



COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES
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THE IMPLEMENTATION OF LEAN STRATEGIES

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In an effort to provide additional insight to the City of Tucson Office of Innovation and Strategy, this document was created to address three specific areas: lean innovation training, a best practice review of lean implementation as described by other local government agencies and researchers, and a best practice review of lean implementation from information gleaned from the Alliance for Innovation. The first section will explore how the city of Fort Collins, Colorado and King County, Washington implement and train their employees on lean innovative strategies. Since both of these local government programs are newly developed in the last decade, they haven't yet had the opportunity to tackle organization-wide issues of particular interest to the City of Tucson, like communication, alignment, and accountability in their respective governments, so the following section will distill implementation best practices and shortcomings. Finally, a third section will present best practices from the Alliance for Innovation that will include tools and ideas that might be integrated into the City of Tucson's efforts.

Fort Collins and King County

In order to better understand how different local government agencies were using lean innovation strategies several agencies were contacted. Given the constraints due to this project being researched during the coronavirus pandemic, employees of two different agencies were interviewed. Moving forward, the agencies and their lean programs will be briefly introduced and we will discuss what was learned from those personnel as it pertains to their experiences in receiving and conducting training on lean strategies.

Fort Collins Lean (FC Lean) launched in 2017 in order to facilitate city employees, organization-wide, to become more effective problem-solvers in their respective departments to increase efficiency, capacity, and customer service while reducing costs. FC Lean uses a method and toolkit of their own creation that they refer to as the Problem|Solve|Fix methodology.

FC Lean is a pivotal part of the Fort Collins Improvement System (FCIS). The FCIS seeks to discover a systematic and perpetual means to identify and address issues within Fort Collins. FC Lean aids the FCIS by facilitating the creation of process improvement “playgrounds,” which are best suited for problem solving at each individual department.

Currently, FC Lean is staffed by two individuals. The director comes from a military background and was trained in Six Sigma and A3 Problem Solving by the United States Air Force and at Villanova University. He came to Fort Collins to transition process improvement skills that were geared more towards the private sector to the public sector. Recognizing the diversity of personalities and perspectives of employees at Fort Collins, FC Lean created four separate training packages for Fort Collins and to date, approximately 25% of Fort Collins employees are trained in one of the four modules.

The flagship lean training, Lean Basics, is an 8-hour course is designed to introduce any city employee to the Problem|Solve|Fix methodology through an interactive and simulation-based program of instruction. This program instructs students on identification of problems and focuses on root-cause analysis. Students are also

introduced to basic process streamlining tools. FC Lean also offers a hybrid version of its basic course that can be completed in four classroom hours. It is designed to help a specific department learn to overcome a challenge that is unique or semi-unique to their respective area. Rather than simulation based, these groups work on a pre-approved problem within their department.

As a follow-up to the Lean Basics course, FC Lean also offers a course and mentoring for leadership. Lean Leaders is designed to build upon Lean Basics and instill leadership tools within Fort Collins employees. Lean Leaders is a 16-hour course that includes an additional 10 hours of mentoring from FC Lean mentors. The course is designed to work on an actual problem and coursework isn't considered completed until an actual departmental problem has been addressed utilizing FC Lean's methodology.

Finally, FC Lean offers a course to management personnel called Lean Managers. This 2.5-hour course is designed to provide organizational leadership with an overview of lean methodology and informs them on effective means by which lean innovation can be facilitated at all levels.

While both Fort Collins, Colorado and King County, Washington have lean initiatives that are relatively new, they seem to be structured in different manners. Where FC Lean maintains a department, whose role is specifically to produce and disseminate lean training, King County appears to use a train-the-trainer model of lean strategy dissemination. In King County, individuals are chosen from within a given department and are trained in lean methodologies to become the lean subject matter

expert in their respective departments. We interviewed a manager in King County's wastewater treatment department that had been trained in lean methodologies.

