

Lean in the Public Sector: Driving Improvements in Idaho's Food Stamp Program

Patrick W. Shannon¹, Russell Barron²

(1. Boise State University, Boise, Idaho 83706, USA; 2. Idaho Department of Health and Welfare, USA)

Abstract: Building off of lessons learned from the Toyota Production System (TPS), many North American manufacturers have successfully implemented lean business practices. For these organizations, the lean philosophy has resulted in improved competitive positions by eliminating and reducing waste, driving down costs, reducing lead times, and improving quality. The lean trend has also taken hold in non-manufacturing, private sector organizations, and even more recently in public sector organizations. This paper presents a case study of a successful lean implementation at the Food Stamp Program in the State of Idaho. Prior to the lean implementation, Idaho's Food Stamp program ranked near the bottom of the 50 U.S. states on virtually every key metric and was not meeting the needs of the Idaho citizens. The article discusses the lean strategies used by Idaho Department of Health and Welfare (IDHW) leaders to transform the Food Stamp Program into one that now ranks at or near the top of all states with respect to key performance metrics. The lean implementation approach implemented by the IDHW leaders demonstrates the power of the lean management philosophy.

Key words: food stamp program; lean; process improvement; public sector; value stream map

JEL codes: I3, L3

1. Introduction

"*The Machine That Changed the World*" (Womack, Jones & Roos, 1991), the outcome of the Massachusetts Institute of Technology research project that compared the automobile industries in Japan, Europe and the United States, is often cited as the work that propelled the concept of lean manufacturing to the forefront in America. The lean movement is rooted in the Toyota Production System (TPS). Many articles and books, such as "*The Toyota Way*" by Liker (Liker, 2003), describe the TPS which revolves around the desire to eliminate waste throughout the organization.

The lean movement has become solidly established in the American manufacturing sector. There are numerous lean success stories involving manufacturing companies who have substantially reduced rework, shortened process lead times, reduced inventory levels, increased product quality, and in general, improved their ability to compete in the global marketplace (Lewis, 2008; Stone, 2012).

However, the lean management philosophy has also moved into services, administrative departments, and

Patrick Shannon, Ph.D., Professor, College of Business and Economics, Boise State University; research areas/interests: quality improvement, lean. E-mail: pshannon@boisestate.edu.

Russell Barron, Deputy Director, Idaho Department of Health & Welfare. E-mail: barronr@dhw.idaho.gov.

even the public sector. Lean methods have been applied to improve IT services in both private and public organizations (White & Chaiken, 2008). The Connecticut Department of Labor has used the lean philosophy, principles and practices to improve departmental processes and eliminate wastes, resulting in improved satisfaction of both internal and external customers of its services (Hasenjager, 2006).

Other papers have been published in recent years that describe how lean thinking can be implemented in the public sector or which recount examples of lean implementation successes (Sanderson & Ramakrishan, 2007), (Bagely & Lewis, 2008). However, governmental organizations can face challenges that don't necessarily exist in the private sector. For example, governmental organizations may be required to balance such factors as administrative laws and externally mandated process requirements in order to effectively apply lean methods (Scorsone, 2008).

This paper describes the successful implementation of lean concepts and practices by employees within the Idaho Department of Health & Welfare's Food Stamp Program. Prior to the lean implementation, the Idaho program was failing in many ways and was ranked near the bottom of all states on key measures used by the federal government to evaluate Food Stamp Program administration. Within four years following the launch of the lean initiative, Idaho's performance was at or near the top of all key federal metrics and is now considered a benchmark program for other states. This paper describes the steps that were taken, and the challenges that needed to be overcome, to improve the services to the citizens who rely on Food Stamps.

2. Background

Although the United States is a wealthy country, food insecurity is a major problem. Addressing that problem began with the Food Stamp Act of 1964, signed into law by President Lyndon Johnson to provide improved levels of nutrition among low income households. Just over 33 million adults and 16 million children in 2012 were purported to be food insecure according to the organization, Feeding America¹.

Just over 500,000 people received Food Stamps in 1965. Within 10 years, the number of Food Stamp recipients had grown to 15 million and by 2014, 46.5 million Americans participated in the Food Stamp Program now known as the Supplemental Nutrition Assistance Program (SNAP), receiving over \$70 billion in benefits. The number of participants has more than doubled in the past 10 years while the benefits distributed have almost tripled².

