Knowledge Management
UE17CS342

IBM®

CASE STUDY

Project Team:

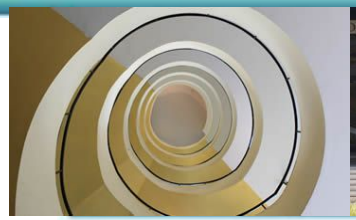
Likith R Shekar	PES1201700147
Sakshi Goel	PES1201700148
Siddharth Shankar	PES1201700691
Dinakar S M	PES1201700857
Salman Ahmed	PES1201700954
Pooja Patil	PES1201701354

Project Guide:
Prof. Krupesha

IBM

International Business Machines Corporation is an American multinational technology company headquartered in Armonk, New York, with operations in over 170 countries.

- **CEO**: Arvind Krishna
- **Type:** Public
- **Founders:** Charles Ranlett Flint
  Thomas J. Watson
- **Services:** Outsourcing, Consulting, Managed Services
- **Industry:** Cloud Computing
  Artificial Intelligence
  Computer hardware
  Computer software
- **Number of employees:** 352,600



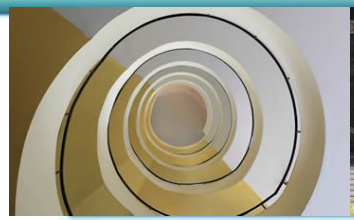



IBM India

IBM India Private Limited is the Indian subsidiary of IBM. It has been the only multinational with the largest number of employees in India.

- **CEO**: Arvind Krishna
- **MD, India:** Sandip Patel
- **Founders:** Charles Ranlett Flint
  Thomas J. Watson
- **Services:** Outsourcing, Consulting, Managed Services
- **Industry:** IT Services
  Computer hardware
  Consulting
- **Number of employees:** ~ 350,000
- **Headquarters**: Bangalore

PES UNIVERSITY






Major Clients

Microsoft

NORTEL

DELL

intel

TOSHIBA

vmware

hp

CISCO

ORACLE

IBM

Rise of IBM

- The International Business Machines Corporation (IBM) is an American multinational technology company headquartered in Armonk, New York.
- Julius E. Pitrap patented the computing scale in 1885. Alexander Dey invented the dial recorder in 1888. Herman Hollerith patented the Electric Tabulating Machine. Willard Bundy invented a time clock to record a worker's arrival and departure time on a paper tape in 1889. On June 16, 1911, these three companies were combined in New York State by Charles Ranlett Flint forming a company, the Computing Tabulating Recording Company (CTR) based in Endicott, New York.
- In 1914, Thomas J. Watson joined the CTR as a General manager and in 11 months became the President of the company.

Rise of IBM

- On February 14, 1924 CTR was renamed to International Business Machines (IBM).
- In 1937, IBM tabulating equipment enables organizations to process huge amounts of data. The US government adopted Social Security Act and made its first effort to maintain the employment records for about 26 million people using IBM punched card machines. The social security related business gave an 81% increase in revenue from 1935 to 1939.
- In 1944, IBM co-develops its first computer, the Automated Sequence Controlled Calculator aka Mark I, with Harvard University. It was used by the Navy to calculate gun trajectories.

Rise of IBM

- In 1949 Thomas Watson, Sr., created IBM World Trade Corporation, a subsidiary of IBM focused on foreign operations. In 1952 he stepped down after almost 40 years at the company helm, and his son Thomas Watson, Jr. was named president.

- In 1956 the company demonstrated the first practical example of artificial intelligence when Arthur L. Samuel of IBM's Poughkeepsie, New York, laboratory programmed an IBM 704 not merely to play checkers but "learn" from its own experience. IBM also developed its first commercial hard disk drive, the 350 RAMAC Disk Storage Unit, which was a major component of the groundbreaking 305 RAMAC computer.

- In 1957 the FORTRAN scientific programming language was developed.

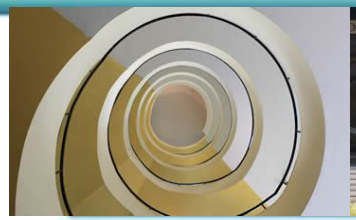
Rise of IBM

- On April 7, 1964, IBM announced the first computer system family, the IBM System/360. It was followed by the IBM System/370 in 1970.
- In 1974 IBM engineer George J. Laurer developed the Universal Product Code. The IBM PC, originally designated IBM 5150, was introduced in 1981, and it soon became an industry standard. In 1991 IBM spun out its printer manufacturing into a new business called Lexmark.
- In 2005 the company sold its personal computer business to Chinese technology company Lenovo and, in 2009, it acquired software company SPSS Inc. Later in 2009, IBM's Blue Gene supercomputing program was awarded the National Medal of Technology and Innovation by U.S. President Barack Obama.

Rise of IBM

- In 2012 IBM announced it has agreed to buy Kenexa, and a year later it also acquired SoftLayer Technologies, a web hosting service, in a deal worth around $2 billion. In 2014 IBM announced it would sell its x86 server division to Lenovo for $2.1 billion.

