

Lean Thinking: Understanding Lean and its Use in Government

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Abstract

This research project examines the history and principals of “Lean” and its implementation at the Walton County Sheriff’s Office. Everywhere we look, agencies are cutting back and being forced to do more with less. If we are to keep personnel, then we must maximize our use of other resources. The study conducted, given both to sworn and non-sworn, will show if agency members understand the concepts of “Lean” and whether it is working. Employees are asked to offer up ideas on how to eliminate waste and better the agency. This project will also show what must be done in order to effectively implement this idea into any organization.

Introduction

What is “Lean” and how does it relate to government? Simply stated, Lean thinking is about achieving more with less and improving processes within an agency. This concept provides a way to specify value, lines up value-creating actions in the best sequence, conducts these activities without interruption whenever someone requests them, and performs them more and more effectively. Any process that consumes resources and or adds cost or time without creating value becomes a target for elimination. In short, lean thinking is lean because it provides a way to do more and more with less and less—less human effort, less equipment, less time, and less space—while coming closer and closer to providing residents and agencies with exactly what they want. It has provided a way for agencies to look closely at processes, operations, and systems—the work itself—to do more, better, with less time, resources and hassle.

Literature Review

Although there are instances of rigorous process thinking in manufacturing all the way back to the Arsenal in Venice in the 1450’s, the world’s first systematic lean thinker was Henry Ford. His mind was naturally focused on the value creation process rather than assets or organizations. He was the first to see in his mind’s eye the flow of value from start to finish, from concept to launch and from raw material to customer. Henry Ford is often thought of as a model for business, and some law enforcement agencies are now looking at their office as a business. His concepts of value and flow can be used at agencies to improve processes within an agency. (Womack, 2006)

According to Womack (2006), by 1914, at his Highland Park plant, Ford had located most of the manufacturing steps for his product, the Model T, in one building and had created near continuous flow in many parts of operations, using single-piece-flow fabrication cells for components in addition to the moving final assembly line. In agencies, many processes are completed under one roof but there is no continuous flow.

Equally remarkable, Ford designed his Model T in only three months in one large room with a small group of engineers under his direct oversight. This was certainly a high point in lean practice for decades to come. (Womack, 2006)

Womack and Jones, (2003) identify the Toyota Production System and Taiichi Ohno (1912-1990) as the Toyota executive who was the most ferocious foe of waste human history has produced. According to the authors, Ohno identified seven types of *muda*; *muda* is a Japanese word which means “waste”.

Taiicho Ohno is considered to be the creator of the Toyota Production System and the father of the *Kanban* System. Early in his career, he expanded upon the Just-In-Time (JIT) concepts developed by Kiichito Toyada to reduce waste. After World War II, Toyota Group Automotive Operations was reconstructed. Taiicho Ohno managed the machining operations under severe material shortages as a result of the war. Gradually, he developed improved methods of supporting the assembly operations. Ohno credited the systems that were developed (the Toyota Production System) into two concepts. The first concept from Henry Ford’s book, *Today and Tomorrow*, published in 1926, provided the basis of a manufacturing production system. The second concept was developed from supermarket operations in the United States and observed during a visit in 1956. The supermarket concept provided the basis for a continuous supply of materials similar to how the supermarket maintained a continuous supply of merchandise on the store shelves. (Becker, 1998)

Lean Principals

Womack and Jones have identified five key principals in Lean Thinking:

- (1) Value
- (2) The Value Stream
- (3) Flow
- (4) Pull
- (5) Perfection

(1) Value

The critical starting point for lean thinking is value. Value can only be defined by the ultimate customer. Value is only meaningful when expressed in terms of a specific product (a good or a service, and often both at once) which meets the customer’s needs at a specific price at a specific time. (Koskela, 2004)

The problem with value is there are several different meanings to what value is. It can mean an amount expressed in money or another medium of exchange. It can mean worth or importance. When we speak of value in a law enforcement agency and the

customer, we are speaking of those who work in the agency. The deputies, the sergeants, the lieutenants, the dispatchers and the civilian employees are the customers. (Koskela, 2004)

(2) The value stream

The value stream is the set of all the specific actions required to bring a specific product or process through the three critical management tasks of any business: the problem-solving task, the information management task, and the transformation task. (Womack & Jones, 2003)

Law enforcement agencies, such as the Walton County Sheriff's Office, deal with many processes that have to be used within the agency. An example would be on how reports are taken and where they go for approval. Lean looks at the whole process and how it flows.

