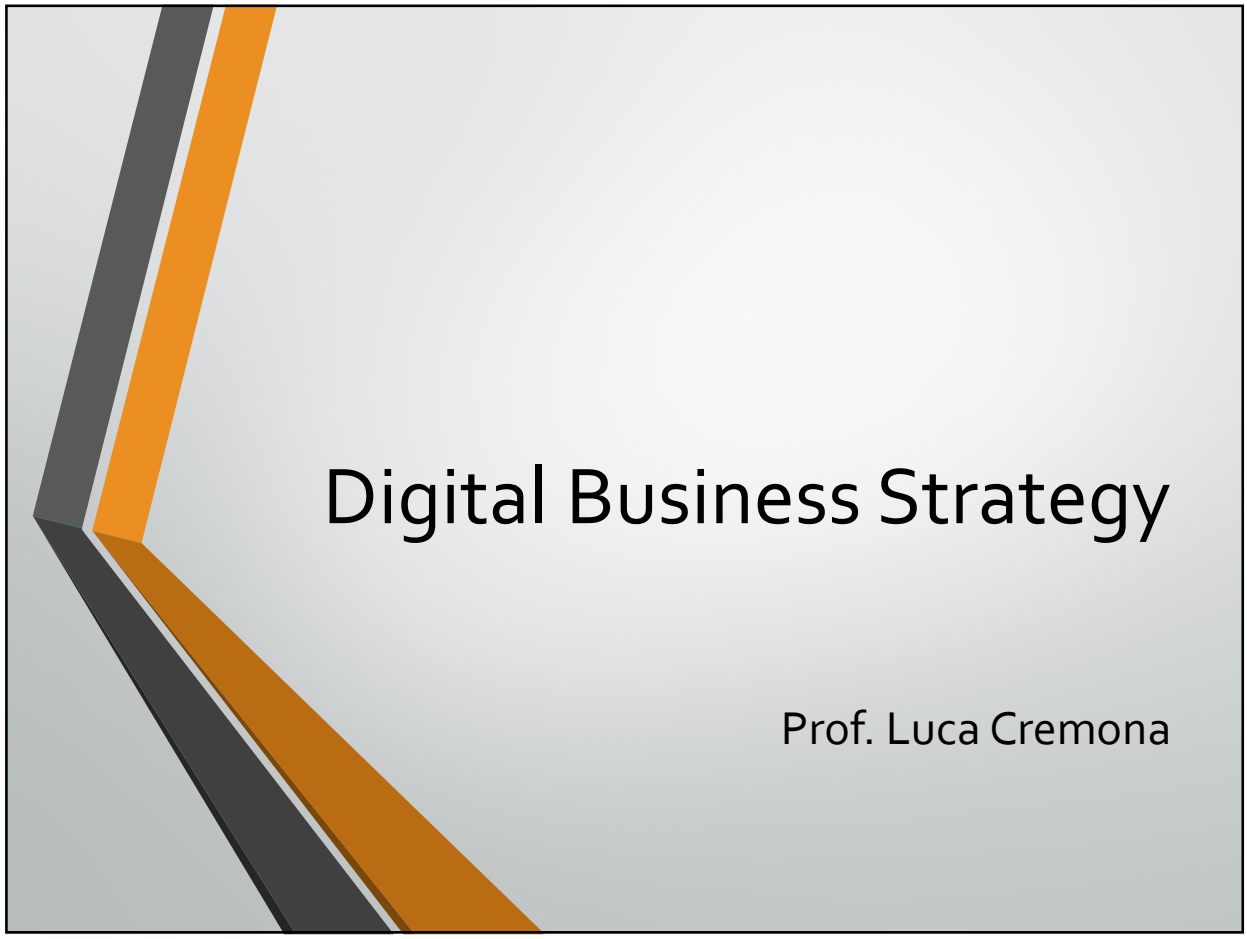

Digital Business Strategy
Prof. Luca Cremona


Combining strategy
and technology

SEIZING NEW OPPORTUNITIES

- The possibilities and economics of digital – driven by sustained, exponential trends like Moore's law for processing power and its various derivatives for bandwidth, storage and more – are constantly changing, enabling new moves and sparking the transformation of industries
- "Moore's law" is the observation that, over the history of computing hardware, the number of transistors in a dense integrated circuit has doubled approximately every two years.
- Digital strategies need to continually adapt to and seize new opportunities
- Executives have to play "a double game": making the most out of today's contests while positioning themselves to win in tomorrow's

LIUC Università Cattaneo

3

SECOND HALF OF THE CHESSBOARD

The true story behind the invention of the chess board has been lost in time. The story goes that the inventor of chess, a mathematician, showed his creation to his country's ruler. The game introduces the king and queen, knights, bishops, castles and the pawn representing the serfs of the nation. It demonstrated the importance of all members of society.

