

Assets Digitalization: Exploration of Prospects with Better Control Implementation

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Abstract

Digital transformation encompasses of various interdependent changes driven by technological infrastructure. An organization's ability to not only survive digital transformation but excel will depend on its ability to manage complex changes with a specific determined strategy. Digital transformation is a more holistic view, in that it not only focuses on digitalizing but also focuses on how to implement these changes throughout an organization. It engages the entire company and the people that make up the company, rather than just the processes.

The study reflects a conceptual paper that identifies and explores the prospects of assets digitalization that lead to better internal control for an organization in the current superhighway of information technology driven environment.

Keywords: Assets Digitalization, Asset Transformation, Tangible Assets, UAE

Introduction

Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events. The Institute of Management Accountants' Accounting Glossary provides a definition as "Any owned physical object (tangible) or right (intangible) having economic value to its owners; an item or source of wealth with continuing benefits for future periods, expressed, for accounting purposes, in terms of its cost, or other value, such as current replacement cost. Future periods refer to the following year or years".

Due to the broadness of the term Asset Management (AM), there are varieties of definitions, and are often specific to the various organizations. Asset Management is a systematic approach of maintaining, upgrading and operating physical assets cost effectively. It combines engineering principles with sound business practices and economic theory, and it provides tools to facilitate a asset management provides a framework for handling both short and long range planning.

However, there have been many other definitions that consider different aspects of the business strategies pertaining to AM and that also widen its scope beyond solely physical assets. Examples of this sort include the definition from the Transportation Association of Canada which is, “Asset Management is a comprehensive business strategy employing people information and technology to effectively and efficiently allocate available funds amongst valued and competing asset needs”.

Asset Life Cycle Management Systems

In order to achieve cost effective management control of a capital asset it would be helpful to have an asset management control system (AMCS) than can be applicable to any organization, to manage any asset, in any of their life cycles.



Figure 1: Asset life cycle

This design, called the Life cycle management systems, LCM-systems, seeks the optimization of management control and logistics support with respect to the functionality of the technical asset. In this model the LCM-team, a three-foot table, plays a fundamental role in the asset management processes because each represents the entire set of stakeholder interested in achieving cost effectiveness: operators, maintainers, and design authority. In order to succeed they have to work co-ordinately.

Asset management is a structured program to optimize the life-cycle value of the physical asset by reducing the total cost of ownership, while providing the required level of service. To carry out this program it is necessary to implement an asset management system to minimize the total cost of owning, operating, maintaining, and replacing the asset, while ensuring reliable and uninterrupted delivery of quality service.

The above figure shows a fact that is often overlooked: that the major portion of the total cost of ownership of an asset is maintenance cost rather than acquisition cost. From the figure it can be understood that the ownership of this type of physical asset implies management of enormous amounts of financial resources that are spent by many actors in different departments of the organization, during a significant period of time.

On the other hand, the goal is to manage the asset in the most cost-effective way, which means to minimize the total cost and to try to reach the highest effectiveness.

Since the system effectiveness can be defined as a function of performance (P), availability (A), and dependability (D), or

$$SE = (P) (A) (D)$$

Where P constitutes the appropriate combination of system operational factors (e.g., range, accuracy, speed); A refers to the probability the system will be operable, when called upon, at the start of a given mission; and D refers to the probability the system will successfully complete its mission, given that the system is operational at the start of its mission.

There are a huge amount of actors that participate to achieve the effectiveness desired (operators, maintainers, logistic partakers and suppliers) which work has to be coordinated and managed. Cost-effective asset management aims to optimize utilization, increase output, maximize availability, and lengthen lifespan, while simultaneously minimize costs.

Asset Management Principles

In its most general sense, AM is a business approach designed to align the management of asset-related spending to corporate goals. Typically, utilities adopt AM approach to either reducing spending: more effectively manage risks, or drive corporate objectives throughout an organization. Simply, AM is a corporate strategy that seeks to balance performance, cost and risk in order to ensure the optimum utilization of asset. Achieving this balance requires the alignment of corporate goals, management decisions, and technical decisions. It also requires the corporate culture. Business processes and information systems capable of making decisions based on asset-level data. AM is ambitious in scope and requires supporting metrics, organizational design, processes, information systems and corporate culture. Successful implementation can be quite disruptive and requires the involvement and support of top management, adequate resources and effective change-management skills.