(3) Flow

Many Western managers mistakenly believe that flow is something one can achieve only gradually through *Kaizen*, or continuous incremental improvement. However, by first practicing *Kaikaku*, or radical improvement, lean thinkers are often able to transform in a single day the production activities required to make one product from a batch-and-queue system to a continuous flow. (Womack, 1996)

Flow is the progressive achievement of tasks along with the value stream so that a product proceeds from design to launch, order and delivery, and raw materials into the hands of customers with no stoppage, scrap, or backflow. As discussed earlier, a report taken in an agency would go from the deputy to the end user, criminal investigation bureau (CIB), for rapid dissemination and assignment. (Womack & Jones, 1996)

(4) Pull

Pull means that no one upstream should produce a good/product or service until the customer downstream asks for it. Do not make anything until it is needed, then make it very quickly. "Sell one, buy one" "Ship one, make one." The use of "pull" mechanisms support flow of materials at constrained operations.

For the Walton County Sheriff's Office, this means pulling a case number for a report, holding onto it, and waiting until hours later to work on it. Once the report is completed, it is forwarded to a supervisor. (Hines, Holweg & Rich, 2004)

(5) Perfection

Once leaders understand the first four lean principles—value specification, value stream identification, flow, and pull—their perfection step starts with policy: a vision of the ideal process and the stepwise goals and projects to get there. Transparency is everything. Transparency makes every aspect of the organization open for all to see. Getting the mass of employees to change their traditional way of thinking requires stern direction that is constant and consistent. Everyone must know what you are attempting

to achieve and what area is first priority. The force behind this is the leader known as the change agent. (Womack & Jones, 2004)

So why is lean so promising for improving government?

Lean focuses on operations. The whole point of lean is to rethink the way we produce what we produce, to increase our capacity to provide value to those we serve. Lean has measurable impact on time, capacity, and customer satisfaction. That is, it actually works. Lean involves employees; specifically, the employees who work within the process or system being improved. Lean projects, on the other hand, involve all the key players in a system (including the “customer”) to analyze and improve the whole system. (Resetarits, July)

Government agencies have numerous “processes” that produce “products”—including regulations, guidance memos, reports, grants, workshops, inspections, travel authorizations, employee benefits processes, mail delivery, and on and on. All of these processes have work flows waiting for improvement. By using Lean tools, an agency can expect to:

- Eliminate or dramatically reduce backlogs
- Reduce lead times by more than 50 percent
- Decrease the complexity of processes and eliminate unneeded process steps
- Improve the quality and consistency of work products and activities
- Allocate more staff time to “mission critical” work
- Improve staff morale
- Enhance process transparency to internal and external audiences

Lean is different from past improvement efforts in several key ways. Lean:

- Takes a “customer service” perspective that seeks to optimize value delivered to the environment, the public, and the regulated community;
- Involves employees and external stakeholders in continual improvements and problem-solving activities;
- Deploys a rapid continual improvement framework that emphasizes implementation rather than prolonged planning;
- Seeks to reduce the complexity of processes; and
- Uses metrics and visual controls to provide rapid feedback to improve real-time decision-making and problem-solving. (Resetarits, 2012)

Training and Capacity Building

Training and capacity building are important foundations for sustainable process improvement programs and key to fostering a continual improvement culture within an organization. When deciding what Lean training is appropriate for your agency, it is

important to consider the goals of your effort. In general, there are at least four goals for education and training efforts:

- **Inform and Engage:** For your Lean initiative to be successful, it is critical for people in your agency and other important stakeholders to understand what Lean is and why it is important.
- **Coach:** Prior to Lean events, it is helpful to educate and coach key participants in the event, including the event sponsor, the team leader, and any other important decision makers who will be involved in what happens before, during, and after the Lean event and how they are expected to participate during each stage.
- **Enable:** Another key training objective is to provide the skills and knowledge that people need to effectively participate in Lean events and implementation activities.
- **Build Capacity:** It is useful to build the capacity of staff to problem-solve and identify inefficiencies as part of their daily work practices. This allows process improvements to occur regularly and not wait for a *kaizen* event.
(Resetarits, 2012)

