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Case study

June 2018

The Dubai Statistics Center

Innovation in Business Process Management

ABSTRACT

The Dubai Government Excellence Program (DGEP), part of the General Secretariat of the

Executive Council of Dubai, launched in late 2015 an initiative with the title “Dubai We Learn”. In collaboration with the Center of Organizational Excellence Research in New Zealand, (COER), the initiative strived to foster a culture of institutional learning and knowledge exchange within the governmental sector in Dubai, and consisted of a range of benchmarking activities. Thirteen projects from 13 different government departments took part in this award winning initiative.

The Dubai Statistics Center won the award for their project, ‘Innovative Statistics’ – along with all the other 13 participating projects – using the TRADE Best Practices Benchmarking methodology. The DSC excellence project-rationale was to identify the best practices in innovation management to enable it to develop and implement a strategy for innovation to improve its business- processes and services. Consequently, the Center celebrated a 7-star prize of innovation and excellence in 2016, granted by the DGEP, for its innovative best-practices contributions in the sector.

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Introduction

Business process management (BPM) is a systematic approach to making an organization's workflow more effective, more efficient and more capable of adapting to an ever-changing environment. BPM could also be regarded as a set of activities that will accomplish a specific organizational goal. It presumes the idea that you view business as a set of processes, and BPM is the act of improving those processes. It is common place to mistake BPM for the process of automating business processes. It is not. It is actually about improving them. In this case study, the Dubai Statistics Center (DSC) demonstrated an exemplary model of innovation in the BPM dominion.

The Dubai Statistics Center is the official source for the collection and distribution of statistical information in Dubai and was established under the jurisdiction of Law No. (23) in 2006 in this role[1]. It is affiliated with the Executive Council. This role was further cemented under Law No. (28) in the year 2015, which characterized the center as the only official statistical reference responsible for collecting, analyzing and classifying statistical data and as a result of this law, any private entity or individual should get a permit prior to conducting any surveys from the center.[2]

According to Article (6) of Law No. (23), the aims of the DSC are to "contribute to pushing forward the economic and social development in the Emirate" and to "provide statistical support to decision makers for the purpose of drafting development policies, creating plans, and measuring strategic performance".[3] This includes conducting population censuses, preparation of population and socio-economic indicators, socio-economic statistical surveys periodically, commissioned studies and consultancies for government agencies. They also work to standardize the understanding of statistics according to international standards as applied both in Dubai and in coordination with federal entities. In their aim to support sustainable development and the Dubai government vision for "Happiest city on earth", the center aims to provide accurate, innovative, transparent, and reliable data. The statistical themes they focus on range from economics and industry, environment, sustainable development, and population data.

With respect to the worldwide momentum innovation has gathered recently, the support it has received from federal and local governments across the UAE is very apparent. In accordance to this, the DSC aimed to improve itself in this field by establishing the Innovative Statistics project within the 'Dubai

1. "Law no. (23) for the year 2006 concerning the establishment of the Dubai Statistics Center". HH The Ruler's Court Government of Dubai. 2006. Retrieved from www.dsc.gov.ae/Public%20Documents/About%20DSC/law_no_23.pdf
2. "Mohammad issues new law on Dubai Statistics Centre". Gulf News. 25 November,2015. Retrieved from www.gulfnews.com/news/uae/government/mohammad-issues-new-law-on-dubai-statistics-centre-1.1626481
3. "Law no. (23) for the year 2006 concerning the establishment of the Dubai Statistics Center". HH The Ruler's Court Government of Dubai. 2006. Retrieved from www.dsc.gov.ae/Public%20Documents/About%20DSC/law_no_23.pdf

We Learn' Benchmarking agenda established by the Dubai Government Excellence Program (DGEP). As a result, the project received 7 stars and a certificate of excellence from the DGEP among other awards. The DGEP Excellence award was granted to the DSC based on the rigorous application of the TRADE Benchmarking tool. The TRADE Benchmarking is a certification system that provides the guiding framework and tools for applying benchmarking tools and achieving institutional improvement.

By embracing the ethos of innovation in government, the DSC attempted to implement an innovative Business Process Management system to foster the culture of creativity, development and excellence. This initiative was endorsed by their diligent attempts to apply the Innovation Management Standard TS-16555-1, which they successfully got accredited for as a result of the benchmarking process. Yet they faced unexpected challenges when trying to apply these modern and cutting edge approaches to their own institution. What kind of structural reforms of their management frameworks and business processes would be required to achieve this?

The Dubai Government Excellence Program

The DGEP was established in 1997 as the first integrated program for governmental excellence in the world. The DGEP started in 1997 under the orders of His Highness Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President, Prime Minister and Ruler of Dubai.[4] It was created to serve as the driving force behind the development of the public sector in Dubai, and also enable it to facilitate extraordinary services for all stakeholders involved.

In the past ten years the program has made great strides in developing the practices, performance, and techniques applied in the public sector, guiding them in the application of professional and organizational standards of excellence. Keeping up to date with the latest updates in methodologies, standards, techniques and categories of administration and quality control is a large part of their mandate, allowing to meet emerging challenges in public sector.