International Data Corporation found that companies practicing AM lowered their annual costs by nearly 20% on average. With AM, they can track all the costs associated with an asset including initial price, depreciated value, service costs, add-on equipment etc.

There are five key components to any comprehensive asset management system:

- I. An asset inventory
- II. Methods of assessing current conditions and performance
- III. A process to determine and evaluate the future system needs
- IV. Tools to evaluate and select appropriate strategies to address current and future needs
- V. Methods to evaluate the effectiveness of each strategy

A robust AM structure is supported by three pillars of competency: management, engineering and information. Building these competencies is daunting when reviewed in isolation. Far more difficult is developing cross functional expertise so that management, engineering and information skills can be addressed in a mutually supporting manner. Management means strategy, organizational design, performance management, resource planning, decision analysis and financial risk. On the other hand, engineering covers the planning, operations, maintenance, reliability, protection and technical risk. The information entails system architecture, business intelligence, knowledge management, integration and asset registry. In this way three pillars of competency support asset management.

The world is constantly changing to have effective AM solutions. AM is based on a robust and accurate repository. For this there is need to automate and regular input of reliable physical data, as well as newly acquired asset data. There is also a need to regular input of change data coming from consolidated service desk. The integration of reliable discovery tools into the process is critical to reconcile the physical view and the logical view within the AM repository. AM is spreading across many disciplines such as economic, engineering, IT and different

sectors within an organization. Truly, AM and quality are two sides of the same coin. The quality will be attained based on the leadership, strategic planning, information systems, process improvements, management and development of the human resources, focus on customers, and bottom line business results. These same "qualities" require AM.

Digital Asset Management (DAM)

Digital asset management (DAM) has been referred to by a variety of names that often are used interchangeably, such as Enterprise Content Management (ECM), Digital Content Management (DCM), Digital Media Management (DMM), Media Asset Management (MAM), and Rich Media Asset Management (RMAM). From its earliest days, DAM started out as the most rudimentary digital storage system used to store large amounts of data. The term has evolved to describe the process by which an organization manages its digital media. Two types of digital media management system have evolved to address different customer and industry needs: DAM and Content Management (CM).

A DAM system encompasses the necessary technology to support processes involved in making effective use of an organization's digital assets. This includes the ability to automatically import digital assets into a centralized repository where they can be easily searched, accessed, transformed, edited, packaged, and distributed. Essential administrative functions of a DAM system are usage tracking, asset-centric workflow, automated system management, and the enforcement of the rights and permissions associated with each asset. On the other hand, Content management (CM) enables an organization to gain control over the creation and distribution of unstructured information. CM systems provide the infrastructure to store and share organizational knowledge and transform unstructured information into content.

UAE Context

Some Middle Eastern governments, including those of the United Arab Emirates and Bahrain, have begun implementation of core digitisation initiatives. Indeed, the UAE government leads the Middle East in digital adoption and matches the index's digital frontier on several metrics. Other countries also have big ambitions and have made considerable progress. However, in their efforts to promote innovation and push the public sector's adoption of digital to the next level, they are facing implementation challenges such as an inadequate governance structure to achieve the desired change (Tarek, Enrico; Jigar and Jan, 2016).