Understanding Lean also means knowing why some Lean events “Fail”

- **Inappropriate Scope:** Event scale or scope was too large to address in a 4-5 day event. The size and complexity of the process should instead have been addressed with a value stream mapping event followed by a series of *kaizen* improvement events.
- **Lack of Visible Management Commitment:** Unless managers visibly commit to and actively support the improvements and process changes, it is easy to backslide to business as usual.
- **Poor Event Facilitation or Support:** Failure to adequately prepare for a Lean event limits what can be accomplished; similarly, lack of a skilled facilitator can inhibit progress during a Lean event.
- **Inadequate Follow-up:** Insufficient attention, resources, and accountability can prevent the new process from being successfully implemented in a reasonable timeframe.
- **Strategic Misalignment:** When multiple autonomous departments or agencies are involved in an event, conflicts can emerge due to differences in mission and strategic direction.
- **Unrealistic Expectations:** Expectations for what the event could achieve were not realistic given the process type, complexity, or other factors. (Resetarits, 2012)

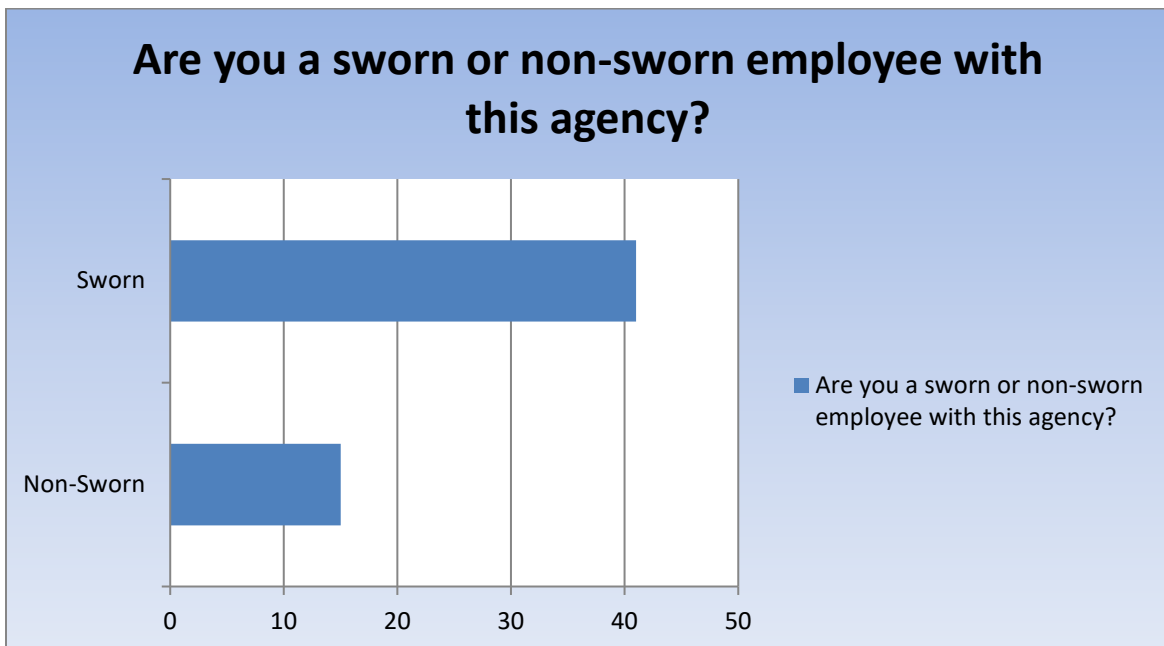
Methods

This research included sending a survey to sworn and non-sworn members of this agency which consist of patrol, investigations, emergency operations, evidence, and administrative personnel. This survey was not sent to those who hold a position of which is considered to be the Executive Staff. Executive staff members include the Sheriff, Majors, and Division Heads.