Idaho, a relatively large state geographically that is sparsely populated with just over 1.6 million residents in 2014, has seen the demand on its Food Stamp program increase at extraordinary rates in recent years. Figure 1 shows the growth in the number of food stamp participants and illustrates the correlation between demand for food stamps and the rate of unemployment in Idaho.

The challenge facing Idaho and all states is to assure that those who qualify for the SNAP program receive assistance in a timely and cost-effective manner, while making sure that benefits are not incorrectly granted to those who don't qualify. This is made especially challenging because federal and state rules regarding eligibility are complex and require special expertise on the part of the service providers at IDHW and participation by the applicants. As with any service situation, delivering high-quality service is challenging due to the many sources of variability that can impact the service delivery process.

¹ http://www.feedingamerica.org/hunger-in-america/impact-of-hunger/hunger-and-poverty/?_ga=1.176088546.1780125413.1422289281.

² United States Department of Agriculture: <http://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>.

The Supplemental Nutrition Assistance Program

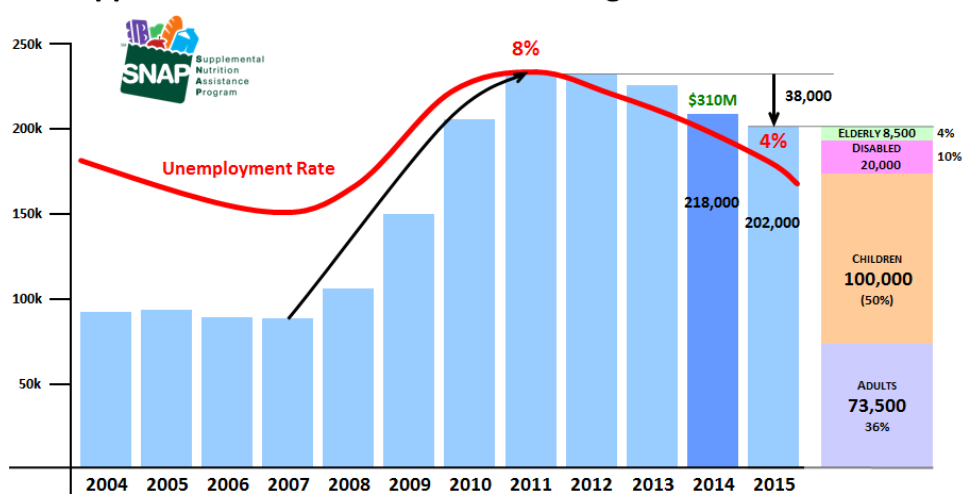


Figure 1 Idaho Food Stamp Program Participants

3. The Idaho Food Stamp Program — Pre-2008

Probably the best way to describe the Idaho Food Stamp Program in the years prior to 2008 is a program in a “state of crisis”. The Food Stamp application and delivery processes were ineffective, and the IT systems that supported the program were woefully out of date and inadequate.

In the years leading up to 2008, performance was poor. In 2007, the average time to approve an application exceeded 19 days, with only 3 percent of all applications approved the same day they were received. When compared with the other states, Idaho's Food Stamp Program didn't fare well on most federal metrics as shown in Figure 2.

For example, in 2005 Idaho ranked 48th in Payment Error Quality with an error rate of 8.34 percent. That same year, Idaho was 45th (up from 50th in 2004) on a measure called negative error, which is calculated by dividing the number of invalid cases that Idaho had approved by the total number of cases audited. Not only was Idaho making a relatively high volume of errors in the amount of Food Stamp dollars allocated and denying applications or closing cases in error, it was getting worse in the timeliness in processing applications. In 2004 Idaho ranked 29th in the percentage of Food Stamp applications processed within the federal limit of 30 days. By 2007, the state was ranked 48th with only 80 percent of applications meeting the federal limit.

Year	National FNS Measures					
	QC Payment Error		QC Negative Error		QC Timeliness	
	Rate	National Ranking	Rate	National Ranking	Rate	National Ranking
2004 (sanction)	9.05%	51st	13.22%	50th	90.41%	29th
2005 (sanction)	8.34%	48th	10.68%	45th	86.79%	37th
2006 (bonus)	4.64%	18th	7.67%	39th	83.06%	43rd
2007	4.44%	18th	5.20%	26th	80.00%	48th

Figure 2 Idaho Performance Metrics – Pre 2008

Idaho's Food Stamp Program performance was so bad that the state was faced with financial sanctions requiring the state to pay back administrative funds to the federal government. The performance standard at IDHW had deteriorated to the point where the federal government's 30 day limit was thought of as the goal. The following statement from Lori Wolff, then Deputy Administrator for the Division of Welfare, provides an insight into this mentality.