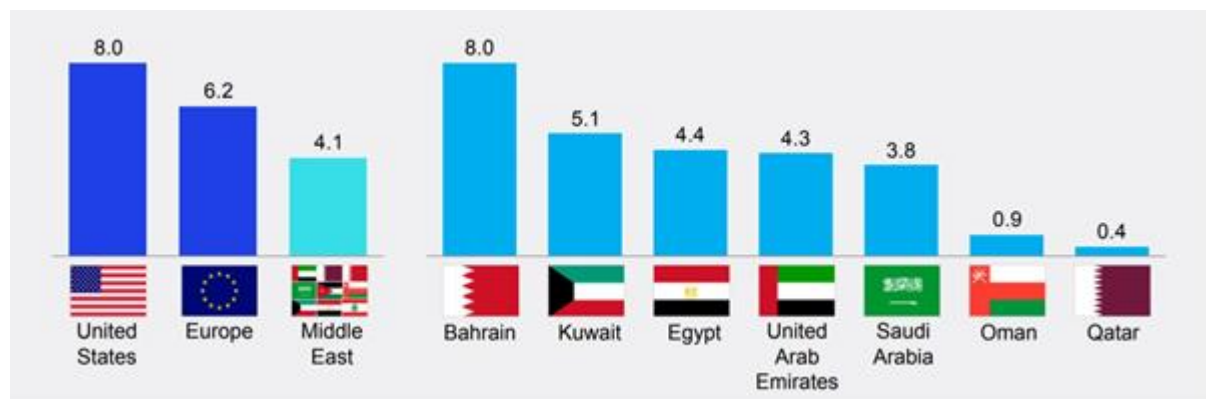


Figure 2: Share of digital contribution to GDP, %

The figure above shows the share of GDP coming from digital devices and services. For USA, it is 8% and in Europe it is 6.2%. Middle East as a whole earns only 4.1% from digital. Within the Middle East, Bahrain has the highest point at 8% which is equal to the USA's and higher than Europe. But United Arab Emirates (UAE) is receiving digital contribution to GDP of only 4.3% which is only half of the world's benchmarks. The previous reports and findings support the necessity of further enhancements in different sectors (FAFC, 2016). Through proper digitalization of fixed assets management, the Ministry of Interior can improve the level of contribution in the GDP. Right now, an absence of learning depicting how to implement fixed asset management procedures through an orderly and reasonable way so that the procedures are streamlined and advanced and are prepared for organization in a modernized manner.

The Global Asset Management

The asset management market of wealthy individuals has grown to \$ 69.6 trillion in 2021. The United Arab Emirates (UAE) is arguably the centre of the private equity and asset management industries in the Middle East. Saudi Arabia and the UAE are among the top 20 wealthier asset management companies, with the global asset management market expected to rise from \$ 55 billion (\$ 55 trillion) to \$ 69, 600 billion (\$ 69.6 trillion) before 2021, an international study shows, about a quarter of the current size which means annual growth of 4.7 per cent. More than half of the net capital increase to be invested in 2021 will come from the top five countries, with the United States and China contributing more than 45 percent, nearly 10 and percent of this capital, according to the annual report of Ernst & Young Wealth Management (Mathew Cowan, 2018). The increase, while Russia, Brazil and India are ranked third to fifth.

The next 15 countries are not far from India, but the 18 countries ranked lower than the United States and China (including Russia, Brazil and India) account for about 38 percent of global growth. The study of this major consulting firm analyzes asset management for individual wealth exceeding US \$ 1 million.

Of the \$ 14.5 trillion to be added to the assets of wealthy individuals, \$ 5.25 trillion will be managed in the United States, 1.31 trillion in China, 0.50 trillion in Russia, 0.44 trillion in Brazil, 0.43 trillion in India, and 4.21 in India. Trillion in countries ranked between 26th and 2.30 trillion in other countries.

Germany (\$ 0.35 trillion), Britain (\$ 0.34 trillion), Australia (\$ 0.33 trillion), South Korea (0.32 trillion), Canada (0.29), the UAE (0.28) and Mexico (0.27), Saudi Arabia (0.26), France (0.26), Netherlands (0.25), Norway (0.23), Indonesia 0.22, Italy 0.21, Sweden 0.20, Turkey 0.20, Amount to 100 of 100 due to rounded numbers to avoid small fractures. (Stull & Sullivan, 2017)

Impacts of Asset Digitization

It is already well known the change that is happening in the ways in which customers make use of technologies. No one is willing to wait for the response of a web, because there will always be another that delivers the same, no one supports a fall or stop a service without lynching in the RSS, there are few services that can be charged and none can to demand permanence, it is no longer acceptable to have to go to a window to do a paperwork or sign a paper to send it by fax.

