LEAN DIGITAL TRANSFORMATION

FOUR PRINCIPLES
An Abdul Latif Jameel Company

BACKGROUND

We live in an age where the change and innovation rate is so high, that value resides increasingly in real-time relevant information. Keeping your company at the tip of the spear requires a lot of focused effort and change management experience.

Companies that embrace the digital transformation trends are disrupting their industries by becoming fast, flexible and low-cost players. They bring changes to the consumer environments/ecosystems through:

• Digital technology penetration, by proposing ways to create value that goes from human interactions to augmented reality interfaces or self-learning systems

• Digital products and services markets, which allow the consumer to define his customer journey within a controlled environment

• Very high paced digitization initiatives, where the working and interacting environments are moving to a higher level of automation and connectivity, where any equipment or any product can immediately feedback the user with relevant information about performance and efficiency

The top trends in any sector, from heavy industry to services and from healthcare to F&B, confirm that today it is mandatory to implement a Lean digital transformation if a company wants to keep the competition at bay.

BIGGEST DIGITAL TRENDS

1.   Through the use of technologies such as 3D printing, the products are being brought back from low-wage countries to sales markets in proximity to their customers, this is known as Next-shoring

2.   Companies connect to their customers throughout the lifecycle of the product and through the Co-creation and Concierge principle, they involve their customers in the design of the services/ products, helping the company to understand better its customers' needs and allowing them also to offer value-adding services in targeted ways

3.   The Capacity Exchange is a type of outsourcing practice that enables companies to manage the company's peak capacity needs by allocating individual jobs to suppliers through digital marketplaces

4.   In an interconnected and automated environment, Intelligent Order Creation automatically allocates jobs to different suppliers of products or services depending on the job needs, service or product configuration, supplier capacity and capability, etc.

5.   Autonomous Control Loops are used in productive and administrative systems which are controlled through a series of parameters or performance indicators that are monitored online, and through artificial intelligence features, the system can autonomously adapt the performance and apply automatically corrective actions, or raise the necessary flags for the human interface to perform a corrective action
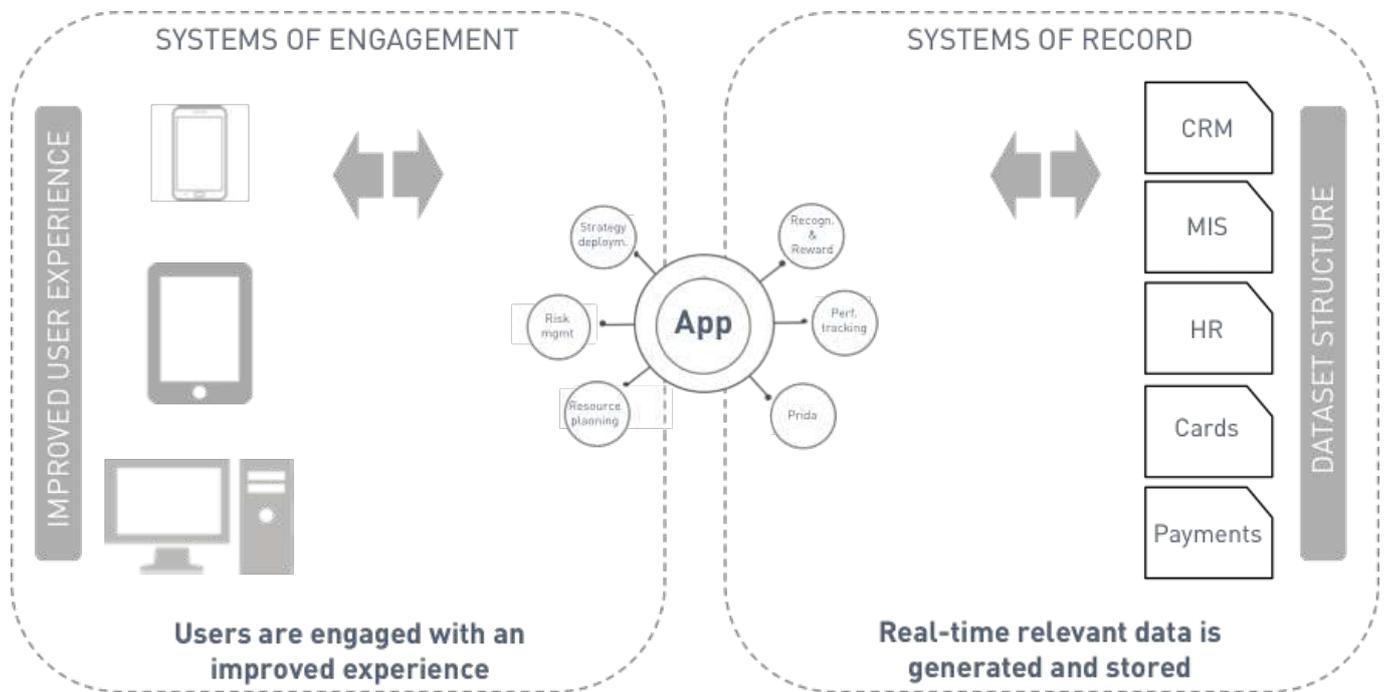
SYSTEMS OF ENGAGEMENT: KEY DRIVERS OF A LEAN DIGITAL TRANSFORMATION