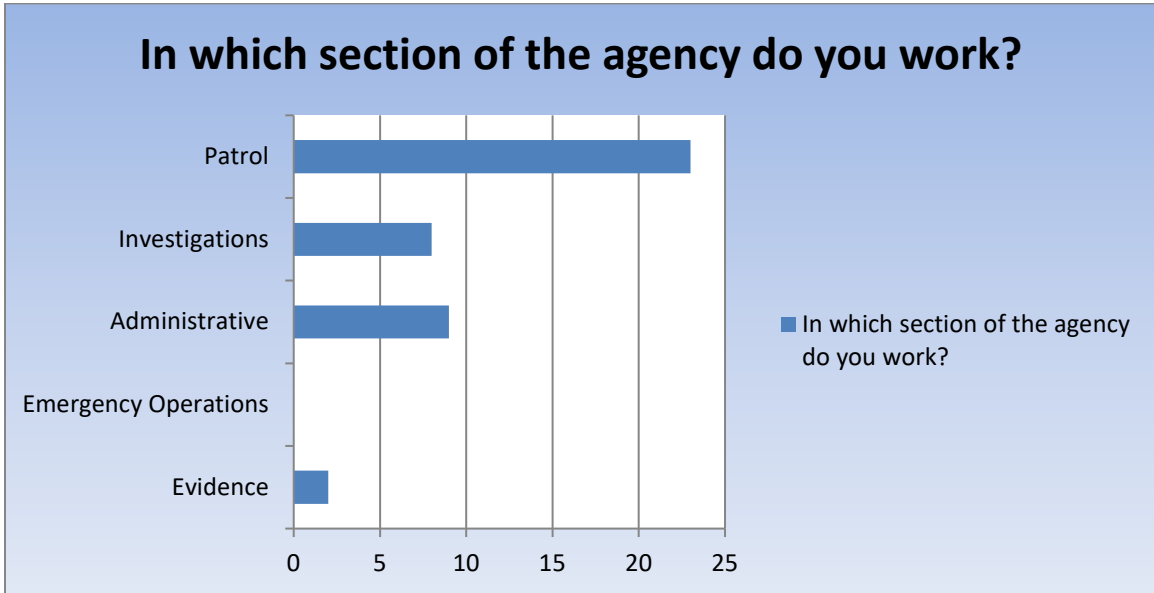
Starting in January 2013, training was provided to every member of this agency on the concept of Lean thinking and what Lean is. The first goal was to determine if the concept of Lean is understood by those within the agency. Secondly, I sought to determine if members of this department feel that using the principals of Lean would benefit the agency. Are there steps in processes that are conducted where they see no benefit and are there processes within their section that they feel would benefit from being broken down and analyzed for efficiency. Finally I will determine if agency members feel they have full support of the Executive Staff. If the members do not feel they have their support, then the concept of Lean will never work.

Results

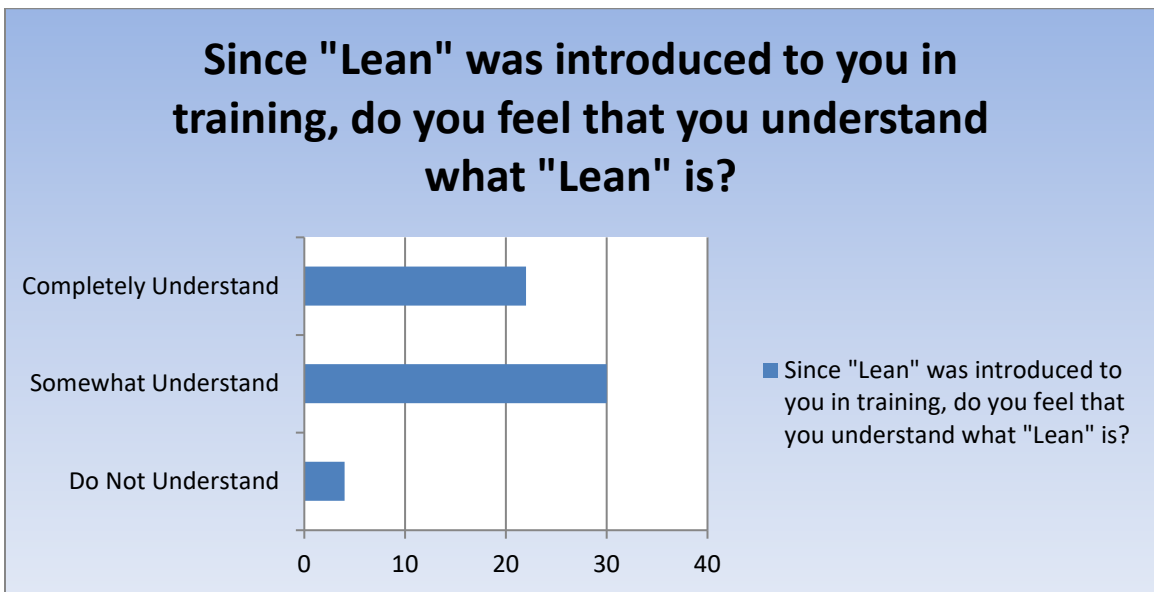
One hundred (100) members of this agency, the Walton County Sheriff's Office, were surveyed. They were all sent an email asking that they complete a survey on the concept of "Lean" and have it completed by May 31, 2013. They were further advised that they would remain anonymous. Of those one hundred (100) surveyed, only fifty six (56) responded. This gave me a return rate of 56%. The answers to the survey are recorded below:



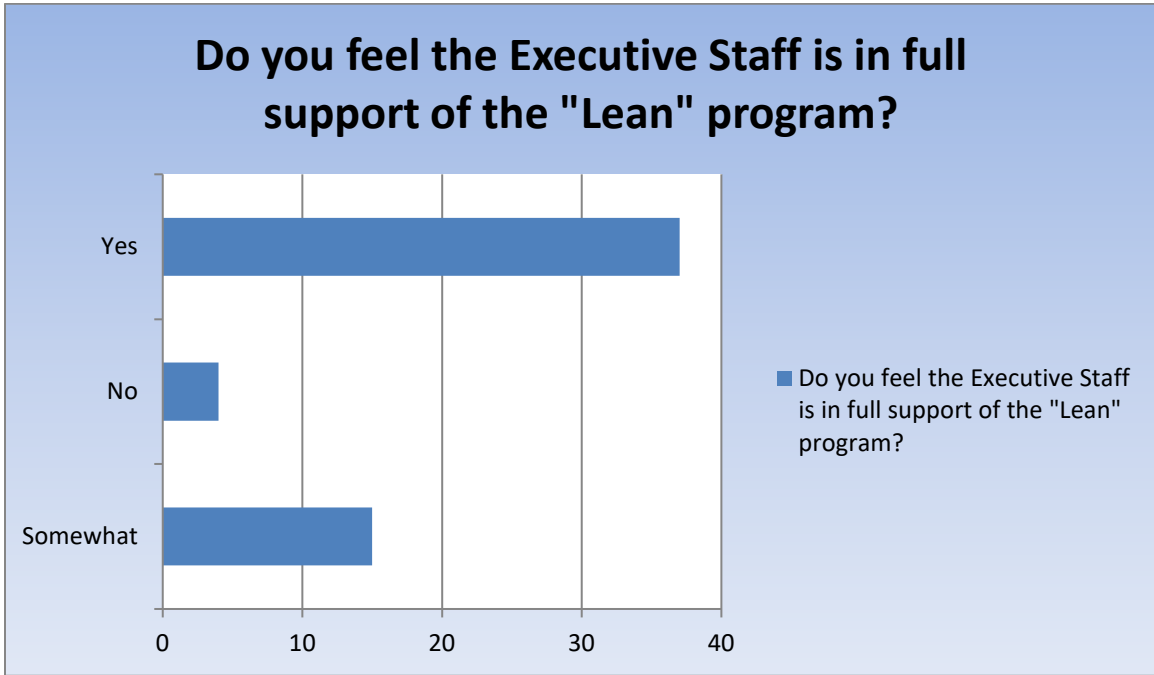
Forty one (41) or 73% of those who responded to this question were sworn officers and fifteen (15) or 27% were non-sworn officers.