"I recall going into our field offices and the process would go something like this: Somebody would say, 'I want to apply for food stamps.' They would be handed an application, give it to a clerk and then an interview would be scheduled seven to 10 days later. The person would come back a week later, wait for about 40 minutes, talk to a decision-maker in a 45-minute interview, and then we would give them a list of materials we would need. The applicant would mail them in within five to seven days later. We're already 20 days later. We would process it within five days after that and, best case, we're right at about 30 days."

Between 1994 and 2007, applications for Food Stamps in Idaho ranged between 40,000 and 60,000 per year. However, as Idaho's economy began to suffer along with the rest of the country, IDHW leaders knew that demand for all of their services including Food Stamps would be increasing at the same time the Idaho State Legislature was planning budget cuts (translating into staff reductions) for the department. Given the department's already poor performance with the Food Stamp Program, changes were needed. In addition to some changes in management in early 2007, IDHW embarked on a lean operations and continuous process improvement implementation.

4. Lean Operations

Lean is a management philosophy that focuses an organization on eliminating wastes throughout the entire value stream.

Whether in the public or private sector, successful lean implementation requires strong leadership to help develop a supportive and participative culture. Resistance to change is natural and should be expected; it can occur at all levels of an organization. But in our experience, a successful lean implementation can't occur if the upper leadership is not fully on board and participating in the effort. Their leadership must guide the organization to be relentlessly focused on the customer making sure that the first consideration of any potential process or system change is whether the customers' *perceived value* will be increased by the change. In the broadest terms, perceived value is defined as follows:

$$\text{Perceived Value} = \frac{\text{Customer Benefits}}{\text{Cost}}$$

Perceived value is increased by either improving (increasing) customer benefits, or reducing the cost of the products or services, or some combination of the two. The benefits typically involve three main areas:

- (1) Desirableness of the products or services
- (2) Quality of the products or services
- (3) Delivery timing of products and services.

The numerator (customer benefits) is increased by providing product or service improvements thereby making the product or service more desirable or useful, by improving the quality of the product or the service experience, and/or by reducing the lead time between the "order" and the completion of the transaction. The denominator (cost) is decreased by reducing or eliminating material or labor waste, with some of those savings

passed on to the customer in the form of price reductions.

The lean philosophy can effectively address both the benefit and cost portions of the perceived value equation through the application of a host of tools and techniques that have been applied in a large number of manufacturing and non-manufacturing settings. Tools such as Value-Stream Mapping, 5S, Standardized Work, Theory of Constraints, Plan-Do-Check-Act, Visual Management, and Batch Size Reduction are just a few. A very good overview of these and other lean tools is contained "Lean Methods Guide" published by the Environmental Protection Agency³. (Note 3).

A key to successful lean implementation and continuous improvement is the selection and alignment of key metrics. Dave Packard, one of the founders of the Hewlett-Packard, is noted for saying that "people do how they are measured." We subscribe to the belief that improvement will not happen without proper measurement. These measures are the "Drivers of Success" and as illustrated in Figure 3. These drivers can be classified into three categories; customer focused, production focused, and process focused. Some potential measures within each category are also shown in Figure 3.

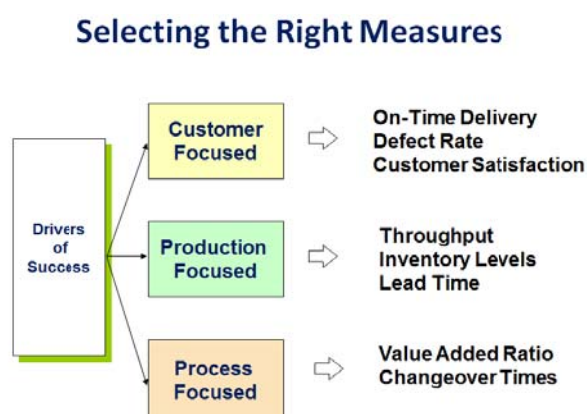


Figure 3 Measures that Drive Success

It is important that the measures be aligned. To illustrate, when considering the Idaho Food Stamp Program's application process, we might choose one measure from each category-customer satisfaction, lead time and the value-added ratio:

Customer Satisfaction: Because people apply for Food Stamps when they need a means to acquire food for themselves and their family, their satisfaction with the program is higher when they receive the Food Stamps soon after applying. Satisfaction is also related to their perception of how they are treated by the IDHW staff. Customer satisfaction can be measured by surveying Food Stamp customers.