Before going into the details of what a Lean digital transformation entails, we need to understand that the main components and drivers of a Lean digital transformation, are the systems of engagement.

The systems of engagement are the vehicle through which the user interacts with digital tools/trends on a daily basis. Systems of engagement are dynamic and use close-to-user apps or platforms whose value is linked to the level of user engagement measured in terms of number and quality of interactions. Examples of systems of engagement are social apps like LinkedIn and Facebook, or business platforms like Uber and Airbnb, which evolve the long-standing IT paradigm of systems of record, which are based on significant legacy data storage and retrieval systems such as corporate ERP modules used today.

BIGGEST DIGITAL TRENDS

6.   Human-Robot Interaction (HRI) refers to the understanding, designing, and evaluation of robotic systems for use by or with humans, where both human and robots need to communicate or interact

7.   Omni-channel Experience, is a cross-channel experience that companies offer to enhance their customers experience by allowing the company to own their data and experience, giving them the ability to use it to guide creation and context of every future experience: the ability to have a continuous experience across brands and channels, across formats and across devices that is completely bespoke

8.   The action of selling and buying online is known as e-commerce. This concept is widely known and is based on the use of a platform to showcase products linked with payment vehicles and connected to distribution companies that make the buying experience seamless

9.   Big Data Analytics tends to refer to the use of predictive analytics and mathematical algorithms to extract value from the data available in a particular environment.

SYSTEMS OF ENGAGEMENT

IMPROVED USER EXPERIENCE

App
Strategy deploym.
Recogn. & Reward
Risk mgmt
Perf. tracking
Resource planning
Pride

Users are engaged with an improved experience

SYSTEMS OF RECORD

CRM
MIS
HR
Cards
Payments

DATASET STRUCTURE

Real-time relevant data is generated and stored

The goal of creating a system of engagement is to increase the user engagement with high-quality user experience paired with high user-related value creation: more value generation translates into more engagement, more involvement brings in more data generated, more data generated can be converted again in more value generation.

Understanding the mechanics of systems of engagement is the foundation to define a Lean Digital Transformation Agenda which in turn is the starting point of setting up the full Digital transformation effort.