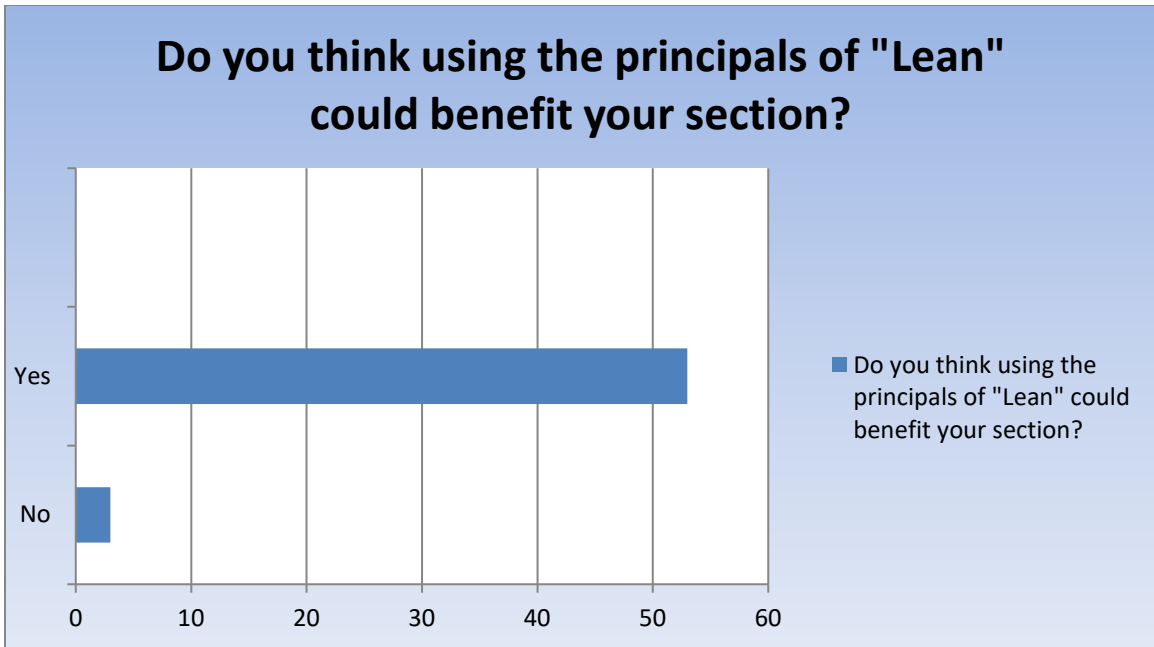
Of those that responded to this question, twenty three (23) or 55% of them worked in Patrol, eight (8) or 19% were in Investigations, nine (9) or 21% were Administrative, zero (0) were from Emergency Operations and two (2) or 5% were from evidence. Fourteen (14) people skipped this question because these (14) people worked in other sections of the Agency other than those listed above. They are listed as follows: Civil process, special operations, support services, school resource deputy, professional standards and communications.



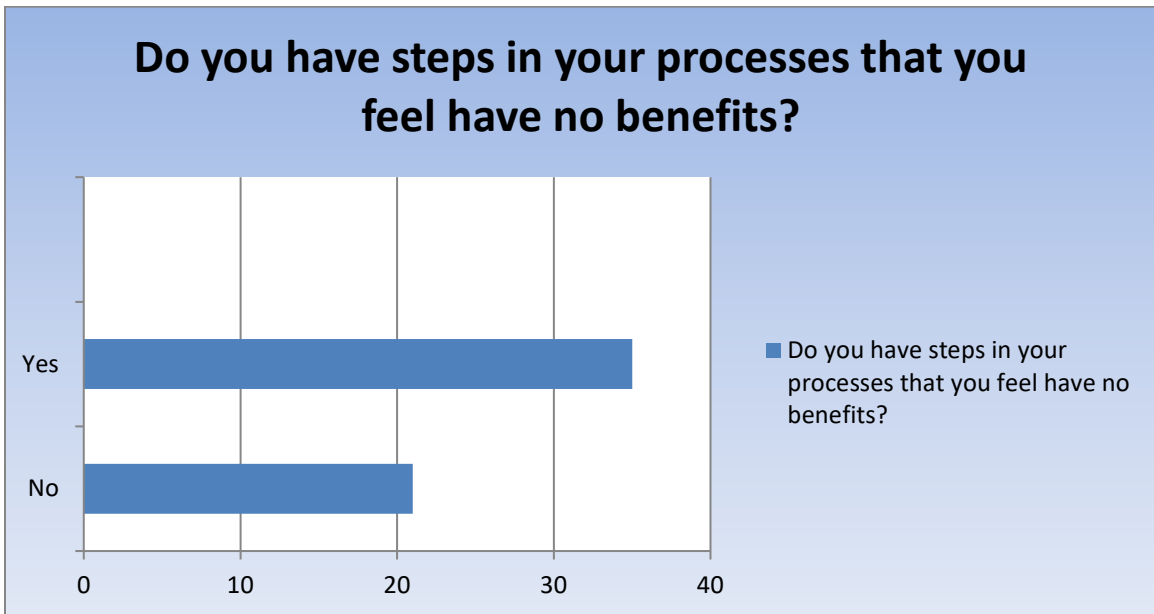
All fifty six (56) surveyed responded to this question. Of those, twenty two (22) or 39% stated that they completely understand what "Lean" is, thirty (30) or 54% stated that they somewhat understand, and four (4) or 7% state that they do not understand what "Lean" is.