This change poses a challenge to large corporations, with structures and culture difficult to adapt. The business areas have to be transformed so as not to be left behind in the digitalization and in turn this has a direct impact on the systems area.

But the impact in the area of systems has two aspects. On the one hand they are forced to support the new ways of interacting with the digital company and, on the other, it is not enough to automate processes, now they have the possibility / obligation to support new digital business models. It is essential to know the objective model we want to reach after the transformation, incorporate talent that provides the necessary skills, train employees and think about the business to establish the phases of the transformation.

Although the personalized service of asset management currently relies on manpower, with digital and algorithm innovation, technology has become more and more important in the field of asset management. Although the personalized service of asset management still relies on manpower, with digital and algorithmic innovation, technology has become more and more important in the field of wealth management. In order to survive in the digital waves, asset management companies need to take measures to keep up with new digital opportunities.

PricewaterhouseCoopers recently published a report on "The Battle of Backwaters: Asset Management in the Digital Age", the global demand for and expectations of digitally driven solutions for wealthy people, and the shortcomings of asset management companies in such capabilities. At the same time, we have studied how technology can make asset management companies play a bigger role, and how to maintain corporate value propositions is compelling and different when faced with emerging competitors. In 2016, PricewaterhouseCoopers commissioned Wealth-X, a wealth information research organization, to conduct quantitative research on 1010 high-net-worth individuals with investment assets greater than \$1 million in Europe, North America and Asia to assess their wealth, attitude, the use of technology, and the role of wealth management practitioners in their lives. We also conducted qualitative interviews with 100 wealth management account managers in Europe, North America, Asia, Latin America and the Middle East. Finally, it also interviewed executives from some traditional and financial technology wealth management companies to understand the strategic role of technology in the business. With a unique information channel, we are able to assess the needs and expectations of the global rich for digitally driven solutions and the shortcomings of wealth management companies in such capabilities. At the same time, we also looked at how technology can make wealth management companies play a bigger role, and how to maintain corporate value propositions is compelling and different when faced with emerging competitors (Shin & Laura, 2015)

In PwC's 2016 Global Financial Technology Survey, 83% of business executives surveyed said they face the danger of independent financial technology companies taking over the business, and the wealth management sector is the most vulnerable: one-fifth of the wealth the management company believes that it is in jeopardy. In order to survive in the digital waves, wealth management companies need to take measures to show their value to existing and future customers, and keep pace with the times to keep up with new digital opportunities. Therefore, wealth management companies should not be self-sufficient and mistakenly believe that they can be protected from the above impacts with their rich experience, brand reputation and even strong customer relationships. The report shows that asset management customers' current satisfaction and recommendation for wealth management companies is only moderate at best. In addition, a group of young high-net-worth individuals are constantly emerging due to personal entrepreneurship or wealth transfer. Wealth management companies will face the millennial generation with growing economic strength. They have grown up in an era of rapid technological development and economic turmoil. They have strong adaptability and are uncertain and volatile about the choice of brands and service

providers. The majority of digital assets possess monetary and/or sentimental value. Since digital assets represent the goods sold by a business or they are in themselves among the goods being sold, their value usually increases according to their usage. Digital assets can be reused as is or with minor modification (James, 2014)

Digital Workforce in GCC

A joint study conducted by the think tank at Strategy & Co. (formerly Booz & Company) part of PwC, in partnership with LinkedIn, highlighted that GCC countries need to scale up their economic efficiency by digitizing in pursuit of their ambitious national plans. Therefore, they need to build a skilled and adaptable digital workforce.

According to the report, "Empowering the Digital Workforce in the GCC: Building Adaptive Skills in the Digital Age, " the digital workforce in the GCC is low compared to the rest of the world. At present, digital jobs represent only 1.7% of the total workforce in the GCC, compared with 5.4% of the total EU workforce in similar jobs. Indeed, most GCC nationals work in sectors threatened by disruption due to new digital technologies. To overcome this, GCC countries should create digital jobs, both within the ICT sector and beyond.