BIGGEST DIGITAL TRENDS

10.   Intelligent process automation encompasses five core technologies that aim to remove the repetitive, replicable and routine tasks by mimicking the activities carried out by humans, learning them and doing them better:
a.   Robotic Process Automation (RPA), which performs rules-based tasks and automates them.
b.   Smart workflow which is a process-management software tool that integrates tasks performed by a group of machines or humans, allowing end-to-end visibility of tasks status and seamless handovers between nodes
c.   Machine learning / Advanced Analytics are algorithms that identify patterns in structured data sets through 'supervised' and 'unsupervised' learning.
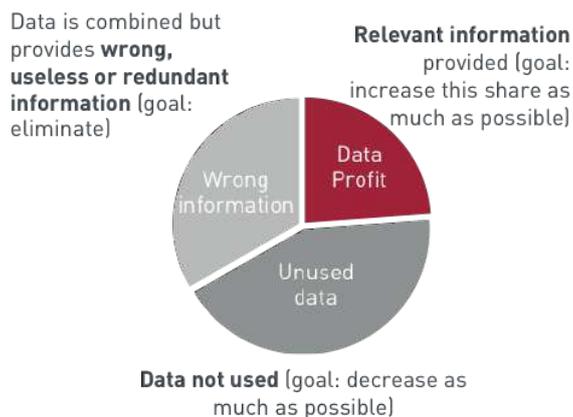
DIGITAL WASTE & DATA PROFIT

An effect of the high paced rise in the number of systems of engagement is an exponential growth of available unstructured data – in the form of text, videos, audio messages, etc.

This unstructured data is a potential source of relevant information, and therefore a potential source of value that can be 'harvested' through data analytics tools. However, currently, the majority of information is wasted and fades away unutilized and unaccounted for.

Digital waste is defined as all the data that is not accounted for, or combined in redundant, wrong or misleading information: whoever is unable to harness the 'wealth' of data available, wastes precious assets.

Data profit is defined as all data combined with relevant information for the user, permitting him to make the correct choices.

DIGITAL WASTE & DATA PROFIT

Data is combined but provides **wrong, useless or redundant information** (goal: eliminate)

Relevant information provided (goal: increase this share as much as possible)

Wrong information

Data Profit

Unused data

Data not used (goal: decrease as much as possible)

BIGGEST DIGITAL TRENDS

d.   Natural-Language Generation (NLG) software that creates seamless interactions between humans and technology by following rules to translate observations from data into understandable prose facts.
e.   Cognitive agents that combine machine learning and natural-language generation to build an utterly virtual workforce that can execute tasks such as communicating, learning from data sets or even suggesting (and making) decisions based on data available.

11. Blockchains are a list of records, also known as blocks, which are linked and secured using cryptography. These blocks are stored and accessed in a decentralized way. They do not rest on a single server, but in many servers in the cloud, which is why blockchains are potentially suitable for the recording of events, medical records and other records of management activities including identity management, transaction processing, documenting provenance, food traceability or voting.
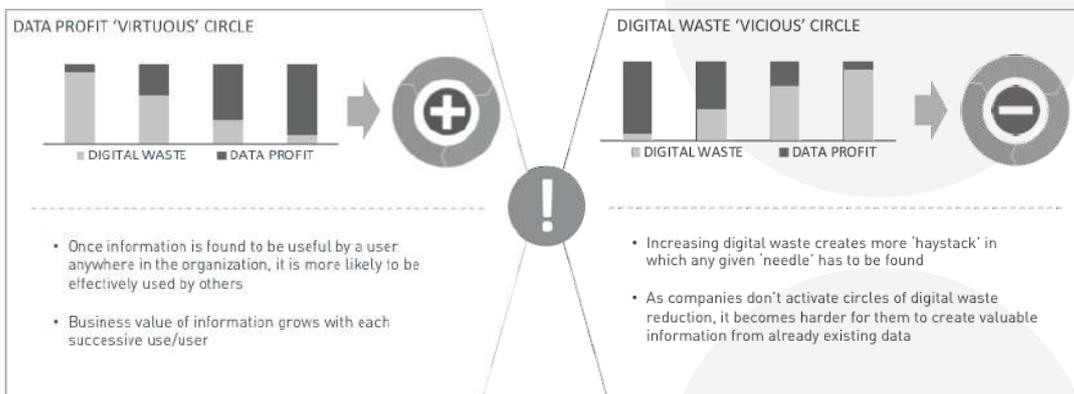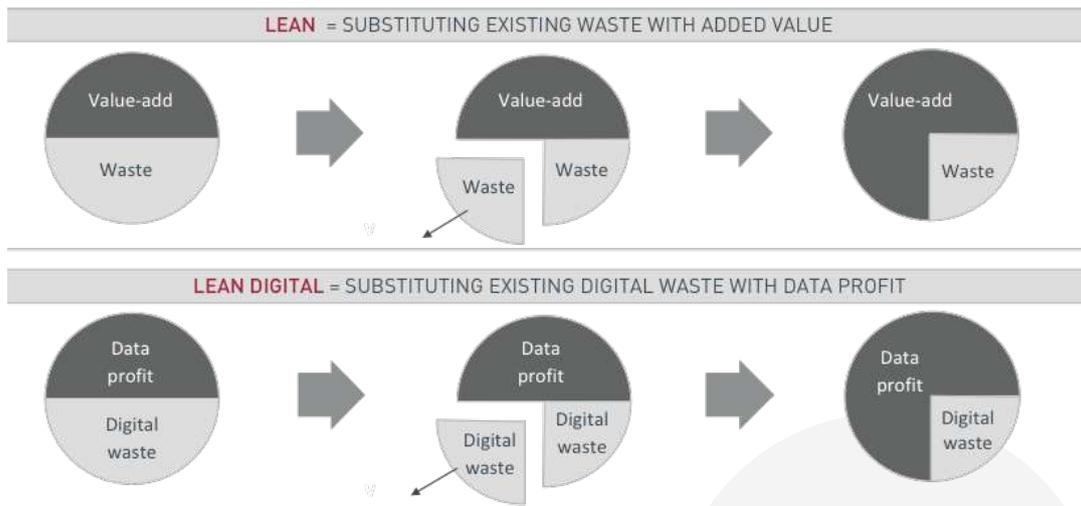
LEAN DIGITAL: WHAT IS IT?