- In 2015 IBM announced three major acquisitions: Merge Healthcare for $1 billion, data storage vendor Cleversafe, and all digital assets from The Weather Company, including Weather.com and the Weather Channel mobile app. In 2016, IBM acquired video conferencing service Ustream and formed a new cloud video unit. In 2015, IBM bought the digital part of The Weather Company; and in October 2018, IBM announced its intention to acquire Red Hat for $34 billion, which was completed on July 9, 2019.



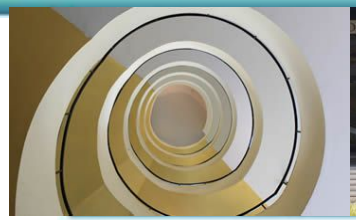



Business Model Canvas

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
	Key Resources		Channels	

Cost Structure	Revenue Streams

PES UNIVERSITY






IBM

Business Model Canvas

- Customer Segment:
  Being a company that lives at the intersection of IT and business, it has customer in almost every sector while mainly serving the business market.

- Value Proposition:
  It provides integrated solutions to businesses and client organizations.
  It's values are its dedication to every client's success, innovation that matters, and personal responsibility in all relationships.

L'ORÉAL

Walmart

P&G
Procter&Gamble

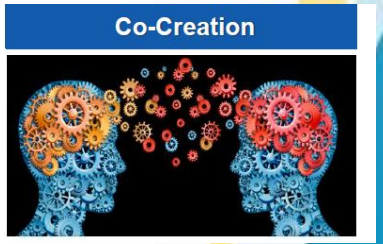
Panasonic

Nintendo®

Business Model Canvas

- Channels:
  It has channels for customers are Social Media, TV Advertisements, Website and Communities. While, having the One Channel Team for each division.
  It used to be Direct Sales Force before which used to only deal with hardware but it changed to Value Added Resellers which handle software and services.

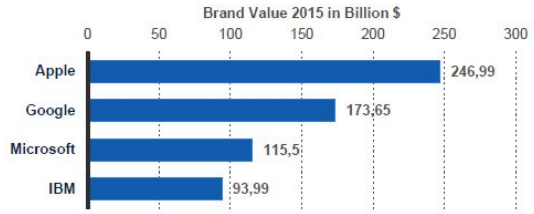
- Customer Relationships:
  - Personal Service
  - Communities
  - Co-Creation



Business Model Canvas

- Key Activities:
  Core Business - IBM's core lies in its service, software and hardware. But Software is the only division with major profits.
  Supply Chain Management - The supply, manufacturing and logistics operations are integrated in one operating unit that has optimized inventories over time.
  R&D - 6% of it's revenue into R&D, has the most patents (20 a day)

- Key Resources:
  - Employees
  - Brand Value
  - Spending Power

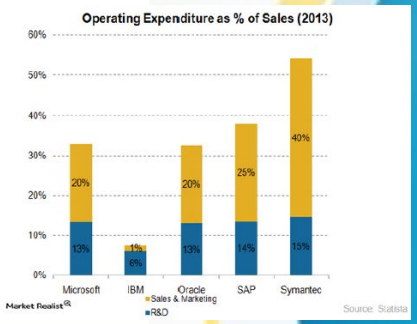


Business Model Canvas

- Key Partners:
  Maintain existing partners while finding new valuable partners. The purpose is to provide complementary skills and expertise that can result in greater client value.

- Revenue Streams:
  Services, Software, Hardware, Financing. It focuses mainly into the cloud and data presently.

- Cost Structure:
  Majority of spending goes into R&D and marketing, the only company with higher R&D expenditure than marketing.



Knowledge Management in IBM

Knowledge management is the practice of using an organization's content, social networks, experience, and collective intelligence to increase organizational effectiveness and productivity and to spark innovation and transformation.

AT IBM

IBM's KM strategy consisted of turning the company into a leading knowledge management based company, using technology for sharing knowledge and building the required IT infrastructure. The main objective of the KM framework was to facilitate knowledge sharing and collaboration among employees.

Knowledge Management in IBM

KM principles focused on in IBM:

- Federated Search: to bring together content from multiple repositories, including external sources and wikis.
- Sponsored Links: to surface the most important leadership content.
- Expertise Location: to recognize knowledge colleagues on topics across our services and offerings.
- Social Networks: to narrow relevant content, identify influences, key practitioners, and hubs of information.

Knowledge Management in IBM

KM principles focused on in IBM:

- Sentiment Analysis - to gauge social media insight on key topics.
- Personalization - to narrow the field of information to just that which is relevant to the individual.
- Rating - to provide peer-ratings and to surface the highest quality content in search results.
- Social Tags - to leverage the “wisdom of the crowds” and provide a flexible, dynamic “folksonomy” for easier location and re-use of content.
- Contribution “Points” to summarize the impact of individuals’ contributions.

Knowledge Management in IBM

Generating and Sharing Knowledge

The knowledge generated in IBM could be broadly classified as operational data, knowledge assets, intellectual capital, research & analysis, information obtained from the intranet, and the information available from the Internet. The information was obtained from projects carried out in IBM and the details of projects formed on the basis of knowledge sharing.