The emperor was so impressed he offered the inventor a reward of his choosing. The mathematician, asked that one grain of rice be placed on the first square of the board and that he be doubled on each subsequent square. The emperor protests, believing that the reward is too small – but the mathematician persists.

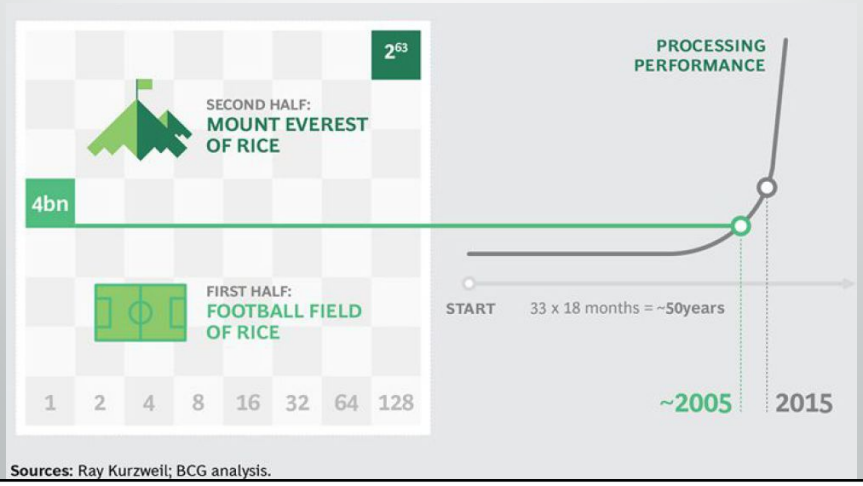
When they reach the 32nd square, the reward amounts to the production from a few acres of rice patties- significant but not unreasonable. By the 64th square, it is estimated that the total amount of rice would amount to a pile the size of Mount Everest. This is a simple but dramatic explanation of a geometric series.

LIUC
Università Cattaneo

4

SECOND HALF OF THE CHESSBOARD

- In technology strategy, the second half of the chessboard is a phrase, coined by Ray Kurzweil, in reference to the point where an exponentially growing factor begins to have a significant economic impact on an organization's overall business strategy.



Sources: Ray Kurzweil; BCG analysis.

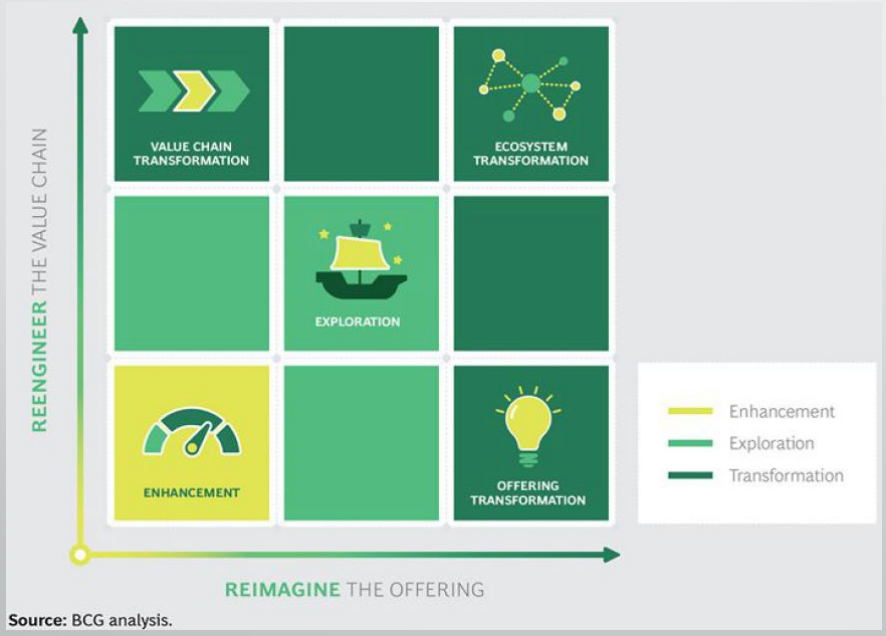
DIGITAL EVOLUTION

- Digital has entered the second half of the chessboard, and its growth shows no signs of abating
  - Technology, media, and telecommunications are already approaching the base camp of Everest, while financial services, health care, and consumer goods are still on the early slopes
  - Energy, industrial goods, construction, and public services are arguably just beyond the football field, about to start their steepening ascent
- Industries are increasingly colliding as digital moves beyond screens and software to enter the world of things and business
- It's essential to frame, explore and prioritize strategic choices

LIUC Università Cattaneo

6

THE DIGITAL OPPORTUNITY MATRIX



Source: BCG analysis.