Lean focuses on eliminating traditional waste while maximizing customer value. Lean Digital concentrates instead on eliminating digital waste while maximizing data profit.

Through Lean Digital, the digital waste is removed, this implies a substantial improvement of the user experience and the user engagement.

Furthermore, this will activate a 'virtuous' circle permitting to boost data generation and user experience further continuously.

This creates the optimal environment for sustainable change through Lean digitization.

LEAN = SUBSTITUTING EXISTING WASTE WITH ADDED VALUE

Value-add

Waste

Value-add

Waste

Waste

Value-add

Waste

LEAN DIGITAL = SUBSTITUTING EXISTING DIGITAL WASTE WITH DATA PROFIT

Data profit

Digital waste

Data profit

Digital waste

Digital waste

Data profit

Digital waste

DATA PROFIT 'VIRTUOUS' CIRCLE

DIGITAL WASTE   DATA PROFIT

⊕

DIGITAL WASTE 'VICIOUS' CIRCLE

DIGITAL WASTE   DATA PROFIT

⊖

- Once information is found to be useful by a user anywhere in the organization, it is more likely to be effectively used by others
- Business value of information grows with each successive use/user

- Increasing digital waste creates more 'haystack' in which any given 'needle' has to be found
- As companies don't activate circles of digital waste reduction, it becomes harder for them to create valuable information from already existing data

DIGITAL TRANSFORMATION MAIN CHALLENGES

The creation of systems of engagement and the increase of data profit is challenging for most companies because traditionally they are more used to evolve their IT systems (Systems of Record based on legacy data storage) rather than revolutionizing them. Most businesses have understood that they need to move toward apps and platforms generating high-level engagement of their ecosystem of users, but most of the time they fail in their attempt due to a lack of attention in designing the right user experience.

On the first companies are merely late in defining their digital agenda and are under a tremendous amount of pressure from their competitors and customers to overcome the challenges that call for a digital transformation, like:

- Improving the customer experience

- Running tighter cost controls

- Achieving higher performance from the workforce and changing the 'legacy mindset.'