Recently, the DGEP succeeded in advancing and evolving the concepts, practices, performance and approaches adopted by the public sector. This successful enhancement goes back to the latter's collaboration with several government entities that committed to the DGEP's organizational and professional excellence standards. This Excellence

Program is a stand-alone entity, that ensures the development of the systems methodologies used by the public sector, order to keep up with the state-of-the-art administration and quality domains. main concern lies in supporting government sector institutions to efficiently meet the dynamics of the changing managerial and administrative world.[5]

> **"Innovation today Is not an option but a necessity, not a general culture but business style. Governments and Companies that do not renew or innovate lose competitiveness and control. They are bound to regress".**
>
> *HH Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of U.A.E. and Ruler of Dubai*

4. "Dubai Government Excellence Program". Emirates Government Excellence Program. Retrieved from www.egec.gov.ae/en/council-members/dubai-government-excellence
5. "Dubai Government Excellence Program". Emirate s Government Excellence Program. Retrieved from www.egec .gov.ae/ en/council-members/dubai-government-excellence.

The DSC Project: The 'Creativity and Innovation' initiative

Based on the UAE governments declaration that the year 2015 will be the Year of Innovation, the Dubai Statistics Center (DSC) established the Creativity and Innovation unit in August of 2015 to contribute to implementing the governments vision and strategy.

In the context of business, innovation is the application of a new process or approach that creates value in an attempt to seek continuous improvement, which can create a competitive advantage.[6] If used strategically, it can help governments boost novelty at both the national and local levels, and ultimately improve productivity and efficiency.[7] As a matter of fact, the UAE decreed a "Government Innovation Framework" (GIF), whose purpose was to provide public sector employees with all essential guidelines to the concept of "government innovation" and how to start up the innovation process; along with aligning them with the Government's 2021 vision. The Government Innovation Framework defined "innovation" as the "launching of new and/or updating of existing services, systems, processes, policies and strategies through the adoption of new principles of "continuous development".

The DSC's initiative fits into the broader national context within the UAE, flowing from the UAE Vision 2021. In this roadmap, the UAE aims to transform its economy towards a knowledge and innovation driven model, where productivity and competition are nurtured and developed. Legal frameworks, regulatory structures and government services will support businesses in the growth and commercialization of innovation in the Emirates.[8]

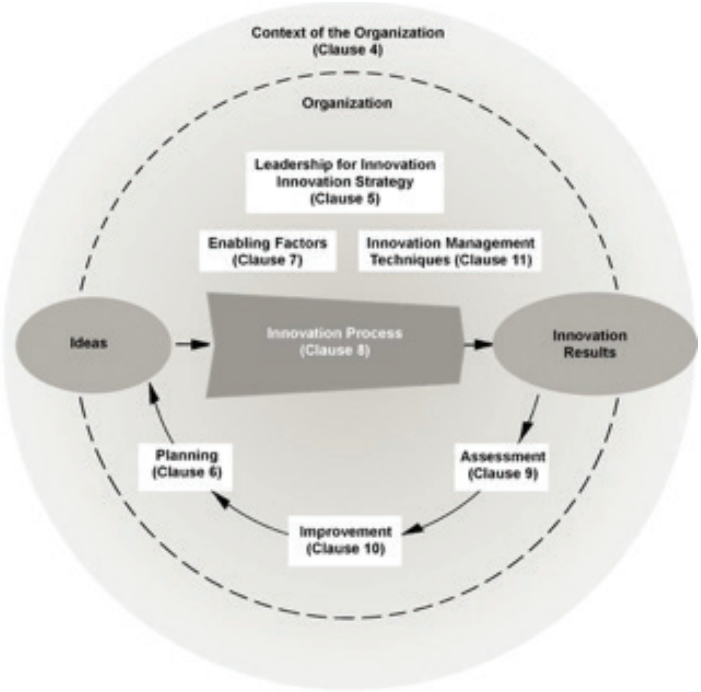
This is complemented by the national innovation strategy, launched in 2014, that aimed to make the UAE one of the most innovative nations in the world within seven years. Its first phase includes 30 national initiatives to be completed within three years.[9] This comes with a special focus on government innovation, through development of policies, services, procedures and enhancing competitiveness. In order to reshape government services into an organized corporate model, the focus will be on innovation incubators, building specialized national capacities, motivating the private sector, developing international research partnership, and developing the public sector. The strategy will stimulate innovation in seven governmental sectors including: renewable energy, transportation, health, education, technology, water and space.[10] During the same year – 2014, another strategy was approved known as the Dubai Innovation strategy. This was a modified version of the national framework, which focused

6. "Procurement innovation vital to growth". BearingPoint. 2013. Retrieved from www.bearingpoint.com/
7. "Public Procurement for Innovation: Good Practices and Strategies". OECD. Retrieved fromwww.oecd.org/
8. "Vision 2020, United Arab Emirates". United Arab Emirates. Retrieved from www.vision2021.ae/en/our-vision/united- knowledge
9. "The National Strategy For Innovation." United Arab Emirates the Cabinet. www.uaecabinet.ae/en/the-national-strategy-for- innovation.
10. "Government Innovation." Ministry of Cabinet Affairs. 25 January 2017. Retrieved from www.mocaf.gov.ae/en/area-of- focus/government-innovation.

on the local attributes of the emirate of Dubai. It included 20 initiatives by itself, and covered the seven government sectors mentioned earlier; along with four more: government services, economic activity, hospitality and tourism.