King County's use of lean methodologies has changed since its inception. When King County sought to adopt lean strategies in 2011, no central office was established and people within different departments were trained in lean by an organizational training team and left to develop their own tracking and workflow documents. At the time of our interview, King County was working to establish an office to standardize lean organization-wide, in an effort to unify the understanding of lean principles across the workforce.

In order to have training that appeals to a diverse workforce, King County uses several methods. First, an organizational lean team develops and conducts training organization-wide. Individuals in different departments are also identified for additional instruction to disseminate training. Additionally, King County has a working relationship with the University of Washington where additional training is conducted. Some employees receive all of their lean training through university coursework and some use a hybrid model. An overall number of county-wide employees who have been trained was not available but approximately 10% of the King County wastewater department has received some level of lean methodology training.

Lessons Learned

While the information gleaned from the interviews did not specifically address issues that the City of Tucson is currently working on, there was a deal of discussion on potential missteps in the training and implementation of lean strategies. The following

section will outline potential issues and possible corrections observed by employees of King County and Fort Collins, in order to avoid unintended outcomes during implementation.

Lean methodologies developed for the private sector are rarely directly applicable for the public sector. While private sector methodologies can be designed to cut waste and improve customer service, they ultimately are designed to increase a profit margin. It is not advisable to install, without modification, lean methodologies into the public sector for this reason. Private sector lean methodologies can be adapted to the public sector by refocusing the emphasis on the bottom line back into process improvement, customer service, and employee satisfaction.

Public sector lean methodology teams must assist those that they train even when the training is completed. “Playgrounds” are needed to allow for those who are attempting to solve problems to practice their newfound skills. A playground can take several forms. It can be merely the figurative space in which to make tweaks to a department’s workflow, or it can be an actual physical space where those who have been trained in lean can meet to use resources to design process improvements. Lean trainers also need to work with management to ensure that the mission and requirements of lean initiatives are well understood and supported at management levels.

A successful lean implementation in one locale isn’t necessarily directly compatible with another location. Government’s start off in different places and on a spectrum as it pertains to what they hope to achieve through lean methodologies. While

it is important to assess many different iterations of lean implementation from different government entities, it is important to know that they all won't work to solve problems without modification for the different department and may need to be adapted.

It is exceedingly difficult to measure the true outcomes of lean methodologies. The core desires of the original lean methodology known as *The Toyota Way* are "respect for people" and "continuous improvement." While it is certainly possible to measure outputs of lean methodologies, i.e.: processes improved, people trained in lean methodologies, etc., it is exceedingly difficult to measure the true outcomes of lean methodology.

Considerations for the implementation of best practices for lean innovation is founded within the culture of each city. The Office of Innovation and Strategy in the City of Tucson, City Manager's Office has adopted a collaborative approach to lean innovation and organizational problem-solving. This section of the analysis will focus on an overview of the City of Tucson's lean innovation implementation and best practices from the Alliance for Innovation that will be of assistance to the City of Tucson's lean innovation efforts.

City of Tucson

As mentioned previously, The Office of Innovation and Strategy in the City of Tucson City Manager's Office has adopted a collaborative approach to lean innovation. The survey was initiated through employee feedback generated through survey data focused on organizational culture. Out of the survey information, three fundamental aspects were represented as being the most pressing concerns for the City. Alignment,

Accountability, and Communication became topics that were the point-of-focus for the lean innovation bootcamp.

The lean innovation process in the City of Tucson was adopted with the facilitation of the organization, Pause for Change. Pause for Change created the training modules that were presented to city employees who volunteered to teams to work on solving issues related to alignment, accountability, and communication throughout a two-day training program. Pause for Change's model includes the foundation of what the organization believed to be fundamental which includes; (1) pausing to accelerate, (2) the need for new skills in the sector, and (3) the need for new voices at the table.

In my experience with the training, these beliefs within the Pause for Change model served as the basis for the remainder of the training. Introduced in the training were five "transformative skills" were used to address different organizational challenges which were commonly referred to as "P.A.U.S.E" skills. The P.A.U.S.E skills included; (1) Package Your Challenge, (2) Assess Uncertainty, (3) Understand Customers, (4) Solution Testing, and (5) Evidence-Informed Decision Making. Unpackaging each of these skills provides insight into how the City of Tucson focused their approach to lean innovation.