The Benefits

KM helped IBM in increasing efficiency by the reuse of captured assets and by the transfer of knowledge to improve the skills of employees. It helped the company innovate by bringing in the employees across time and geographic boundaries to share ideas.

Knowledge Enablers and Tools used:

The integration of collaboration and knowledge into portals and the way people learn is IBM's main focus for improvement.

- Asset Management**:** The strategy was to provide a knowledge base of the work and of the colleagues so that assets and intellectual capital could be reused, enabling client solutions delivery with better quality and speed.

- One asset management tool used was **KnowledgeView**. It targeted IBM's Business Consulting services and contained a group of repositories that contained key resources and forums to access reusable assets.

Knowledge Enablers and Tools used:

- IBM designed **Xtreme Leverage** in 1999 as a knowledge sharing and collaboration tool aimed for software sellers.
- The portal maintains intellectual capital, expertise location and facilities for IBM's global software brands.
- It is the only place for software sellers to go for content and expertise. It attracts more than 40,000 users with over 400 active communities.

Knowledge Enablers and Tools used:

- Expertise Location: The organization **BluePage** was started by IBM as a corporatewide directory enabled with instant messaging and email linkage. It provides searchable resources for employees looking for experts and networks for collaboration.

- On-demand learning: These are workplace portals made to focus on critical job roles within IBM to deliver the asset management programs directly to the required audience.

These 2 techniques focus on acquiring knowledge through collaborations and networking thus strengthening IBM's KM resources.

Knowledge Enablers and Tools used:

IBM Redbooks

- They are technical content developed and published by IBM's International Technical Support Organization (ITSO). IBM Redbooks are ITSO's core product.
- They typically provide positioning and value guidance, installation and implementation experiences, typical solution scenarios, and step-by-step "how-to" guides. They often include sample code and other support materials that are also available as downloads.
- IBM says that Redbooks publications are downloaded and viewed approximately 1.75M per quarter, on average.
- Redpapers are shorter technical documents that are only Web-published. They can be the result of ITSO residencies and may also be contributed from other sources. They reflect working experiences on the specific topic.

Knowledge Enablers and Tools used:

Supply chain management:

- IBM developed many software products to increase SCM most notably the **Sterling SCM** which included various products:
  - Sterling Order Management to coordinate processes.
  - Sterling Business Network for companies to see relevant transactions in a single dashboard.

The supply chain network was created to improve key features for the company to remain connected, collaborative, Cyber-aware and Comprehensive.

Knowledge Enablers and Tools used:

Joint Ventures:

In order to increase connectivity to acquire knowledge, IBM has several joint ventures:

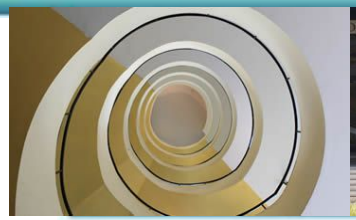
- Maersk and IBM: JV formed to improve Global Trade and Digitize Supply chains using Blockchain tools.
- IBM and Vodafone: A $550 million USD JV which was formed to pursue solutions in a variety of developing technology sectors.
- IBM and Toshiba: A JV between the 2 companies, resulted Toshiba obtaining shares of IBM subsidiary DSC. New services were provided based on database specialization.

The Decline of IBM

- IBM became a follower of technology instead of a leader.
  - They shifted focus on increasing their manufacturing power rather than innovation.
- Bad partnering strategies which led competitors to take over the market.
  - They began to shift their main revenue stream from mainframe rental to sale of mainframes.
- Breaking contracts with customers and employees.
  - They dismissed hundreds of employees and reduced their pension so as to bail out the stakeholders
  - They defaulted on its commitment to its customers

Solutions IBM Should Have Implemented

- Focus more on the customer needs.
- Poor performers must be removed from the company.
- Build healthy customer relationship by meeting customer expectation.
- Keeping up to date with new emerging technologies.
- Well analysed business expansion strategy with a foolproof plan.





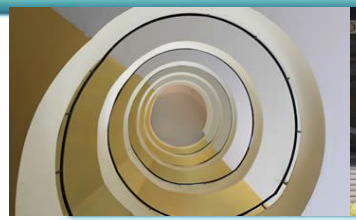

The Comeback of IBM

- The new CEO – Louis Gerstner, appointed in April of 1998.
- Gerstner identified IBM unique competitive advantage.
- The 4 major strategies employed by Gerstner:
  - Keep the company together.
  - Change the fundamental economic model.
  - Re-engineer how was done.
  - Sell under-productive assets in order to raise cash.

The Comeback of IBM

- Eight principles of the “new” IBM:
  - The marketplace is the driving force behind everything we do.
  - At our core, we are a technology company with an overriding commitment to quality.
  - Our primary measures of success are customer satisfaction and shareholder value.
  - We operate as an entrepreneurial organization with a minimum of bureaucracy and a never ending focus on productivity.
  - We never lose sight of our strategic vision.
  - We think and act with a sense of urgency.
  - Outstanding, dedicated people make it all happen, particularly when they work together as a team.
  - We are sensitive to the needs of all employees and to the community in which we operate.

PES UNIVERSITY






IBM

Thank You