Innovation doesn't occur in a vacuum, nor is it a simple set of ideas. It cannot be copied from another model as is either, and there is no one system or practice that fits all functions under different circumstances. As a matter of fact, innovation strategies must be tailored to fit the needs of the organization.[11] It requires an innovation system, "a coherent set of interdependent processes and structures that dictates how

the company searches for novel problems and solutions, synthesizes ideas into a business concept and product designs, and selects which projects get funded".[12] In this sense, adopting innovative practices requires complementary changes to the institutions processes. Without this strategy of innovation, the ability to choose innovation systems and manage trade-offs and challenges will be impaired.[13] Without a clear strategy, different departments in an organization may end up pursuing different, if not conflicting, priorities.[14]



1 Key elements covered by the Innovation Management System. Retrieved from http://finnkollerup.com/methods-and-tools/innovation-management-system-checklist/

11. Pisano, Gary P. "You Need an Innovation Strategy". Harvard Business Review. June, 2015 Issue, (pp.44–54). Retrieved from www.hbr.org/2015/06/you-need-an-innovation-strategy
12. Ibid.
13. Ibid.
14. Ibid.

Innovation in Business Process Management could be defined as a "marked departure from traditional management principles, processes, and practices or a departure from customary organizational forms that significantly alters the way the work of management is performed".[15] Innovation in management processes and approaches can create a potential shift in an institutions success and its position as an industry leader. Innovation in management should meet one or more of the following conditions to create enduring success: "The innovation is based on a novel principle that challenges management orthodoxy; it is systemic, encompassing a range of processes and methods; and it is part of an ongoing program of invention, where progress compounds over time".[16]

The process leading to BPM innovation includes identifying[17]:

- A problem that requires a fresh solution.
- Novel guiding principles that encourage new approaches.
- A push against conventional approaches or orthodoxies that may be constraining creative outputs.
- Success stories to learn from.

To identify a problem in need of innovative approach, there are a few points to consider. Firstly, what are the key challenges that appear insurmountable within your organization? Secondly, what aspects give rise to your incompetence, and how can they be transformed into advantages? Thirdly, how to anticipate future developments that will affect your institution and prepare to embrace them before they impact you?[18]

Most institutions do not have built-in processes for continuous innovation, particularly when it comes to management innovation, a sector in which it is likely to have the greatest organizational impact. Orthodoxy in management is often firmly embedded, particularly in executive levels and as such, innovation in management has the potential to create a deep advantage that outpaces competitors. This is where innovation management systems come into play. An innovation management system is "a set of interrelated or interacting elements of an organization to establish innovation policies, objectives, and processes to achieve those objectives".[19] To summarize, it's a system for collecting and organizing innovative ideas and if executed successfully, is integrated into the organizational structure.

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15. Hamel, Gary. "The Why, What, and How of Management Innovation". Harvard Business Review. February, 2006. Retrieved from www.hbr.org/2006/02/the-why-what-and-how-of-management-innovation
16. Hamel, Gary. "The Why, What, and How of Management Innovation". Harvard Business Review. February, 2006. Retrieved from www.hbr.org/2006/02/the-why-what-and-how-of-management-innovation
17. Ibid.
18. Ibid.
19. Karlsson, Magnus. "Who needs a standard for Innovation Management?". XXIV ISPIM Conference -Innovating in Global Markets: Challenges for Sustainable Growth, June 2013, Helsinki. ISPIM. Retrieved from www.conference.ispim.org/wp- content/uploads/sites/2/2013/11/ISPIM2013_Karlsson.pdf

Due to the importance of innovation in raising the performance of an entity, DSC included the development of an innovation strategy and receiving the innovation management standard (TS 16555-1) as some of its strategic initiatives, which drives the development of its processes and services. Despite the restrictions of the statistics field, which remains standardized, the DSC felt it was crucial to develop innovative methods and initiatives to overcome the strategic challenges. This would also include raising awareness among beneficiaries about the importance of statistics in supporting the decision making process, particularly in relation to sustainable economic growth. Therefore, the DSC endeavored to be a pioneer in implementing proper innovation management systems that improved and raised the standard of its core business (Statistics) by learning from benchmarking partners and identifying the best practices. It also established its prominent value that endorsed creativity and innovation as the main drivers for continuous development of processes, change management, and future foresight.

Actions taken in the project

Businesses and industries nowadays are constantly challenged by the overwhelming pace by which change, technology, and economic transitions worldwide are affecting markets everywhere. While these challenges may affect industries differently, the key questions to be addressed are how to identify how mature an organization is in terms of facing up to these world dynamics. Some exploratory questions on the matter include the following:

1. Where can an organization find the innovative, break-through ideas for long term growth?

2. How to successfully operationalize these ideas and establish a memorandum of best practices?

3. How to efficiently engage employees to drive the vehicle of innovation and progressively adopt the waves of change?

The primary objectives of the DSC Innovation Business Process Management project were to establish a new "Creativity & Innovation" unit in the Center, within the Strategy and Corporate Excellence Office; and to acquire the ISO Innovation Management Standard CEN TS 16555-1. This also included integrating the benchmarking practices gained by applying the TRADE methodology as essential pillars of the establishment of this new Unit.

