However, when he returned to the company in 1997, the next decades saw return to profitability with him at the helm.

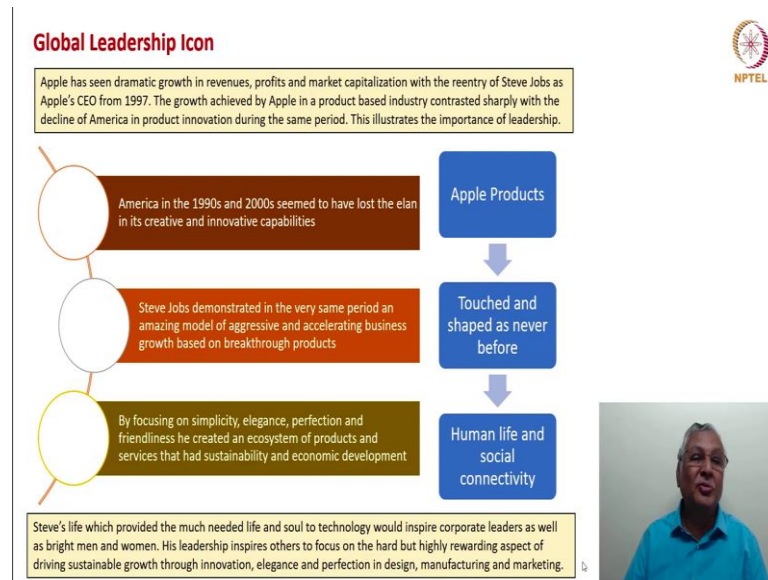
And from 2007 with a full line of smart devices, there was just no looking back for Apple. Apples growth since rehiring Steve Jobs 20 years ago can be seen from this chart, from 7 billion dollars in 1997 to 216 billion dollars in 2016 and more than 260 billion dollars currently reflects Jobs the kind of growth, he steered at Apple.

He cofounded Apple and was known to brim with impatience seeking to develop perfect and innovative products, even if they were only a few, he never believed in segmenting the market with multiple products. He departed after a fight with John Scully in 1985 and made an epochal return in 1997 to lead Apple to great highs with innovation.

And the way the market cap grew from 3 billion dollars in 1996 to 624 billion dollars in 2016. And, currently to over 2 trillion dollars in 2020 is a great proof of how Apple became the darling of stock markets, not for any reason other than the product profile, the product spectrum. And the scope for innovation the company showcases every 6 months.

The charts above and the phases of startup, decline, turnaround and growth, wherein the company last out without Steve Jobs and grew with Steve Jobs reflected the innovation leadership that Steve Jobs provided. It also reflects how a great leader can make a world of difference to a company.

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Steve Jobs was truly a global leadership icon, Apple has seen dramatic growth in revenues, profits and market capitalization with the reentry of Steve Jobs as Apple CEO from 1997, we have seen the kind of growth which Apple underwent under Steve Jobs upon his return.

The growth achieved by Apple in a product based industry, contrasted sharply with the decline of America in product innovation during the same period. This illustrates the importance of leadership; we are aware that in the 1990s and 2000s America lost its capability in terms of world class product innovation and world class manufacturing efficiency. If at all Japan, South Korea and other countries began taking the lead, in the automobile industry, Toyotas and Nissans of the world began ruling the roads.

Similarly, in consumer electronics Sony and other companies such as Sharp, they began ruling the arena and in various other fields it was the Japanese and Koreans including Samsung and Daewoo and Hyundai, which began having the ascendancy. And during that time Steve Jobs demonstrated an amazing model of aggressive and accelerating business growth, based on breakthrough products, by focusing on simplicity, elegance

perfection and friendliness. He created an ecosystem of products and services that had sustainability and economic development at their core.

The Apple products which he designed touched and shaped as never before, every part of human life and much of social connectivity. Steve's life which provided the much needed life and soul to technology would inspire corporate leaders, as well as bright men and women. His leadership inspires others to focus on the hard, but highly rewarding aspect of driving sustainable growth through innovation, elegance and perfection in design, manufacturing and marketing.

So, if you see Steve Jobs over all leadership, you can visualize a leader who had a complete end to end understanding of how products can be designed, manufactured and delivered in the marketplace. And, he also understood what would make a differentiated success in each of these domains, how simplicity, elegance, perfection, user functionality, user experience could make a world of difference in product design.

He also understood how manufacturing efficiency, global supply chain optimality and globally networked production would make a world of difference to manufacturing efficiency and operational excellence. He understood how providing a firsthand experience in terms of highly classy, Apple retail stores would make the world of difference to the consumers in the marketing era.

And all of that he had in his mind as one complete so, to say a seventy mm movie in his mind and his mental faculties were so, flexible and so dynamic that he could achieve this over and over again with successive generation of each product line be it iPhone, iPad or Apple watch.

And, also expand that to newer product regimes as time started rolling on and that is his leadership the leadership to be creative to be able to visualize the complete product life cycle and establish an infrastructure that can take care of it from design through manufacturing to delivery was his high point. As he said and worth repeating again Steve's life provided the much needed life and soul to technology, it would inspire corporate leaders as well as bright men and women.

His leadership inspires others to focus on the hard, but highly rewarding aspect of driving sustainable growth through innovation, elegance and perfection in design manufacturing and marketing.

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The Magic and the Message

Unlike Jack Welch and other leaders, Steve Jobs never made an attempt to discuss or describe his managerial or leadership thoughts in conferences or other public forums (one exception being the famous "Stay hungry. Stay foolish" commencement address at Stanford University).

Intensely Personal

Steve Jobs' commencement address at Stanford University in 2005, however, went on to become one of the most quoted speeches.