Commenting on the research, Ali Mattar, Head of Talent Solutions at LinkedIn, said, in the analysis, they have matched the skills of digital professionals with the job requirements in the relevant digital sectors on the LinkedIn platform. The result was that only one of the ten skills of digital professionals in the GCC matched the fastest growing digital skills on the LinkedIn platform. Although there is regional trends towards acquiring more technical skills, skills related to emerging technologies remain scarce, such as big data and analysis.

The most developed skills among digital professionals in the GCC are concentrated on technology sales and distribution, while the most globally developed skills relate to product development. The mismatch between the regional digital work environment and its global counterpart is due to the lack of development of the digital labor market.

The digital labor market in the GCC faces challenges on both supply and demand sides. From a digital literacy perspective, the education system in the GCC does not keep up with technological developments or provides an adequate level of ICT education. In fact, 93% of digital professionals in the region listed on LinkedIn have completed their university education abroad and are not provided with adequate career development opportunities. Moreover, university students in the GCC countries, particularly citizens, show little interest in digital professions because of the limited awareness of the professions and their preference for jobs that they see as more stable in traditional sectors. In terms of demand, there are low levels of digitization in the region, for example, only 18% of companies use cloud computing technology, restricting the employment of digital professionals at the local level. The ICT sector in the GCC is underdeveloped and focuses on technology consumption rather than production (The HR Observers, 2017).

The development of digital workforce in the region offers significant benefits. "Digital jobs are more adaptable to technical innovation, and can support a more flexible work culture that allows for self-employment and teleworking" said Melissa Rizk, a member of the Think Center, the research center at Strategy& Middle East encourages greater participation of women and young people who are not productive ". In fact, the evolving digital labor market can create 1.3 million additional jobs in the GCC by 2025, including 700, 000 in Saudi Arabia alone.

To build a skilled digital workforce, the GCC countries will need to focus their efforts on developing digital skills within the academic community by focusing on science, technology, engineering and math curricula in schools and training teachers to use more digital tools in

curriculum delivery. Equally important is the promotion of career development opportunities, including postgraduate and internship programs for well-versed digital students, as well as training programs offered by companies. This will help digital professionals gain the skills they need to increase their employment opportunities.

In addition, GCC citizens should be encouraged, from an early age, to explore digital careers, which can be achieved through awareness campaigns in schools and universities, as well as competitions, hackathons (programming events) and training camps.

To increase the demand for these jobs, the GCC countries should stimulate greater digitization, with the aim of encouraging enterprises to use more emerging technologies and adopting digital strategies to transform their business models. Priority should also be given to stimulating innovation and production in the digital economy, and this can be encouraged by making the region an attractive environment for ICT companies to prosper. The region also needs to review its full approach to startups and ensure that digital entrepreneurship flourishes and attracts more skilled professionals. With the inputs from the World Economic Forum's "The Future of Jobs" report, the LinkedIn report and the findings of the World Economic Forum report agreed that a very high percentage of GCC citizens now work in sectors that are highly vulnerable to disruption due to new digital technologies, particularly in professional services and public administration.

If, by 2025, the region reaches the same percentage of digital jobs as the European Union currently has, then nearly 1.3 million new jobs can be created. Free work is increasing throughout the developed world, driven by a digital age that gives individuals greater ability to design the rhythm and schedule of their working lives (Unicode, 2017). There are about 3.9 million non-productive women and men in the GCC, some of whom can benefit from digital self-employment.

Digital professionals in the GCC do not have the digital skills most sought by employers in all sectors such as statistical analysis, data extraction and algorithm design. Most Gulf youth prefer traditional work in the public sector in their country because it provides them with job security and high salaries. Indeed, according to a survey conducted in 2016, more than two-thirds of young people in the GCC (70%) prefer public sector jobs to private sector jobs.