The DSC found itself in a difficult position. It wished to comply with the new government directives to encourage and sustain innovation, but it did not have a clear model to follow. Mainly, both the UAE Government Vision 2021, and the National Innovation Strategy were largely focused on the federal levels of operation between the Emirates. The government was more focused on developing and training entities and employees on the federal level.

Secondly, there was no explicit guideline in the National Innovation Strategy for how to apply or integrate innovation into the local government levels of operation. As a result, the DSC turned to benchmarking and eventually followed the Dubai Innovation Strategy that manifested a getaway from the above mentioned impediments.

It was essential for the Center to begin by conducting periodical assessments of the maturity level of their Innovation Management practices. As such, the DSC started its project by undertaking a number of innovation self-assessments that they obtained from the Business Performance Improvement Resource (BPIR), an organization providing resources for business development tools such as benchmarking, best practices, networking and more.[20] Of the 5 Innovation Self-Assessment Tools, the DSC found the self- assessment tool titled "Innovation Maturity (organization-wide)" to be the most comprehensive

20. BPIR. Business Performance Improvement Resource. Retrieved from http://www.bpir.com/

and useful. The self-assessments enabled DSC to identify its current level of Innovation Maturity and identify specifically what needed to be improved.[21]

Maturity Assessment is a process that allows organizations to "rank themselves on the strength of their innovation program in the categories of people, processes, and tools across five levels of maturity".[22] The grades are organized as such where: "Level 1 represents the lowest level of maturity, while Level 5 is the highest, where innovation is operationalized, embedded in the company culture, with a supporting organization, well-defined processes, and formalized tools."[23] According to the Plan-view Innovation Management Maturity Model there are three key elements involved with an innovation programs success: people, process, and tools.[24]

- People: with organizational processes that support innovation, personnel are brought on to manage the innovation program.

- Process: altering organizational processes to adapt to "market" changes as the company evolves. Processes are institutionalized or automated and are in a constant state of improvement.

- Tools: the tools required to automate this system, which involve and impact everyone in the organization.[25]

In this sense, it's not just about identifying the current level of maturity, it is also about defining the goal to be achieved through innovation and what level of maturity is required to reach it. This was closely related to its third objective, where the DSC updated an Innovation Strategy based on the Innovation Management Standards TS 16555-1. The scope and purpose of the TS 16555 standard was to guide organizations to introduce, develop and maintain a framework for systematic innovation management practices. [27] This would allow them to evaluate the outcomes of the project with an expected increase in Innovation Management Maturity Level from Level 2 (Abbreviated) to Level 4 (Managed) by the end of the project by 31st May 2017 (After six months from project implementation).

The European Committee for Standardization (CEN) developed the "Innovation Management Standards TS 16555-1" to introduce and develop innovation management procedures.[28] They believed it would

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21. Ahmed. "Toward a world class innovation strategy: Dubai Statistics Center leading the way". BPIR. 17 May, 2016. Retrieved from www.blog.bpir.com/benchmarking/toward-a-world-class-innovation-strategy-dubai-statistics-center-leading-the-way/ 22 Nauyalis, Carrie. "The Innovation Management Maturity Model: How Do You Stack Up?". Innovation Management.se.
22. Retrieved from www.innovationmanagement.se/2013/10/28/the-innovation-management-maturity-model-how-do-you-stack- up/
23. Ibid.
24. Nauyalis, Carrie. "A New Framework For Assessing Your Innovation Program: Introducing The Innovation Management Maturity Model". PlainView. Retrieved fromwww2.planview.com/im3/docs/Planview-Innovation-Maturity-Model.pdf
25. Ibid.
26. Rao, Pramod. |Project Management Maturity Model". Retrieved from: https://pramodrrao.wordpress.com/2011/06/28/project-management-maturity-model/
27. Hattendorf, Heidi. "Seven Steps to Creating a Successful Innovation Framework". Innovation Management. Se. Retrieved from www.innovationmanagement.se/2014/01/27/seven-steps-to-creating-a-successful-innovation-framework
28. Dilan Alaa Josef, Said Al-Swiri & Sivan Rahman. The New Standard For Innovation Management Systems: A Comparative Study Of Volvo Construction Equipment's Innovation Management System And CEN/TS Standardized Innovation Management System. Mälardalens University. 2016, Jan. Retrieved from www.diva-portal.se/smash/get/diva2:906107/FULLTEXT01.pdf

assist any organization regardless of size or sector to improve their innovation and success with regards to services, products, procedures, or organizational models. The model includes day to day activities required for generating innovation that can be utilized on their own or integrated within core operations and organizational management systems. The system comes as a Technical Specification (TS) and is best suited for small to medium sized organizations. The system consists of 7 parts:

1. Innovation management system.
2. Strategic intelligence management.
3. Innovation thinking.
4. Intellectual property management.
5. Collaboration management.
6. Creativity management.
7. Innovation management assessment.[29]

With a set of predetermined expectations and the intention to raise its Innovation Management Maturity Level; the DSC innovation team went on to implement the new Innovation Strategy by periodically evaluating the outcomes of the project in a constructive manner. This strategy was to address the following identified areas: Leadership, Strategic Planning, People, Culture, Processes, Tools and Techniques, Training, Facilities, Idea capture, Idea management and Metrics.