Of the fifty six (56) surveyed, all responded to this question. Thirty seven (37) or 66% responded yes and felt like the Executive Staff is in full support of the "Lean" program. Four (4) or 7% responded no and fifteen (15) or 27% felt that the Executive Staff was somewhat in support of "Lean".

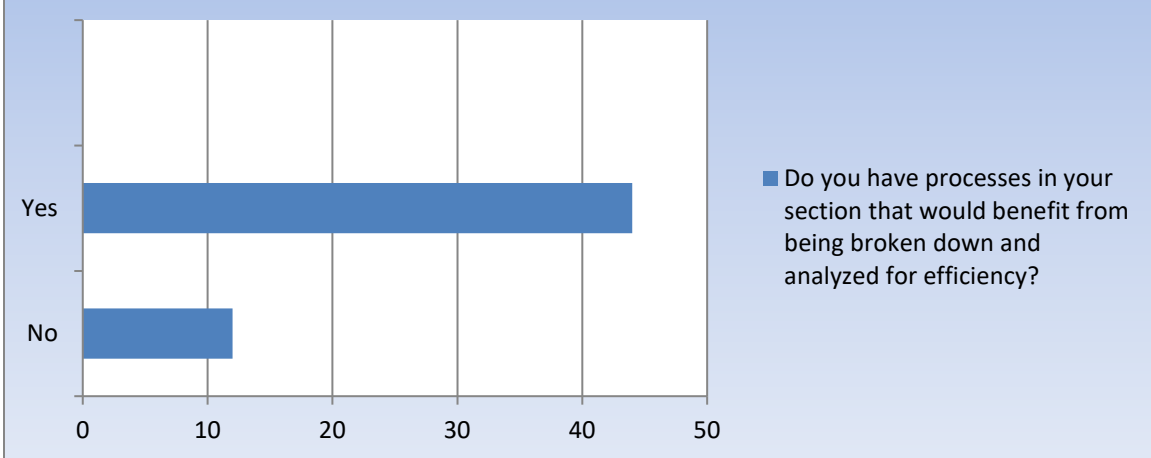


All fifty six (56) surveyed responded to this question. Fifty three (53) or 95% responded by stating “yes”, they believe their section could benefit from using the principals of “Lean” while three (3) or 5% stated they would not.



Of those who responded to this question, thirty five (35) or 62% answered yes. Twenty one (21) or 38% responded no, stating all their processes have benefits.

Do you have processes in your section that would benefit from being broken down and analyzed for efficiency?



Again, all fifty six (56) who responded to this question answered with either a yes or no. Forty four (44) or 79% feel that yes, they do have processes in their section that would benefit from being broken down and analyzed for efficiency while twelve (12) or 21% stated there would be no benefit.

What do you think is the number one thing we can do to eliminate waste?