Lead Time: Lead Time is the time from initial application for assistance to a customer receiving Food Stamp benefits. This is measured in days.

Value-Added Ratio (VAR): The ratio of time spent on value-added activities over the total lead time. A value-added activity is considered to be anything that benefits the customer. A high VAR is desirable.

These three measures are aligned and can be used to drive improvement in the Food Stamp Program application and delivery process. By reducing time spent on non-value added activities throughout the process, the VAR is increased and lead time is reduced, thereby increasing customer satisfaction.

³ Lean Government Methods Guide, United States Environmental Protection Agency, <http://www.epa.gov/lean/government>, 2013.

Thus successful lean implementation in any organization requires strong leadership, an understanding of the lean philosophy and the lean tools, and the use of key metrics. But effective lean implementation also requires a system-wide approach, not a piecemeal effort that is focused on isolated improvement projects (Gebre, Hallman, Minukas, & O'Brien, 2012).

5. The Lean Implementation — 2008 Foreword

The issues facing the leadership team prior to 2008 centered on Food Stamp application processes. Of specific concern was the lead time; the time it was taking from initial application to an individual receiving benefits. Also of concern was the quality of the decisions being made with respect to Food Stamp applications. Although the IDHW lean implementation effort had been underway since early 2007, Idaho's application process continued to have an average lead time that exceeded 19 days and ranked near the bottom of all the states in key performance metrics. The culture within the department was not customer focused and service quality overall was unacceptable to management.

Beginning in 2008, the state's economic situation started to decline and demand for services by unemployed families began to rise. Over the next few years, the state legislature reduced the department's operating budget because of tax revenue shortfalls due to the economic recession that was gripping Idaho and the rest of the United States. The budget cuts meant that the IDHW was going to have to reduce staff and close several offices in the state.

In an attempt to improve the Food Stamp application process, and to survive the budget cuts, IDHW leadership determined that an increased emphasis on the lean operations paradigm was needed. This meant a cultural transformation to one centered on customer service and waste elimination would need to take place. The culture shift was initiated when the Food Stamp Program leaders met personally with the management and staff at every office throughout the state to share the new lean philosophy and to listen to improvement ideas from these "front-line" employees. These meetings also served as an opportunity to identify the informal leaders at each location who had the potential to influence opinions and actions. These people would prove very important as the lean implementation progressed. A series of key actions were taken.

- Business leaders were engaged to ensure support for the paradigm change
- Staff support was secured and staff provided input to the details of process changes within the new paradigm
- Process level evaluation and certifications were conducted to ensure conformance to the implementation of the new paradigm
- Regular performance reviews were conducted with new metrics supporting the new paradigm to ensure continued improvement and adherence to new standards
- Frequent "cultural conversations" occurred with staff to reinforce and reapply

The lean implementation began by examining the "current state" of the Food Stamp application process as it existed prior to 2008. It was a complex and messy the process. While there are several steps that are mandated by the federal government and important to the State of Idaho, there is no proscribed method for implementing the Food Stamp application process. As the lean implementation team studied this process, it was clear that there were opportunities for improvement. Figure 4 conveys the essence of how the process is supposed to work.

A primary objective of lean is to reduce the time spent on non-value adding activities and eliminate waste. With that in mind, the lean implementation team developed the "future state" process flow shown in Figure 5.

While the original (“current state”) process had evolved to where it was prior to 2008 through many iterations, in retrospect it was focused internally on years of policy interpretations and compliance efforts. This “future state” process was designed with the customer in mind — to reduce the time from initial request for service to when the applicants actually receive Food Stamps, showing respect for the applicants throughout the process.