These eleven performance pivots were to be measured in order to assess increasing maturity levels at the DSC, paving the way for the establishment of the Creativity and Innovation unit. This provided a whole new perspective of action plans and the DSC embarked on a dynamic journey where the following aspects needed lots of attention:

a. The prevailing culture of the DSC community (people): The kind of development and improvement required here was that of creating the appropriate awareness about the importance of innovation among DSC employees, customers, and any stakeholder(s) involved.
b. Business processes: The progress required here was related to the processes and procedures by which the DSC carried its main functions, roles, and services. Development of Idea Management Processes was crucial for the generation of suggestions and also for the handling of complaints. Innovation Labs at the DSC were eventually created and brainstorming sessions were carried out for the same set of purposes.
c. Technology: state-of-the-art programs and information management systems were required for an enhanced management system of complaints and recommendations.

The fourth objective behind the DSC innovation and excellence project was to identify “Best Practices” (BP) in Innovation Management according to the 16555-1 Standards.

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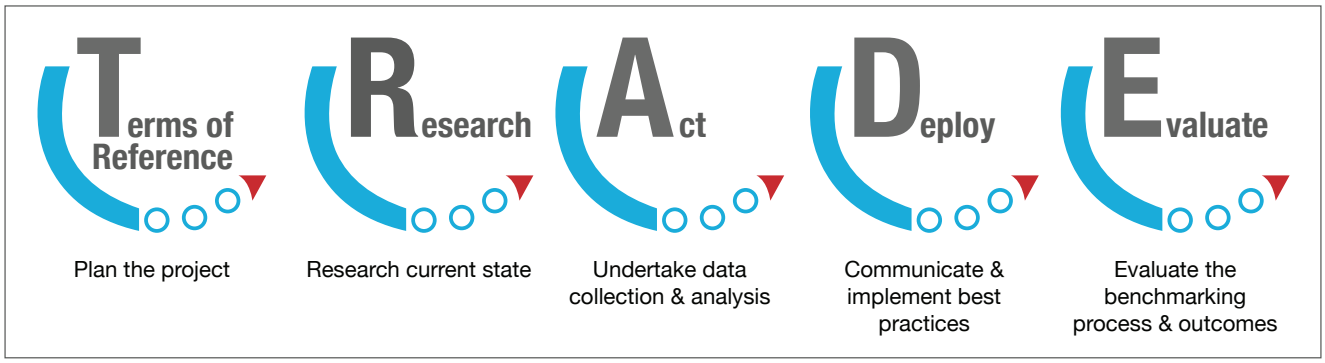
29. Ibid.

Benchmarking

In the quest for innovation and improvement, Best Practice Benchmarking is increasingly being used to deliver more benefits. This methodology focuses on applying well-founded best practices rather than simply measuring performance. By continuously pursuing best practices, an institution is able to inspire innovation and effective improvement. This process promotes a "learning culture" model, and is most often used in Business Excellence awarding criteria.

As such, the initial aim of the project was to identify best practices in Business Process Management that would enable the DSC to develop and implement a strategy for innovation that would improve its procedures and services. As a result of the push towards excellence and innovation, the DSC moved towards applying the benchmarking approach in order to improve upon the processes they had begun to undertake. Benchmarking was conducted at DSC at the organizational level to evaluate the current performance, develop systems and approaches and set targets for key results. The DSC's implementation of the TRADE Benchmarking tool was one of the many excellence awards that the center strived to achieve.



Pursuing best practices enables organizations to continually question the status quo and innovate – thus resulting in more effective practices and appealing products and services. Whilst the desire for better/best practices is widespread, the approach to identify, understand and implement the latter is often unclear or applied inconsistently. The TRADE Best Practice Benchmarking methodology and its associated certification system provide a proven approach to pursue and implement best practices leading to long-term cultural change and leading edge processes, practices and performance.

The TRADE Benchmarking methodology is one such methodology providing the guiding framework for applying benchmarking tools and achieving consistent results. It is a certification system that focuses on sharing information and best practices, to improve performance and deliver the best value to the organization. The project's aim can be specific or broad, focusing on the improvement of processes, tools, strategies, behavior, or processes among others. Once the project's aim is set, current performance is measured and then partners with positive benchmarking practices are identified and studied before their practices are analyzed and adapted.

The TRADE methodology was originally developed in 2009 by Dr. Robin Mann and is now undertaken by The Centre for Organizational Excellence Research's (COER). It offers a flexible step-by-step approach with five distinct phases and proven results. Trade methodology is flexible in the sense that it can be used to explore a simple business-concern/issue (consuming 1-12 weeks) or in depth projects (consuming 13-36 weeks). The approach to planning is rigorous; ensuring that cost-benefit analysis is undertaken for projects before they begin. Projects are also supported by a "project management spreadsheet, a TRADE training manual (consisting of a comprehensive set of benchmarking resources and template forms), and a benchmarking certification scheme".[30] The methodology contains five step-by-step stages, namely: the "Terms of Reference (plan the project), Research (research current state), Acquire (acquire best practices), Deploy (communicate & implement best practices), Evaluate (evaluate the benchmarking process & outcomes)".[31] In order to deliver outstanding results, the project is continuously reviewed in light of its ability to deliver concrete results and benefits. As a result of this benchmarking process, the DSC team found around some 11 main challenging areas. That was eventually their main focus, and a year later, they developed their outline for "Best practices in management processes".