7

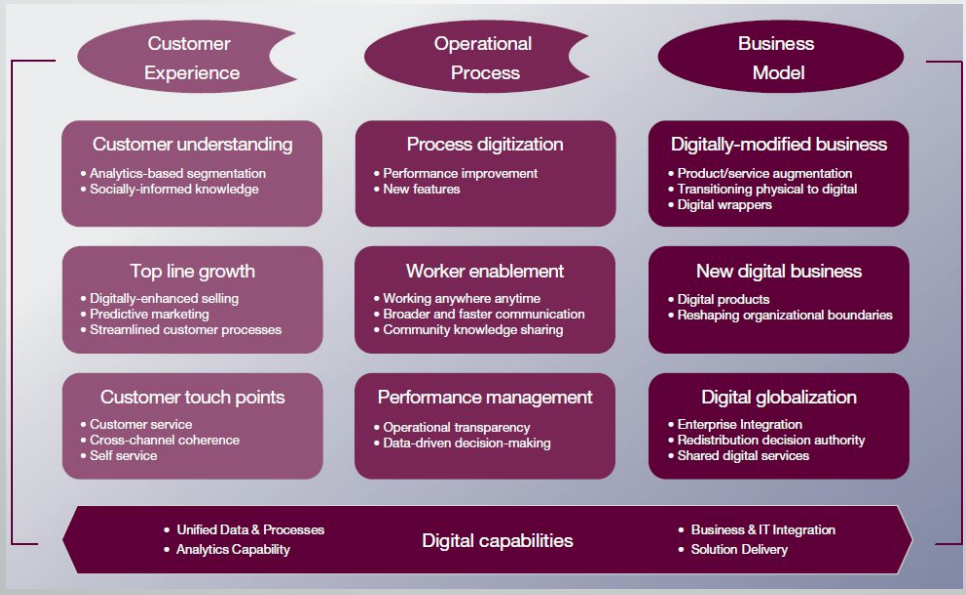
PLAYING THE DOUBLE GAME

- **Enhancement:** strategically, enhancement is about extrapolating from your current position. Start where you can create immediate value: it can improve the organization's digital skills and provide tremendous and immediate value creation that can fund the broader digital journey
- **Exploration:** requires investigating offerings adjacent to the current business or pursuing larger adjustments of the value chain. Exploratory digital strategies become C-suite topics. Companies need to invest significant resources in digital businesses and closely track their performance
- **Transformation**: is an-all encompassing strategic move that has the greatest potential to generate competitive advantage, often over several years, but also the greatest risk. Transformative change by its nature becomes the top CEO priority. It requires major investments and often the development of new partner ecosystems