Eligibility: Requirements and Responsibilities

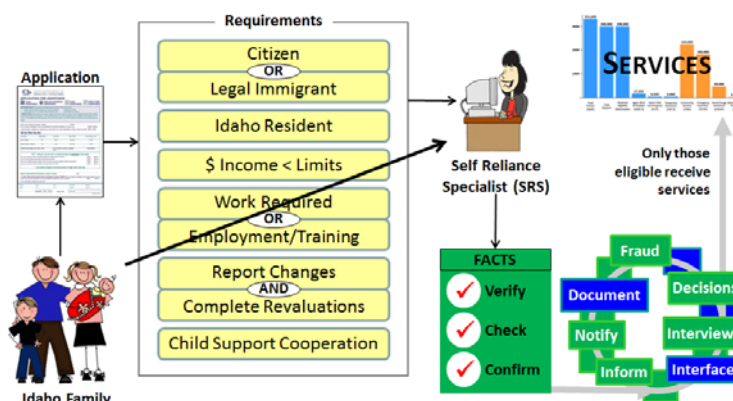


Figure 4 How the Food Stamp Application Process Should Work

The “future state” shown in Figure 5 represents considerable analysis and input from a broad range of IDHW staff and leadership. The result is a process that provided many improvements with significant positive impact on the process metrics. One example of these process changes relates to what happens when an applicant first arrives at an IDHW service facility. The applicant experience under the old process was typically something like the following:

(1) The applicant filled out a form and schedule an application appointment a few days in the future.

(2) If the applicant met the appointment time (about 50% did not), they were sent home with a list of required information and another future appointment date. If the applicant did not meet the appointment, it was rescheduled for a future day.

(3) The applicant would drop off the information to be reviewed. Invariably, the information was found to be lacking — the applicant was notified. The process was repeated until all required information was provided or the applicant dropped out of the process.

(4) IDHW staff made a decision based upon the applicant’s information materials. Approved applicants were scheduled to receive benefits.

(5) Denied applicants could appeal or start a new application.

Thus, the issues surrounding the application process were not so much about waiting time in the IDHW Food Stamp Program offices, it was more about the number of times the applicant had to come to the office — in many instances as often as three times in a two week period. All of this was taking an average of 19 days with many applications taking the 30 day federal maximum or even longer.

An example of the type of process changes reflected in the “future state” flow in Figure 5 is the movement of the “decision-maker” from the back room to the front on the process. Now, at every IDHW service office in the state, the first person an applicant meets with is the staff member who can determine whether the application form is complete, or help the applicant initiate and complete the application process. This person also can make the

eligibility decision immediately in most cases. This one change alone reduced multiple days from the application process. This, and many other similar improvements, have resulted in a drop in Food Stamp application approval, decreasing from a pre-lean average of 19 days to a sustainable average time of 2 days (Figure 6).