Forty three (43) or 77% of the fifty six (56) surveyed responded to this question which means that thirteen skipped the question. Of the forty three (43), eight (8) or 18% of

them responded with answers which could not be categorized as anything but miscellaneous. An example from one of the respondents was a single word of "reputation". Three (3) or 7% responded with and answered similarly stating "review where every dollar is going and determine what is necessary and what is not". Fourteen (14) or 32% responded with ideas of going paperless / reducing the amount of paperwork in the agency. Three (3) or 7% responded with answers such as "to provide EVERYONE with the necessary tools that they'll need to eliminate the waste". This would fall under proper training. Thirteen (13) or 30% responded with answers that had related to communication between the different bureaus and learning how to communicate more effectively with each other. Lastly, two (2) or 6% responded stating that they felt the retention of employees whom did not perform to standards was a waste of money to the agency.

Discussion

The results of the survey were overwhelming and eye opening. I reviewed the results of the survey and found that even though we have introduced the concept of "Lean" to the agency, there are many who do not understand what lean is or how it is supposed to work. When the training was given to our deputies, it was explained that "Lean" or "Lean Thinking" is about going back to the basics, about establishing what the customers really view as being valuable. In our case we are the customers as well as the public. It is about improving processes within the agency. Lean seeks to eliminate waste. Lean requires continuous improvement and is not a once forever event. This simply means that once we have improved a process, we just do not stop continuously trying to improve on the process again and on other processes. In order for Lean to work, you have to get everyone on board. This is from the Sheriff down to the deputies and the civilian employees.

One thing that stood out is only 39% of those surveyed say that they completely understand the Lean program. This is less than half of those surveyed. The second thing that stood out is only 66% of those surveyed say they feel the Executive Staff is in full support of the "Lean" program. Based on the training that has been received and the concept behind Lean, this response shows that currently Lean will not work until everyone understands what "Lean" is and they believe everyone is on board with the "Lean" concept. It was also discovered that when "Lean" training was given to the agency, it was only given to sworn personnel. Non-sworn personnel (Ex. communications and civilian personnel) never received the training. This certainly poses a problem that needs to be corrected, and it appears more training needs to be conducted.

Another question asked that shows our employees do not fully understand what "Lean" is, was "what do you think is the number one thing we can do to eliminate waste". Approximately 25% answered that we need to communicate better. When I say communicate better they put comments in such as; "eliminate the middle man", "communicate more effectively", "listen to people who do the work and communicate with each other, you don't know if you don't know". There were other responses to this question that I categorized in different areas as well as some answers that showed we have employees who do not care about the agency. Some of those responses were:

“quit doing surveys” and “this survey caught me in the early morning so I don’t have an answer right now”.

As an agency who has adopted the “Lean” concept, we need to first make sure we have provided all the proper training as to what Lean is. The survey clearly showed that there are many employees who do not understand “Lean” and it will take everyone in order for this to work. Lean requires educating everyone at all levels, sworn and non-sworn, as to the lean process.

Recommendations

If the survey results are any indication of the understanding of “Lean” at the Walton County Sheriff’s Office, then we have some work to do. As discussed earlier, in order for the concept of lean to work, everyone must be on board. From my research, it shows that there are several sworn and non-sworn members of this agency that do not understand the process of “Lean”, particularly the non-sworn members. This is because they were never offered the training the sworn personnel received. How can they be on board if they do not understand “Lean”? Lean is a concept which requires participation from everyone. This means we need to provide everyone the education. If we do not educate personnel at all levels, then we have failed as an agency in making change for the better.

Lieutenant Adam Falk has been in law enforcement since 1998. He first started his career with the Dekalb County Police Department located in Dekalb County, Georgia. In 2003 he moved to Walton County, Florida where he now works for the Walton County Sheriff’s Office. He has worked at all ranks and has had many different assignments to include Field Training Officer, Sergeant over patrol, Watch Commander, Training Coordinator and currently is the Lieutenant over the Criminal Investigations Bureau.

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Appendix A

Survey Questionnaire

Lean

1. Are you a sworn or non-sworn employee with this agency?
2. In which section of the agency do you work?
3. Since “Lean” was introduced to you in training, do you feel that you understand what “Lean” is?
4. Do you feel the Executive Staff is in full support of the “Lean” program?
5. Do you think using the principals of “Lean” could benefit your section?
6. Do you have steps in your processes that you feel have no benefit?
7. Do you have processes in your section that would benefit from being broken down and analyzed for efficiency?
8. What do you think is the number one thing we can do to eliminate waste?