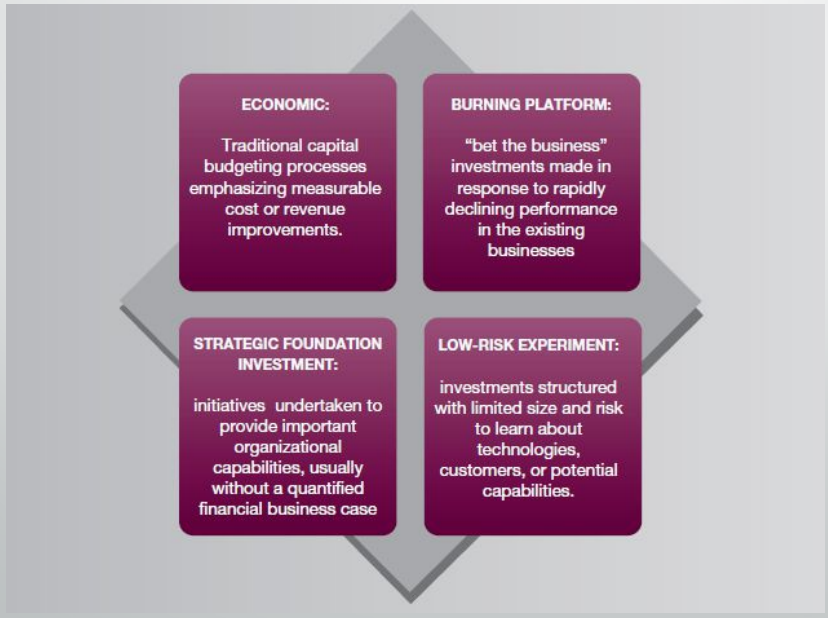
LIUC Università Cattaneo

8

BULDING BLOCKS OF THE DIGITAL TRANSFORMATION



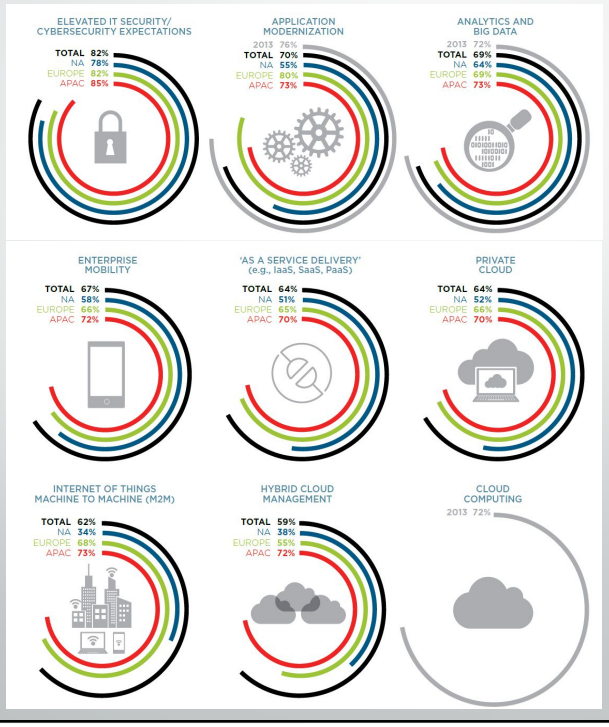
HOW COMPANIES JUSTIFY INVESTEMENTS



LIUC Università Cattaneo

10

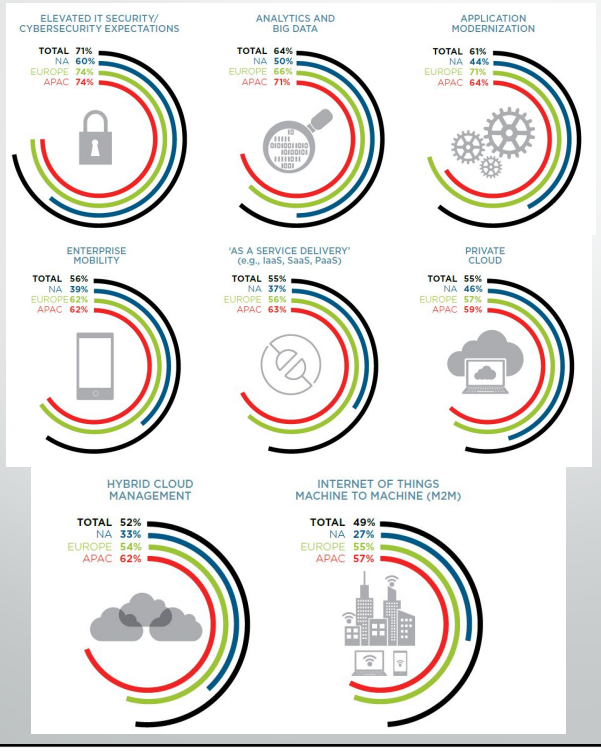
PRIORITIES IN TOP TECHs INITIATIVES



Source: CSC CIO Survey 2014-2015

LIUC Università Cattaneo

INVESTMENTS IN TOP TECHs INITIATIVES



Source: CSC CIO Survey 2014-2015

LIUC Università Cattaneo

ACCORDING TO BCG…

Autonomous Robots	Simulation	Horizontal and vertical system integration
The Industrial Internet of Things	Cybersecurity	The cloud
Additive Manufacturing	Augmented reality	Big data and analytics

NEW APPLICATIONS

- **Big-data driven quality control**
- **Robot-assisted production**
- Self-driving logistics vehicles
- Production line simulation
- Smart supply network
- **Predictive maintenance**
- Machines as a Service
- Self-organizing production
- **Additive manufacturing of complex parts**
- **Augmented work, maintenance and service**

LIUC Università Cattaneo

14