So what did the DSC achieve in order to earn the excellence award; what was their innovation in terms of management? They started off by adopting strategic management tools that helped them assess and find ways to improve their business processes like:

a. Gantt charts.
b. MS project.
c. Tasks worksheets.
d. Project monitor worksheets.

As a result, they critically self-assessed their strengths, weaknesses, opportunities, and threats; and searched for new areas of improvement and root causes for any pitfalls they were previously facing. They used quality management tools like the Fishbone analysis, and other self-assessment appraisals and surveys. This is considered a key part of the innovation maturity assessment process, in that any trade- offs required from implementing an innovation management system should be outlined and assessed.

They journeyed through an extensive reform program where redundancy and repetition of tasks were reconsidered and the spirit of efficiency and effectiveness within departments were revived and endorsed. They then proceeded to prioritizing their areas of improvement and conducted thorough

30. "TRADE – Benchmarking for Excellence." Dubai Quality Group. 13 December, 2016. Retrieved from www.dqg.org/?event=trade-benchmarking-for-excellence-5
31. "Apply - TRADE Best Practice Benchmarking." COER. Center for Organizational Excellence Research. 13 December, 2016. Retrieved from www.coer.org.nz/apply/trade-best-practice-benchmarking

research to investigate how they would go through their reform process. Their main data collection tools included:

- Site visits.
- Trainings and workshops.
- Assessments and performance appraisals of individuals and departments.
- Periodic meetings.
- Video conferences to conduct their surveys.

They developed clear action plans and SMART objectives that they adhered to. They then identified potential stakeholders; formulated their recommendations; and communicated them to those involved. They created effective two-way communication channels by setting up occasional forums, or even inviting stakeholders to discussion- meetings to gain rapport and also a better understanding of their interests and perceptions towards the DSC's reforms. Their stakeholders included:

- DSC Leaders
- DSC Employees
- External Parties (Government, Business Sector & Individuals)
- DSC Customers
- DSC Strategy & Corporate Excellence Office
- Benchmarking Partners

On an organizational level, the changes would impact the DSC Strategy & Corporate Excellence Office, which would be responsible for establishing a proper innovation management system and strategy under its supervision, which would then become the Creativity & Innovation Unit. This also includes benchmarking partners, which the DSC would partner with during the TRADE benchmarking process. They would be engaged within the knowledge and experience sharing schemes, particularly other government entities engaged in the 'Dubai We Learn' initiative.

Mainly, the DSC aimed to promote a culture of creativity and innovation for their employees. They also aimed to raise the innovation maturity level, providing needed support for creative problem solving. Solving challenges creatively is part of employee monthly and yearly performance assessments and promotions. This would be aided by the simplification of their work procedures and services, allowing for a needed boost in work performance. Not only that, this goal impacted external stakeholders greatly in that it would improve services and statistical date provided to decision makers and DSC customers such as government entities, private sector, and individuals. It would also tie into the government wide goal of achieving customer happiness.

In their application of the TRADE methodology, the DSC implemented a variety of new processes in order to achieve desired results.

a. The "Terms of Reference" stage (plan the project)

At the first stage of the TRADE methodology, the team met with representatives of the 'Dubai We Learn' Initiative and began developing the project brief. This led to the establishment of a project team with designated roles based on relevant project tasks, area of expertise and experience. This team was trained on the TRADE Methodology and began utilizing the various analysis tools at their disposal like the fishbone analysis, to find areas of structural or operational weakness. The Fishbone diagram yielded 11 areas and practices that needed to be benchmarked.

b. The "Research" stage (research current state).

The team then undertook extensive research in order to better understand the area being benchmarked. It was extremely critical for the team to define performance measures in order to assess progress. They intended to use the various self-assessment tools as a performance indicator for the project, as performance indicator tools are a requirement within the TRADE methodology. They utilized the BPIR website heavily to search for "Innovation Self-Assessment Tools". As such, they prioritized and finalized the practices to be benchmarked by Implementing the prioritization matrix. The areas covered by the matrix were then rated and used as benchmarking areas (Frequency, Importance, Feasibility and Time). This valuable information was then arranged in a table with key focus areas for innovation management.

This process also included site visits from experts from COER and the DGEP to discuss the project, provide feedback and suggest additional self-assessment tools. This resulted in the application of an additional self-assessment tool suggested by COER (Innovation Maturity Organizational-Wide). The assessment tool proved to be very useful, so it was translated into Arabic and digitized. In an effort to expand the utility of this tool and share imparted knowledge, the team then met with an expert to choose the survey's sampling formula. The tool was then utilized by DSC employees and circulated to government entities participating in 'Dubai We Learn' initiative. This intricate process resulted in the implementation of these self-assessment tools and the development of several benchmarking focus lists that illuminated the DSC's areas of strength and weakness.

c. The "Acquire" Stage (acquire best practices).

Benchmarking includes ongoing involvement with benchmarking partners, and as such the process for selecting partners is elaborate. The team established the criteria for selecting benchmarking partners by filling out a partner selection table. They then identified potential benchmarking partners and implemented pre-screening criteria based on the template provided by COER. The team then developed a benchmarking partner selection questionnaire based on the template, which they used to guide the process.

