

Establishing a High Performance on Puerto Rican Government Agencies Through the Application of Quality Methodologies

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Abstract

Government agencies in Puerto Rico must implement quality methodologies to maximize its performance on processes and services. It is well known that government agencies in Puerto Rico suffered a lack on quality methodologies. Among the past years, government agencies in Puerto Rico are not guided by methodologies that contribute on its performance. Since that happened, processes are affected by a negative impact on quality that brings a lot of wastes and affects processes, services, and finances. Through the implementation of Lean, Six Sigma, 5s, and ISO 9001 methodologies, a design project can be developed to improve services and processes, in order maximize Puerto Rican government agencies performance into a higher percentage. High quality standards are key components on every organization. It is important to train employees, to understand how important is to practice quality principles to make improvements that can maximize government agencies performance and customer satisfaction in Puerto Rico.

Introduction

How government agencies in Puerto Rico must implement quality methodologies in order to maximize its performance on processes and services? It is well known that government agencies in Puerto Rico suffered a lack on quality methodologies during its processes and services. It is important to develop a design project that can contribute into services and processes improvement.

Background

Government agencies are often understaffed and overloaded with work. There is often an abundance of paperwork overflowing on the desk of employees, and not enough time to get through all of it. Sending staff members to Lean Six Sigma training can show people how they can improve their processes by possibly automating a lot of the time-consuming paperwork. Lean Six Sigma will show how to make use of the space and eliminate the idea of purchasing more space for employees. This can save thousands of dollars. Lean Six Sigma training can show staff members and management effective ways to save the most money by making the best use of resources, space, and time. Government leaders have increasingly implemented Lean process techniques to make taxpayer-funded operations more efficient, but the use has been limited, a new study shows. The report, conducted jointly by CPS HR Consulting and the American Society for Quality (ASQ) Government Division, found that while Lean process improvement has made government operations more efficient, substantial roadblocks still exist that have kept the process from getting widely implemented. However, those agencies that have incorporated Lean techniques have reported success. Successes reported by the 24 government agencies surveyed included: reduction in process steps, reduction in process time, and improvement in error-free work. Another study, conducted in the summer of 2016, included government agencies from 10 U.S. states, shows that about two-thirds of the government agencies reported that they used Lean primarily to improve timeliness and effectiveness of a process. About 45% targeted processes within an agency that did not directly impact service to the public, but rather sought to improve internal operations. They included priorities that changed with new political leadership, a lack of staffing support for implementing changes and the fact that a more efficient operation could result in staffing or budget cuts. The overall focus of the reform is to make the government lean, accountable and more efficient, as well as to maximize performance. Although the concept of lean is often associated with the manufacturing sector, many of its rules and guidelines may also be applied in the service sector, including the government.

Problem

Among the past years, is well known that government agencies in Puerto Rico are not guided by methodologies that contribute on its performance. Since that happened, processes are affected by a negative impact on quality that brings a lot of wastes and affects processes, services, and finances. Through the linking and implementation of Lean, Six Sigma, 5s, and ISO 9001 methodologies, a design project can be developed to improve services and processes, in order maximize Puerto Rican government agencies performance into a higher percentage.

Methodology

Lean can be defined as the idea of creating more value for customers with fewer resources. Its core idea is to maximize customer value while minimizing waste. The ultimate goal is to provide perfect value to the customer through a perfect value creation process that has zero waste. In order to achieve customers' satisfaction, the following 8 wastes should be avoided:



Figure 1
8 Lean Wastes

We must find ways to do what we are currently doing in less time and at a lower cost. One way we can accomplish this is through the use of 5S Principles. The 5S Principles are very effective at identifying and eliminating waste and increasing efficiency. Lean initiative and promotes continuous improvement. The 5S list is as follows:



Figure 2
5S Principle

Similarly, Six Sigma is heralded as one of the foremost methodological practices for improving customer satisfaction and improving business processes. In an effort to bring operations to a Six Sigma level the methodology calls for continuous efforts to get processes to the point where they produce stable and predictable results. One of the two major methodologies used within Six Sigma, is DMAIC and it is composed of five sections that are defined as following:



Figure 3
DMAIC Lifecycle

There are also many different management tools used within Six Sigma. As Five Whys - This is a method that uses questions to get to the root cause of a problem. As a way to measure quality, ISO 9001 defines the criteria for a Quality Management System and is the only standard in the family that can be audited against with the goal of voluntary compliance. All the requirements of ISO 9001 are intended to be applicable to any organization, regardless of its type or size, or the products and services it provides. The standard is based on seven Quality Management Principles, including a strong customer focus, the motivation and implication of top management, the process approach and continual improvement. Finally, organizations deciding to develop and implement any new or improved QMS should be focused on the identification and minimization of risk while meeting and exceeding customer and organizational goal and objective requirements

Results and Discussion

By the incorporation of the previously discussed methodologies, a analysis of wastes, the development of a DMAIC system, the incorporation of 5S, and a survey were developed as a tools in order to have guidelines and obtain data that should sustained the development and implementation of the project design. Those tools were key components in order to achieve objectives and solve the problem statement. By the provided data, an analysis of wastes on services and processes was performed and the application of the DMAIC cycle was implemented to resolved issues on its performance. Also, lean applications as 5s were combined to bring support to the project design objective, in order to fulfill the stated contributions. After finishing a random sampling survey, the acquired data shows that people are not satisfied with government agencies performance on processes and services. The results shows that governed agencies suffer from wastes on its processes and services that cause a negative impact on its quality. In order to counteract that negative impact, solutions for issues involving quality will be provided as guidelines. The following table states the found wastes with their solutions:

WASTE TYPE	EXAMPLE	SOLUTION
Transportation	Lag work caused by improper requests	Properly scope necessary data points, along with appropriate data ranges
	Large files requiring long transmission times	
Inventory	Large files increasing the complexity of analysis	Understanding how deliverables will be created, and what data is required
	Unnecessary outputs to tools	Simple and elegant outputs
Motion	Difficulty in maneuvering around the tool to find information	Main important information readily available to the customer
Waiting	Improper data requests	Understand what inputs will drive the requests
Over-production	Adding entries into the tools which are outside the scope	Specific deliverables
Over-processing	Reformatting processes	Take time to follow previously logic structures, fonts, and formatting.
Defects	Broken tools	Test tools as many times as possible
Skills	Employees are not utilizing	Engage correct people and

Table 1
Found Wastes and Solutions

In the same way, as a tool to counteract wastes and maximize performance on government agencies, 5S methodology must be implemented as. The following diagrams shows the utilization of 5s methodology in order to struggle wastes and be aware about its key benefits.

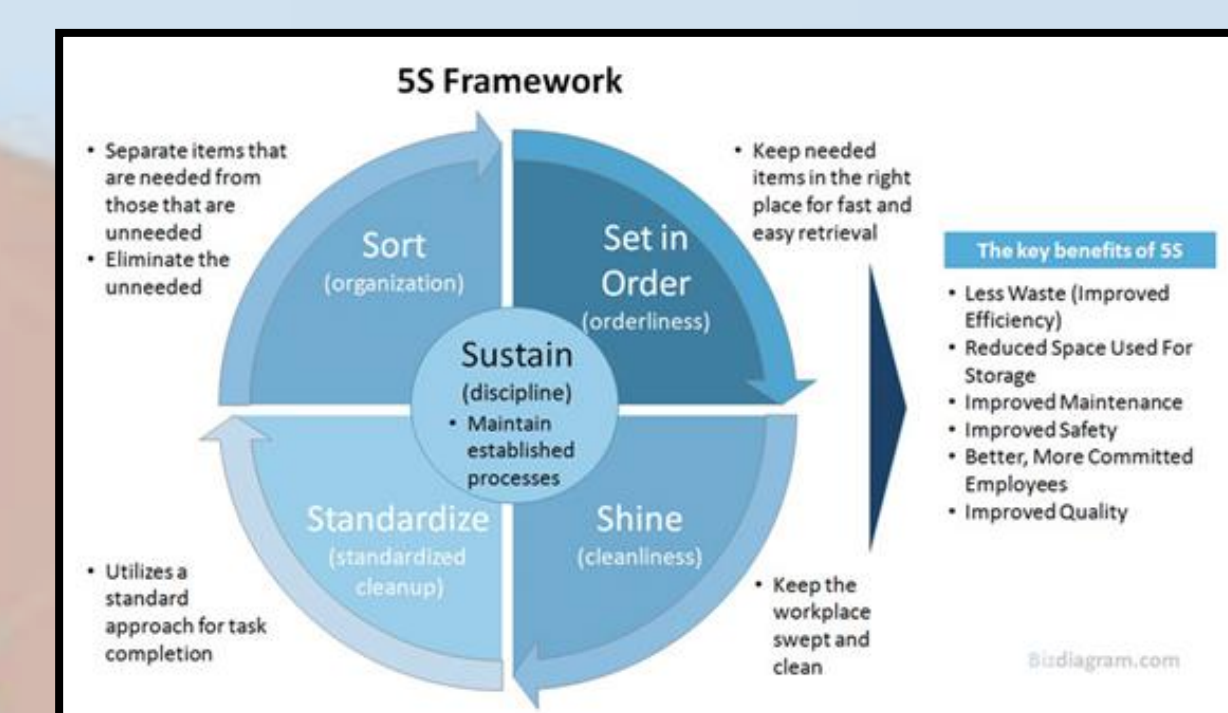


Figure 4
5S Solutions

Finally, Six Sigma methodology was utilized as a tool to manage gaps through processes and services, in order to find critical quality components, root causes of issues, and maximize customer satisfaction with the application high quality standards on government agencies.



Figure 5
DMAIC Framework

Conclusions

The problem stated expects to be solved: by the implementation of quality methodologies as Lean, 5s, Six Sigma, and ISO 9001. With the incorporation of the previously mentioned methodologies, a research and a project design were developed in order to utilize tools that can be useful to maximize performance on processes and services on government agencies in Puerto Rico. Limitations through the project design was based on the availability of information based on processes and services on government agencies in other countries utilizes quality methodologies in order to maximize performance.

By the completion of the design project, the following contributions were developed in order to make improvements that can maximize government agencies performance and customer satisfaction in Puerto Rico:

- Finding wastes on processes and services that minimize performance on government agencies.
- Incorporation of 5s methodology to minimize wastes and maximize performance on government agencies.
- Execution of DMAIC improvement cycle to develop a project design that should be implemented on government agencies to maximize its performance.
- Incorporation of a Quality Management System capable or maximize performance on government agencies.

Future Work

Future Research must be developed in order to counteract found limitations and implement quality methodologies on Puerto Rican government agencies.

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