- Package Your Challenge – The skills learned in this module focused on shared learning, understanding and power. The goal was focused on creating value for those around you.
- Assess Uncertainty – centered around conserving resources such as time, money, and energy as a measurement of success. Clearly defining what is

uncertain and making the recognition that we, as decision-makers, can be potentially wrong.

- Understand Customers – dove deeply into understanding the customers we are assisting by understanding what we as individuals do and not just merely say. Experiencing the customer's perspective and getting to the "why."
- Solution Testing – operated with understanding the principle of inclusiveness, rapid experimentations, identifying assumptions, being bold, "nailing it before we scale it." All with the goal of launching solutions that will work while keeping in mind risk reduction and brainstorming efforts.
- Evidence-Informed Decision Making – The final portion of the model which looks holistically at the efforts made and determining what worked and what didn't. This includes making a conscious choice about whether to iterate by adjusting the experiment and running it again, pivoting by analyzing what may be off about our challenge, customer and/or solution and preserve what assumptions may need to be tested next.

The goal of this training was to be used to train city employees in a particular style of lean innovation where "coaches" would assist and mentor team members weekly for understanding priorities, conducting interviews, identifying what works and what needs for improvements while running experiments and documenting progress. Ultimately, this lean innovation process was to be used to address the problems within the organization for alignment, accountability and communication.

Alliance for Innovation

Alliance for Innovation (AFI) is a non-profit organization that focuses on inspiring innovation in communities, specifically through local government. The organization focuses on innovation and culture, building partnerships, and community engagement. Furthermore, the alliance assists local governmental organizations with problem-solving through their innovation academies, research publications, and strategic planning conferences.

Alliance for Innovation can serve as a great resource for generating ideas of lean innovation for the City of Tucson. Throughout researching some of the products and training solutions that the Alliance offers, I have found the organization keeps lean innovation relatively simple. I say this because the Alliance provides graphical representations to assist, that can be used as a framework towards implementation of the said practices.

The tools provided by Alliance for Innovation may assist the City of Tucson with the necessary step towards moving forward with the lean implementation process. As I went through the training, the Pause for Change approach in my estimation provided the context needed for *why* increasing organizational accountability and lean efforts will assist the organization moving forward. As I am suggesting, Alliance for Innovation provides another perspective to assist leaders across the organization identify shortfalls and to maximize their decision-making processes towards these learning programs.

Alliance for Innovation: Alignment

As recommended, alignment is a category of lean innovation that has the potential to branch off into many different directions and may be difficult to

conceptualize without a focus. A potential consideration the City of Tucson Office of Innovation and Strategy can consider is a model similar to AFI's *Performance Management Strategy* visualization. This framework provides a graphical point-of-reference of innovation transformation. Additionally, this model would allow team members a part of the alignment categories to narrow the focus and scope about what exact problem they're trying to solve while also providing a roadmap to meeting those objects.

Figure 1. Alliance for Innovation Performance Management Strategy Representation.



Similar to packaging the challenge in the Pause for Change approach, this model can assist with decisive learning and understanding by graphically representing the larger issue while focusing down to the nucleus of the issue. As an approach this can be potentially beneficial by assisting with the implementation of smaller change in order to make the process more manageable. Along with the listed model, AFI offers additional guidance by dividing lean innovative processes in their own process. For example, AFI divides the strategy into phases; (1) planning, (2) implement, (3) review all of which are

a continuous cycle that can be started, paused and repeated at any time during the process.

Alliance for Innovation: Accountability

Restoring the idea of accountability within the City of Tucson organization involves measuring accountability at different levels. This also involves understanding the risk, uncertainty and measurement involved with directing accountability in positive way. Pause for Change suggested transformative skills that may be used towards looking at accountability such as assessing uncertainty and understanding customers. If we are holding City of Tucson employees as a customer constant, a straight forward approach may simply be asking these individuals for ideas for strengthening accountability.