During the search for potential benchmarking partners, the DSC also identified required areas of improvement and matched them to benchmarking partner's selection criteria. For example, the DSC searched for organizations with an innovation strategy that resulted in the development of an innovation culture.

Stakeholder engagement was also a cornerstone of the project, and began in this phase. The team invited benchmarking partners and communicated by preparing a collaborative communication plan and protocol. This led to the implementation of a new phase in the data collection process, where site visits were conducted with potential benchmarking partners like: Emirates Nuclear Energy Corporation, 3M Innovation Center, US Consulate and the U.S. Census Bureau. Their visits to Dubai Customs, and The Office of H.H. The Crown Prince of Dubai for example, were particularly critical in that they shared their experience with getting the IMS CEN TS 16555-1 Certification. During these phases, the team continued to enrich their knowledge on the project by participating in the "Mastering Innovation Implementation Workshop" arranged by DGEP and Innovation 360.

Finally, they conducted the Innovation Management Standard Assessment CEN TS 16555-1 Survey and Innovation Management Standard checklist. They gathered the list of findings from these assessments and identified best practices aligned with the project's aim and scope. This data was then organized within a system that classifies practices in terms of Time, Cost, Effort & Impact in addition to the Chevron System (Good Idea, Good Practice & Best Practice). This classification guided the preparation of a comprehensive list of performance gaps and identified the enabling factors for best practice creation. As such, the team was able to formulate recommendations for areas of improvements and best practices, which became the basis for an action plan for implementation.

d. The "Deploy" stage (communicate & implement best practices).

In order to communicate their findings, they prepared a benchmarking report based on the findings. The team then arranged awareness workshops to educate DSC employees about the Innovation Management Standard. Ensuring accountability, the team met with project sponsors to review the findings report and get approval on the action plan. They also met with their benchmarking facilitators to discuss the findings, and share tips and techniques with other government entities.

e. The "Evaluate" stage (evaluate the benchmarking process & outcomes).

The evaluation stage included an in-depth cost/benefit analysis. The team also changed the end date of the benchmarking project in this stage, choosing to conclude the project six months after project implementation. The project had various expected financial and non-financial benefits and values added based on the cost/benefit analysis, which were:

- Develop & implement Innovation Management Strategy
- Raise innovation management maturity level in DSC
- Improve DSC processes and services
- Improve idea management process by raising the awareness of employees and customers
- Identify & Implement creative thinking tools to be used in Innovation Labs and Brainstorming Workshops
- Update or upgrade suggestions and complains management systems
- Raise number of innovations implemented within the organization
- Prepare and Implement Intellectual Property Process
- Implement Innovation Management Standard Stages, which covers all the gaps and obtain the certification IMS TS 16555-1 certified

No direct financial benefits were measured from project implementation. However, revenue generating and cost reduction will be considered when implementing innovative ideas. The expected financial benefits were:

- Saving cost of hiring a consultant to prepare Innovation Strategy Management
- Saving finances by eliminating gap analysis assessment, which was prepared internally based on the information gathered and experience gained from the project
- Hiring an external auditor “Llyods LRQA” only to assess the current innovation maturity level in DSC and to certify DSC with Innovation Management Standard CEN TS 16555-1: - (Certification 1st Review Assessment 2nd Review Assessment)

Stakeholders

The DSC wished to engage all its key stakeholders in its BPM innovation make over. Those on board were DSC leaders, DSC employees, external parties, customers, the strategy and corporate excellence office, benchmarking partners, and vendors of innovation management.

With respect to DSC leaders, they were committed to establish an enabling organizational culture that would promote innovation among DSC employees. They played the roles of initiator, incubator, and supporter of such make-over, and their primary target was to boost DSC's work performance. This commitment was certainly exemplary as it had a trickle-down effect that was felt by DSC employees.

As for DSC employees, they were kept alert due to their annual assessments that measured their contributions to supporting and overcoming challenges their respective departments might face. They were also expected to contribute to raising the Innovation Maturity Level of the institution. External parties in the DSC's case refers to, government-related entities (GREs), the private business sector and individual partners. It was an important responsibility for the DSC to enhance its processes and improve its services, targeting to provide better statistical information to these external parties, as they were regarded as decision makers. As for DSC strategy and corporate excellence office, the ultimate objective was to establish a robust innovation management system and strategy across the DSC in general. Hence, the affiliation of the 'Creativity and Innovation Unit" was only sensible to be with the DSC's strategy and Corporate Excellence Office.

In addition to the above, the DSC shared its knowledge and experience about its best practices, while acknowledging the benchmarking partners' cooperation during the 'Dubai We Learn' initiative. As for the last stakeholder involved, it was only common practice to consider quality auditors and accreditation bodies, such as the Innovation Management Standard vendors, as key entities that contributed to the overall innovation schemes in DSC's business process management.

Challenges

Throughout the TRADE methodology application, the DSC found themselves to be unique, as many of the benchmarks were not applicable to the organization or its functions. In this way, innovation on behalf of the DSC came as a result of analyzing, modifying, and reapplying the benchmarks to suit their work. When impossible, the DSC team then found new benchmarks either through research or trial and error.