Sharply Introspective

His address is still described as 'life-changing' and 'career-transforming'. The three personal stories he narrated in the speech were unique.

Inspirational

His life would inspire generations for the power of their simplicity just as his Apple products would continue to thrill generations with the elegance, innovation, and perfection of technology.

As discussed in this lecture through multiple examples, the legend that Steve Jobs is one that would live on through generations of human enterprise and endeavour for the elegant model of perfect innovation he built.



So, I would say that he represented the magic of technology, he demonstrated to us how the products could provide us with magical experience, when we try to see them, feel them or use them. And, his life had that message he never tried to explain his own leadership message as others try to do, unlike Jack Welch or other leaders Steve Jobs never made an attempt to discuss or describe his managerial or leadership thoughts in conferences or other public forums. That one exception was the famous stay hungry, stay foolish, commencement address at Stanford University.

He made an intensely personal address, when he took upon himself the responsibility of delivering the commencement at Stanford University in 2005. However, that speech went on to become one of the most quoted speeches ever, it was very sharply introspective his address is still described, as life changing and career transforming.

The three personal stories he narrated in the speech were unique, his life certainly would inspire generations for the power of their simplicity. Just as his Apple products would continue to thrill, generations with the elegance innovation and perfection of technology. As discussed in this lecture through multiple examples, the legend that Steve Jobs is one

that would live on through generations of human enterprise and Endeavour for the elegant model of perfect innovation he built.

We can make products which are innovative, people can make products which are perfect, but to make products which are perfectly innovative or innovatively perfect only an outstanding and once in a lifetime leader can do and that was Steve Jobs for us. So, we have considered earlier leaders from the fields of public eminence and the field of education.

You can see from those leaders how they have excelled themselves in their respective fields. And, if you can see something which is common it is the connectivity, Doctor Abdul Kalam connected himself admirably with every stakeholder be it a small child, or a student of a school, or a student of college, or member of parliament. He connected with everybody not merely in terms of the position. And, actually in spite of the position he connected with everybody through knowledge.

He was a self-made man, he overcame all obstacles and became a leading scientist, and developed several products that were helpful for India civilian and military needs. And he demonstrated that nothing stands between him and his people, not even the august office as far as connectivity goes that was one type of connectivity.

Then, we had Dr. C K Prahalad in our consideration; I demonstrated how he came up with great concepts very innovative strategic concepts, very innovative management concepts, but more importantly how he connected each of these concepts. And, made a holistic strategic agenda for organizations, again even more importantly he took to the various fora he appeared at various public and private forums and spread his message. He articulated the concepts which he brought about.

Again he did something different; he focused on the bottom of the pyramid. He came up with the concept of people who are in poverty being people who also can drive profits for firms provided the firms understand the bottom of the pyramid in the right manner. So, he came up with the concept of firms working in partnership with the indigent sections of the population.

He came up with this wonderful concept of they being, micro consumers, micro producers, micro innovators and micro investors. He also connected the developed world

with the developing world, he connected the rich with the poor, he connected the governments with the firms. He connected the shy and diffident and insecure industrialists with the new horizon which was beckoning them to take India onto the global stage.

So, connectivity was his great strength and consumer orientation was his great appeal, and he always believe that much of the competition comes in not from the external world. But, from the organizations own ossification over time.

Now, we have seen Steve Jobs, Steve Jobs connected himself through his products with the rest of the world. He developed products which the people accepted, which the people used and which the people loved, he gave to the consumers the experience. Even before they understood what that experience meant for them, and that was his greatness. And, he believed in a universal design and he demonstrated that one design can meet the entire market.

There was no need in his philosophy to segment the market into innumerable layers, and then start offering different products for different segments. That was needless complexity in his view, he came up with this single standardized model of iPhone, and simply swamp the market with that, in that respect we can say that he was the Henry Ford of the consumer electronics industry.

Because, just as Henry Ford came up with the standardized manufacture of automobile, and then transformed the assembly line manufacturing system. And therefore, made automobile industry an intensely mass consumer industry, Steve Jobs also transformed the consumer electronics industry through his standardized design philosophy into one which is integrated in terms of excellence and efficiency.

Not only that he combined the true attributes of a great product perfection and innovation. He came up with the theory, which I have interpreted as being style is substance. And, it is true because you cannot have a stylized product unless there is lot of technology behind that style. You cannot have finely, rounded curved device unless you have the ability to have that level of perfection in machining.

And the kind of materials which make that kind of smooth flow possible, you cannot have miniaturization unless you have the ability to reduce the components inside the

phone. You cannot have the ability for a product to meet multiple needs, unless you understand how multiple technologies can be packed into one single design.

So, when he brought out style he brought out style, because there was substance which he innovated and which he manufactured, and which he packaged in terms of one single product and that is the inspiration he brings to us. And, he created digital homes for his users; he made sure that people had one seamless experience of having connectivity. And traceability and restorability for all their document needs, for all their media needs, for all their photographic needs.

In fact, therefore, he created a digital world for each of his customers and the way the devices started communicating,

Apple Siri being the pioneering venture in that pioneering initiative in that, again reflected his futuristic thinking and several of the products which we may be seeing, now could for all probability been made into developmental prototypes during his time as well. That was the level of foresight and fore thought he had, and that was the manner in which he shaped the entire organization into a talent crucible.

I would always remember Steve Jobs as the epitome of perfect innovation or innovative perfection. So, as discussed in this lecture through multiple examples the legend that Steve Jobs is one that would live on, through generations of human enterprise and Endeavour for the elegant model of perfect innovation, he built and that is what should inspire us to treat science and technology with great respect, and in whatever way we can bring life and soul of technology for social good.

Thank you very much; we will meet again in the next lecture.