[DC] THE DIGITAL CONTEXT

Introduction

"Every company is now a software company," said Satya Nadella, the CEO of Microsoft, at the Mobile World Congress in 2019. This course, being the first of the two courses specifically focusing on Digital Technologies in the program, focuses on the changes these technologies are bringing to individuals, companies, and society at large. Until recently, the knowledge of Information Technology (IT) and its application in the enterprise had been confined to the IT Department. Not anymore. Due to the pervasiveness of Digital Technologies, Gartner Inc., a research firm, states that last year 2022 seventy percent of all information/digital technology spending in the firm originates outside of the IT department. As digital technologies continue to permeate core business processes and, increasingly, become an integral part of firm's product and service value proposition, successful business managers will need to learn not only how to interpret a P&L statement and read a balance sheet but also how to anticipate the impact of digital technologies on business and manage the required transformation. Whatever industry, company, or role you play in your company, you will likely become involved in digital transformation projects aimed at helping the company survive and thrive in the world where the boundary between physical and digital is increasingly disappearing.

Objectives

This course aims to explore key issues related to the impact of Digital Technologies in business from the standpoint of a business manager. The course also provides a foundation for discussing the impact of these technologies on business models, industries, and organizations that we will cover later in the program, specifically in the "Competing with Business Models" course and when we visit Silicon Valley.

Content

The course discusses key aspects of the impact of digital technologies in an organization. Yet, it is not designed with the Chief Information Officer (CIO) in mind. We will focus on managerial rather than technical implications of Digital Technologies and explore how general business managers can add value by taking part in selecting, implementing, and exploiting IT solutions to help their firms build competitive advantage. The topics we will cover in the course include decisions regarding selling a complex B2B cloud-based solution, whether to pay a ransom after a cyberattack, the use of blockchain versus traditional databases, the construction of value propositions based on digital technologies and a simulation aimed at understanding the processes involved in deploying an Artificial Intelligence solution to help classify patients at the entrance of an Emergency Room during the high of the COVID pandemic.

During the course, we will continuously reflect upon how the role of IT in business is changing as digital technologies are becoming part of every day's life of individuals and the society at large.

The course will rely on case discussions and include a simulation that we will perform synchronously during the Consolidation Period (post-residential).

Since the content of this course and its follow-up in Silicon Valley deal with a rapidly changing environment, we encourage you to stay up to date by reading specialized business press as well as technology websites and blogs. A list of recommended sources is provided at the end of these pages.

Evaluation

The grading breakdown for this course is as follows:

> SE4 – Class attendance and participation, including the two-session online simulation – 50%
> SE2 – Consolidation period team assignment – 20%
> SE2 – Consolidation period individual essay – 30%

Class Participation – my criteria for evaluating class participation are like those in other IESE courses. Because of the somewhat technical content of the course, I strongly encourage you to ask questions in class whenever you encounter a term or concept that you are not familiar with. I will consider such questions valuable contributions when evaluating class participation.

The team assignment will directly leverage the learning that you will get from the simulation of the COVID triage AI implementation. Details will be provided in class and during the simulation. The teams for the simulation will be different, smaller teams of only three people.

The individual essay will have to be delivered in a video format. In a two-minute video you will have to reflect on your views of the impact of digital technologies in businesses and markets. To inspire yourself, you are welcome to use any technology available, including generative AI (Chat GPT, Bard, Dall-E for figures, etc.). If you do, please send me by email the prompts used to trigger the responses of the system. Just remember that sometimes these systems hallucinate.

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Diversion Publishing, 2014.

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Tapscott, D. y Tapscott, A. - *Blockchain Revolution. How the Technology Behind Bitcoin Is Changing Money, Business, and the World* - Portfolio/Penguin, 2016

Digital Strategy
The "What" of Digital Transformation

Agrawal, A., Gans, J. y Goldfarb A. - *Prediction Machines. The Simple Economics of Artificial Intelligence* - Harvard Business Review Press, 2018

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Sutton, R.I. y Rao, H. - *Scaling Up Excellence: Getting to More without Settling for Less* - rh Books, 2014

Other Information Sources

Useful web sites to maintain yourself informed:

Tech pages of the NYT. All professors of our Department read it.
https://www.nytimes.com/section/technology

 "Digital Disruption" section at McKinsey. Combines the point of view of large companies with industry/sector transformation https://www.mckinsey.com/featured-insights/mckinsey-explainers of particular interest those reated to technology.

Techcrunch: tech news; more to see what is coming that what is currently happening.
https://techcrunch.com

Digital Trends reviews products and technologies.
www.Digitaltrends.com

Magazines we like:

MIT Sloan Management Review: sloanreview.mit.edu
Wired: www.wired.com
MIT Technology Review: https://www.technologyreview.com/
Fast Company: https://www.fastcompany.com/technology

Data sources and statistics:

BI Intelligence:
https://www.businessinsider.com/research

Statista (accessible from IESE's library)

CB Insights blog
www.cbinsights.com/blog/

Professor's Biography

Professor Josep Valor
Professor of Operations, Information and Technology

Josep Valor-Sabatier is Professor of Information Systems and Information Technology and holder of the Indra Chair of Digital Strategy.

He received his Ph.D. in Operations Research from MIT, and his Sc.D. in Medical Engineering from the Harvard-MIT Division of Health Sciences and Technology. Josep Valor teaches extensively at the senior executive level on Management Information Systems, Media Management, Management of Technology, and Strategy.

In in-company training he has been involved in projects with leading organizations like Telefónica, Ericsson, Vodafone, Santander, BBVA, ING, Oracle, Sony, Technicolor, Abbot, Janssen Pharma, BASF, KPMG, Henkel, Michelin and 3i.

His research has been published in the International Journal of Electronic Commerce, Knowledge and Process information systems management. His current research interests focus on the impact of ITCs on competitiveness and industry structure, with emphasis on telecommunications and media.

Professor Valor served as the conference co-chair of the 2002 International Conference on Information Systems (ICIS) in Barcelona.

Additional Information for Reporting and Accreditation purposes
Competences

Basic
CB6. Possess and understand knowledge that provides a basis or opportunity to be original in the

development and / or application of ideas, often in a research context.

CB7. The students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study

CB8. The students can integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.

CB9. Students know how to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.

CB10. Students possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.

General

CG1 – To explain and discuss business situations in a rigorous, effective way using both formal and informal procedures, and providing relevant information to support their observations and conclusions.

CG3 – To work on a team in multicultural business environments, inspiring trust in colleagues and partners, commitment to achieving the objectives, and delegating tasks and decisions.

CG6 – To prioritize objectives, schedule activities appropriately, and execute them within the proper timeframe.

CG7 – To distinguish and categorize relevant information effectively for business decision making.

CG10 – To acquire the vision of a global citizen when dealing with the multicultural aspects present in the international market.

CG11 – To formulate and evaluate business strategies in decision-making, anticipating the economic consequences of action plans

Specific Competences

CE29. Command of computer and technological tools (ICT), specifically applied to accounting and financial management, to make correct decisions.