- Generating higher employee engagement

- Retaining current talents and attracting new ones

- Acquiring entirely new capabilities in:
    - data analytics
    - mobile technologies
    - social media

- Rethinking business models and strategies

- Continuously launching new ideas

In addition to these challenges, many companies have not even started to work on the basics to reduce traditional Lean waste embedded in their processes, organization, products, and services, leading to an increased and critical degree of non-transparency and complexity.

LEAN DIGITAL TRANSFORMATION

Lean Digital Transformation is Four Principles' approach to support companies in defining and implementing successful Lean digital agendas with initiatives both removing traditional and digital waste from their processes, organization, products, and services, to radically improve the experience of their ecosystems of users.
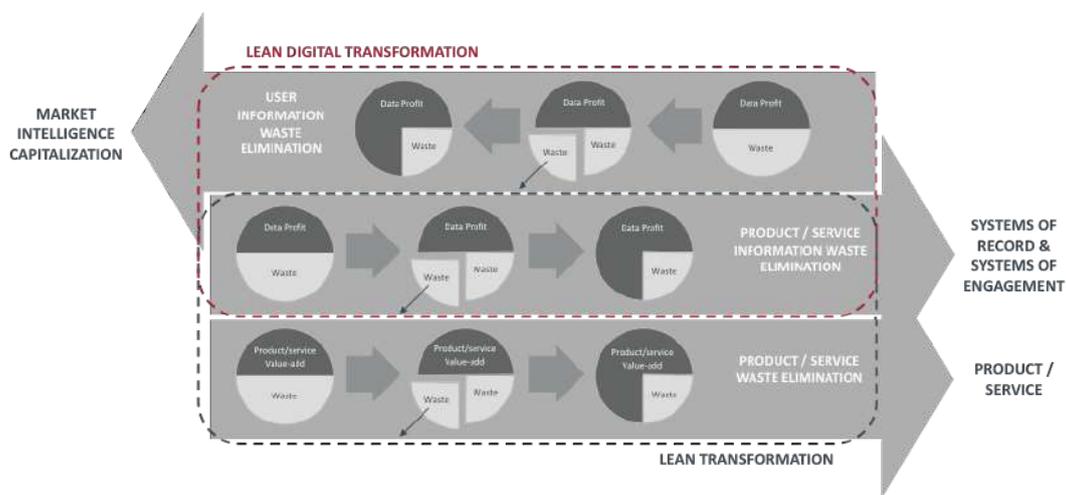

To correctly kick-off a Lean Digital transformation, management has to set-up the necessary Lean digital transformation building blocks:

1. Define a clear Lean digital vision: cascading down from the top management to the operators/clerks in the company. This vision should include a defensive target that increases the level of competitiveness in the business arena and, at the same time an offensive (disruptive) target that changes the 'rules of the game.'

2. Define an ambitious yet achievable execution plan: that takes into account the available capabilities regarding:

- Internal talent, not only concerning skills but also regarding motivation
- Technology availability and its scalability
- Quality of data available in the company to support the implementation and enable future growth in app capability

3. Identify a base of users that are prepared to engage with the systems of the company both internally and in the market

Therefore, the Four Principles approach to a Lean Digital Transformation includes the:

1. Generation of transparency on strategy, at corporate and business level, which is supported by the definition of the future state Lean Digital vision

2. Design of different Lean digital value streams, which will be the basis to analyze and to understand interactions and customers' needs along the value streams

3. Definition of a Lean Digital agenda, enabling the organization to achieve the desired results

4. Implementation of traditional Lean projects to ensure that processes, structure, products, and services are optimized in parallel to the definition and execution of the Lean digital projects guaranteeing mindset change and sustainability