AFI recognizes the need for employees creating their own solutions to problems which may tend to keep the process and solution more organic to the specific organization. The benefits could be the elimination of waste, an open space for collaboration and metrics in place to evaluate accountability in a given work section. AFI offers a systematic process to measure the quality of ideas presented from employees.

Figure 2. Alliance for Innovation Idea Innovation Matrix.

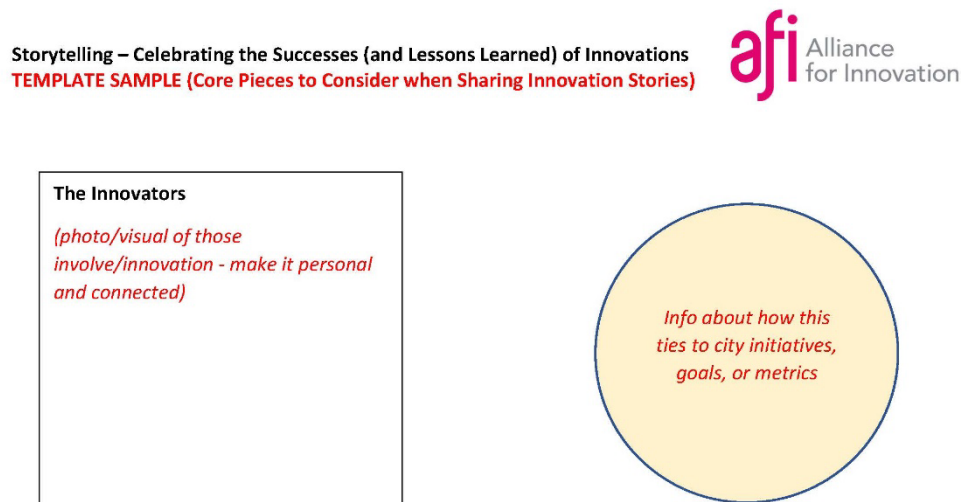
Innovation Project - Solution/Idea Prioritization (used to help an organization evaluate innovation projects and determine priorities)							
Innovation Problem Statement (what problem is being solved?) Enter Goal Statement below: (As stated on Project Charter)	Please rank each solution for each criteria by using the 1-5 Scale as indicated below						
	Very Low (less good)		Moderate		Very High (best)		
	1	2	3	4	5		
Potential Solution (Provide Brief Description)	Potential to Meet Objective in Problem Statement and Projected Improvement Metrics	Positive Customer Impact (internal and external)	Cost to Implement (1 = \$\$\$ & 5 = \$)	Stakeholder Buy-in (internal and external)	Time to Implement (1 = Long 5 = Quick)	Total Score	Implement? Yes/No
WEIGHTING OF CRITERIA		10	9	8	7	5	

This simple process can be implemented and tailored to fit the needs of the City of Tucson. The model includes a snapshot of the particular issue(s) effecting an organization and an evaluative criterion of the implementation/process improvement.

Alliance for Innovation: Communication

AFI suggests their models that been previously described can work towards increasing communication and transparency in a variety of contexts. Furthermore, communication is an aspect of lean innovation that influences several of the other areas, as without adequate communication the lean process seizes to exist. As evident in the Pause for Change boot camp, effective communication has to be implemented in order for the transformative skills to work properly. Likewise, AFI produced a template that can be used to increasing collaborative communication and lessons learned with a particular task or project.

Figure 3. Storytelling your innovations.



As the City of Tucson moves to increase communication a potential recommendation would be to share what has already been done, recognizing efforts while continuing to refine the process and scope of the lean process.

Conclusion

In conclusion, examining different methods, ideas and processes other communities are using to approach lean innovation could be significantly important and beneficial to the City of Tucson. As with all successful implementation strategies a clear and concise idea of what direction the organization would like to take would be the best step in addressing organizational alignment, accountability and communication. It is our hope that collaborating with Alliance for Innovation, the City of Tucson can implement and successfully maintain lean innovation strategies not just for the employees of the organization but conquering the endeavor of making the City of Tucson better as a whole.

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