When it came to innovation, a good understanding of the trade-offs was required for the Center's implementation of an innovation strategy. It was seen as crucial to overcome challenges to organizational reform. Resistance-to-change among staff for example emerged, so collaboration and clarity were the first steps to moving forward.[32]

In terms of risk management, the DSC team had to handle the issue of having undefined innovation management strategy guidelines as a starting point. This impacted the progression of the benchmarking project, and in turn slowed down the whole reform process. Nevertheless, this was mitigated by identifying the best practices suitable for them and then defining the innovation management standards in the process of creating a strategy. Secondly, they had to identify the correct benchmarking partners and practices, which resembled yet another challenge due to the lack of information relating to the focus of the project. This was solved by the creation of a cross functional table linking best practices with specific focus areas, and creating a roadmap for the team to follow.

Additionally, as the UAE focused on federal entities with regards to innovation management, there was the risk of unavailability of guidelines for implementing the strategy. Thus, they Implemented the Fourth Generation for Government Excellence criteria, which included the same innovation guidelines implemented on federal level and including UAE.S 5020 :2015 - Creativity Management Guideline in the plan for 2017, which is linked to UAE National Innovation Strategy and Dubai Innovation Strategy.

There was an issue related to budget limitations for implementing the best practices discovered. This was solved by positioning the benchmarking project within the Integrated Management System project. This also helped reduce costs by eliminating on-site gap-analysis by a consultant.

As the project entered the evaluation stage, it was important to analyze the differences between expected project benefits and actual project outcomes. Some questions needed to be answered first, like: what were the steps needed to investigate these differences? And, what caused the disparities between both figures?

The Actual Cost of the project reached $117,142 and the Expected Cost of the project will reach $170,790 by end of the project during 2017, which, on the long term, will save $166,351.31 (the cost of hiring a consultant) by end of 2018 for the additional project planned to be implemented during 2017 and 2018. Ultimately, the team will not be able to measure the additional cost saved until 6 months to 1 year from project implementation.

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32. Pisano, Gary P. "You Need an Innovation Strategy". Harvard Business Review. June, 2015 Issue, (pp.44–54). Retrieved from www.hbr.org/2015/06/you-need-an-innovation-strategy

Outcomes

The outcomes that the DSC generated from their innovative initiative came by after a series of action plans and tasks. To start with, the DSC implemented a number of innovation Maturity Self- Assessment tools to help identify current performance indicators. Based on such assessments, the identification of focus areas for the project led eventually to the detection of the best practices necessary to cover performance gaps. Another action item taken was the two-round Research stage, that was conducted with the purpose of raising awareness among DSC employees. The impact of this action was reflected in a survey steered among DSC employees to measure awareness and acknowledgement of the institution's innovation plans, stages, processes and standards. The survey showed an impressive 86.7% awareness rate among the institution's staff members.

Furthermore, the center introduced what it referred to as the DSC Formula, which it later shared with the COER, that was made part of the Costing and Pricing of Statistical Projects methodology; to calculate the average salary of project team members. This action item impacted the accuracy of projecting average labor costs in the project, which was included in the expected and actual cost estimates. One of the profound actions taken were the DSC's participation in the International Business Award of 2016; for the Most Innovative Company of the year. The benchmarking project highly endorsed the DSC with its submission and participation process, as it eventually won the Gold Award for that year.

The DSC shared its experience in innovation management by participating in the Global Benchmarking Network's 9th International conference (GBN); titled "Best Practices in Innovation Management".

Lessons Learned

The Dubai Statistics Center positioned itself as a distinguished example of a government sector entity accommodating all that was considered innovative and efficient in the dynamic realm of business process management. As a result of a robust application of its benchmarking TRADE methodology, it won a 7-star award of excellence and innovation in 2016, granted by the DGEP for its innovative best practices contributions in the sector. The application of TRADE ensured the accurate and systematic collection of data, that later on contributed to the innovation of its business process management techniques.

The explicit self-assessment tools run by the DSC innovation and excellence team, all the way from rankings, prioritization matrices to cross-functional tables, paved the way to a vigorous appraisal, that assisted the DSC in reconsidering its business processes and reforming them.

Additionally, a dynamic communication plan facilitated the institution's excellence journey, as it played a crucial role in creating awareness and credibility among all stakeholders involved. Task allocation and efficient management ensured updated tracing of roles and responsibilities assigned to DSC employees working on the project. Due dates were adhered to, challenges were taken care of effectively, and the overall performance of the project was monitored via MS project.

Progress and Future Prospects

The DSC team identified two additional projects that it placed on its progression map: the first was to obtain the UAE's Creativity Management Guideline Certification (to be run in 2017 and completed by 2018). The second was to acquire the ISO/TC 279 Innovation Management Certification in 2018. The center believes that the TRADE methodology will aid it in the attainment of such plans, as it could act as the baseline for conducting efficient benchmarking projects, regardless of their nature or timeline. Hence, it should be considered as the preliminary stage of any project, to assess the viability and feasibility of accomplishing it. The notion backing up the DSC's ambition is based on the fact that they credit the TRADE methodology as the driving force behind the 58 improvement ideas and best practices identified.

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ACKNOWLEDGEMENTS

The author wishes to express personal appreciation to the following individuals for their input to the different stages of producing this working paper and for providing essential input and assistance into the report and its related materials:

Dubai Government Excellence Program

The Dubai Statistics Center

Zeyad El Kahlout

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