5. Implementation of Lean Digital projects to define and establish systems of engagement
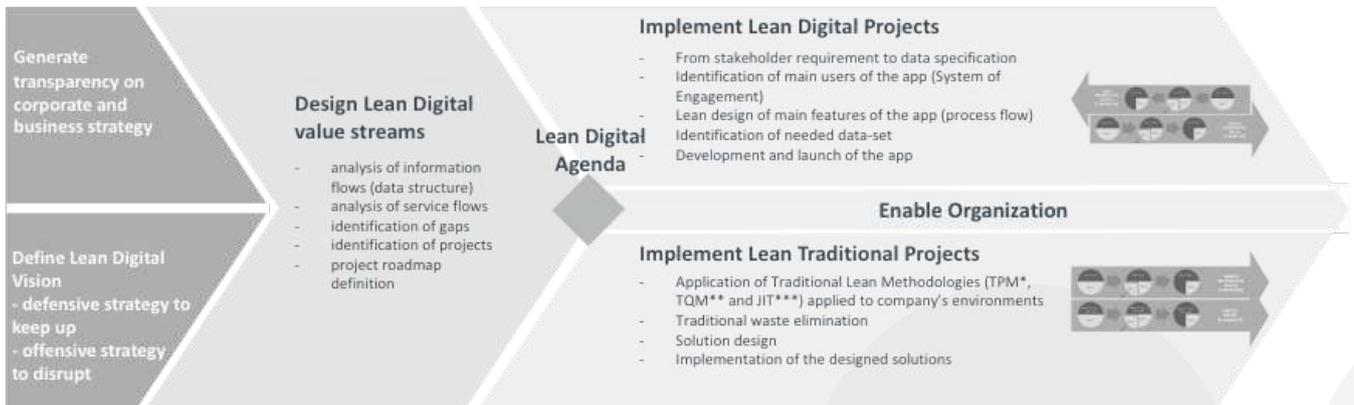
LEAN USE CASES

As mentioned earlier, understanding the mechanics of the systems of engagement is the foundation to defining a Lean Digital Agenda, and to understand the mechanics of the systems of engagement, it is designed by using the Lean use case technique.

The Lean use case is a document used to identify, clarify, and organize requirements of Systems of Engagement (SoE). The Lean use case is made up of a set of possible sequences of interactions between SoE and users related to a particular goal that has value for the user.

A LEAN USE CASE CAN BE THOUGHT OF AS A COLLECTION OF POSSIBLE SCENARIOS ASSOCIATED WITH A SPECIFIC PURPOSE, IT:

• Organizes functional software requirements

• Models the goals of system/user interactions with the lowest level of information waste

• Records paths (called scenarios) from trigger events to goals

• Describes one main flow of events (also called a basic course of action), and possibly other ones, called exceptional flow of events

FOUR PRINCIPLES' SCOPE OF SUPPORT

It is important to state that Four Principles' support covers most but not all the activities of a Digital Strategy Framework.
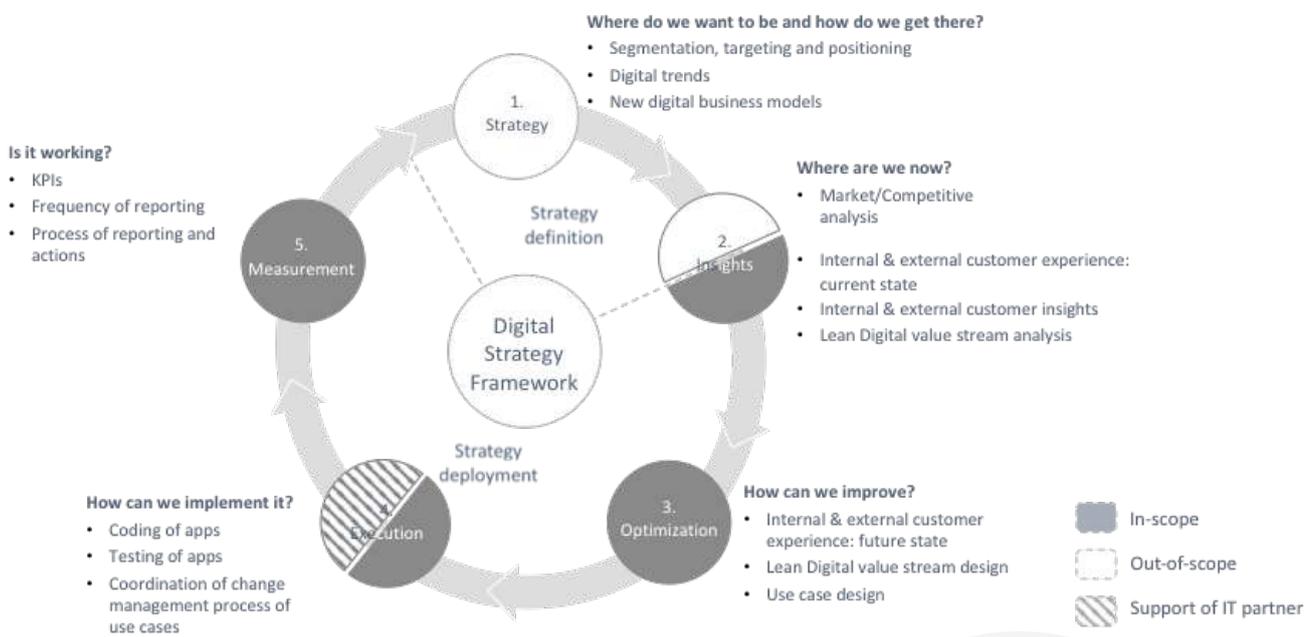
Market and competitive analysis and vision, business and corporate strategy definition are not included in the output provided by Four Principles. These deliverables are an input that Four Principles takes into consideration to develop and implement the most effective digital agenda for the Client, leading the Client in completing its Lean Digital Transformation.