New Software Tools to Digitalize Assets

The new software tools allow the collection of large amounts of data from a variety of sources of information, from various vendors such as social networks, credit card issuers, for example, while sophisticated programs assess and analyze what is best for the client in terms of risks, . It seems that it will not be limited to customers. In the very near future, the technical capabilities and the hard digital infrastructure of the asset manager will be the most critical factors for the success of this activity. The new comprehensive digital business model or "comprehensive digital assets manager" will definitively exclude traditional market asset managers from now until 2025, the study said.

Ernst & Young assumes that the overall market share, which is almost zero at present, will increase to 20 or 30 per cent. Future asset managers will highlight their digital literacy and digital advisory approach, which will generate real value for wealthy customers (EY, 2015).

On the future investment trends, the study showed that traditional investment categories such as equities, bonds and capital market investments will be reduced by replacing them with alternative investments, while investment in hedge funds and capital investment funds will increasingly invest in real estate, Infrastructure, credit, agriculture and joint investments with alternative funds.

Conceptual framework

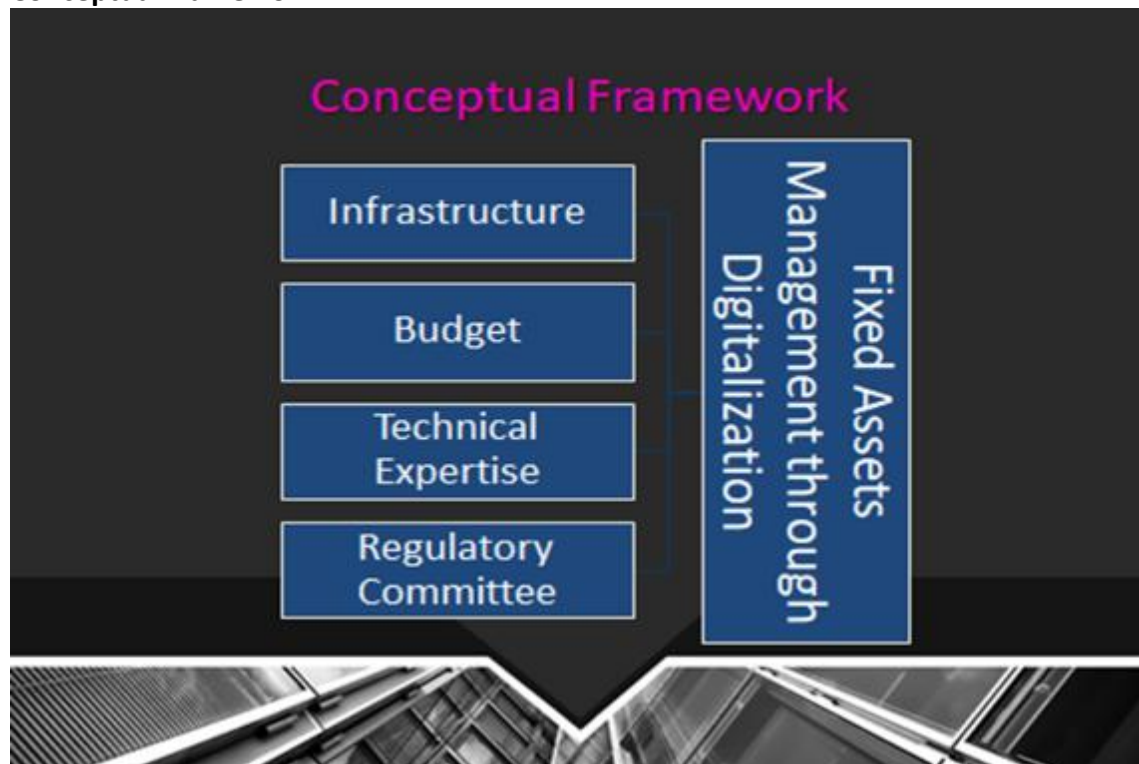


Figure 3 : Conceptual Framework

Conclusion

Both the developed and developing countries are embracing digitalization for the betterment of the organization. The researchers expect that the proposed conceptual framework will provide a guideline to improve the asset management. The further research can do by analysing the relationship, impact with the variables and implementing moderator, mediator.

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