In the execution phase, Four Principles is coordinating the activities of an IT partner that is taking care of the coding and testing of the software linked to the designed use cases, thus ensuring on-time delivery of the specified app.

EXPECTED BENEFITS

The benefits of a Lean Digital transformation must be explored in the perspective of the users in the ecosystems of engagement:

END USERS

Creating engagement in a digital channel with end-users through an improved customer experience (enhanced service associated with product delivery, personalization of the commercial offer, etc.) boosts revenues and sets the foundation of customer loyalty. Today, being the first to offer a unique customer experience, sweeps any competition out. Moreover, the generated engagement of end users permits a company to better profile their needs and to enhance further its commercial proposal. Typically, retail businesses that embrace omnichannel and digitized shopping experiences have seen a rise in market penetration, and a decrease of management costs of over 40% within a year of implementation.

Businesses have seen a decrease of management cost of over 40% within a year of implementation.

TOP MANAGERS

Executives without the right information cannot make the right decisions about markets, resource allocation, technologies, and partnerships. In this case, engagement can be created by providing a proper business intelligence system that permits them to make the correct decisions at the appropriate time. Having the information at hand has allowed heavy industries to reduce by 10% to 20% the amount of waste generated in production lines, while for example, in companies heavily dependent on commodities prices, the application of big data analytics has reduced their risk exposure by 35%.

OPERATIVE ASSOCIATES

In any operational environment associates' decisions have an impact on process performance (e.g., manufacturing, maintenance, logistic processes). If provided information is real-time and relevant, the effectiveness of countermeasures to internal issues increases dramatically. The real-time data on process performance can be even treated with statistical inference to identify correlations that permit to determine the sources of traditional waste very precisely and ultimately to remove them. For example, the application of independent control loops in the petrochemical industry has facilitated the reduction of breakdowns by up to 60% in specific equipment.

It has allowed heavy industries to reduce the amount of waste generated in production lines by 10% to 20%.

BACK-OFFICE ASSOCIATES

Back-office activities concern most of the time compliance with well-defined standards (e.g., legal, finance, administration, HR activities). Specific apps that harness the tool of data analytics and data science can give immediately to back-office users precious information that otherwise is very difficult to be extracted in traditional IT environments. The use of cognitive agents has allowed HR departments to assess more effectively the performance of managers, reducing by over 30% the turnover of personnel and loss of talent.

The use of cognitive agents has reduced the loss of talent by 30%.

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Should you be interested to know more about our Lean services regarding this topic, then please contact us:

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