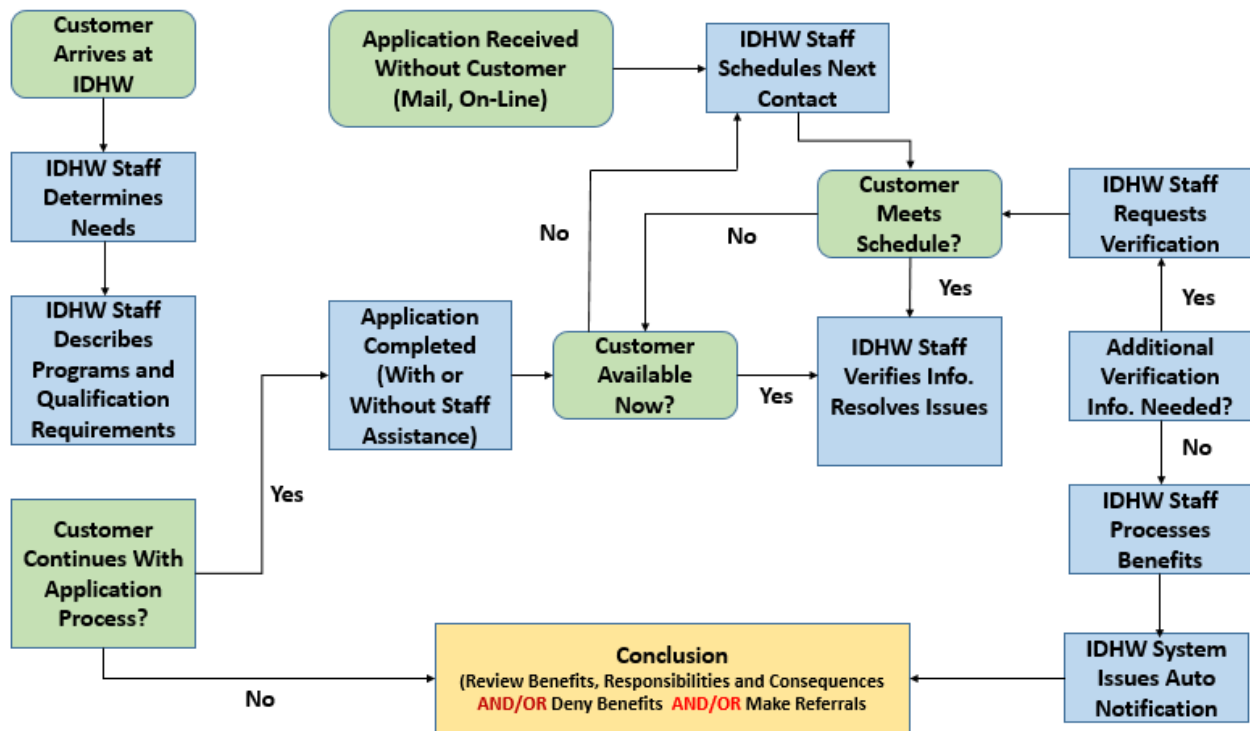


Figure 5 The “Future” Food Stamp Delivery Process

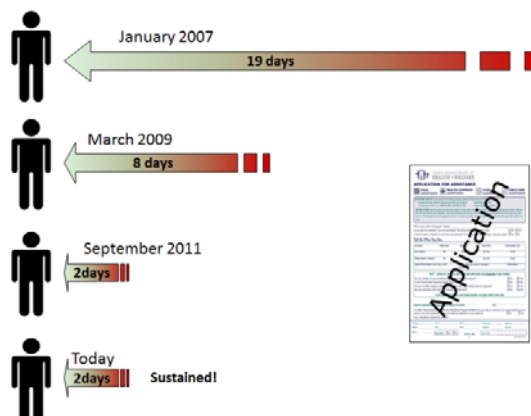


Figure 6 Application Lead Time Improvement

Figure 7 shows that same day approval has increased from less than 3 percent in January 2007 to 82 percent despite the total number of applications more than doubling and staffing levels decreasing.

The impact of the lean implementation in the Idaho Food Stamp Program has had a positive impact on how Idaho ranks nationally as shown in Figure 8. For example, in 2007, Idaho's program ranked 48th nationally in application approval time. By 2012 Idaho was ranked 1st with 99.28 percent of applications being processed within the federal government's 30 day limit and Idaho has ranked 1st on this metric each year since. Figure 8

shows that the improvement in the quality metrics has also been impressive with Idaho ranking in the top 15 states in payment error rate and top 5 in negative error rate. These metrics are all very important to the program's clients reflected by an all-time low rate of customer complaints.

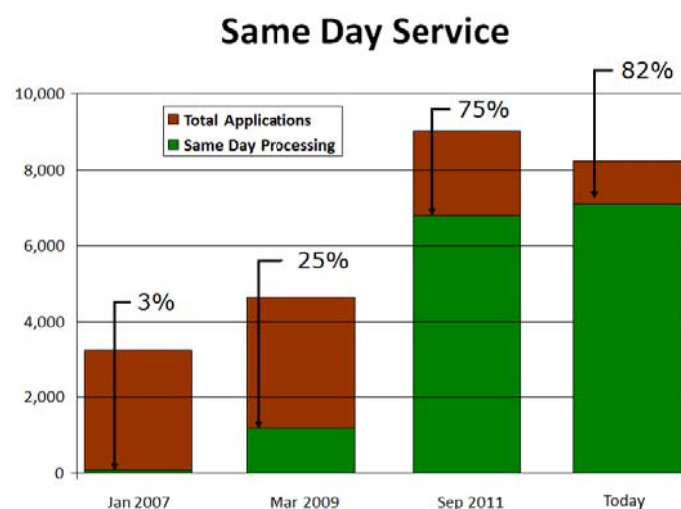


Figure 7 Same Day Processing Results

Sustainable and Improving Performance

Idaho's Service Delivery Performance for SNAP										
Year	National FNS Measures						New Idaho Measures			
	QC Payment Error		QC Negative Error		QC Timeliness		Admin Cost	Same Day	Days to Approval	Case Management
	Rate	National Ranking	Rate	National Ranking	Rate	National Ranking	Dollar cost per Case/Mo	% Approved on Application Day	Average Number of Days	% Tasks Completed = 5 days
2004 (sanction)	9.05%	51st	13.22%	50th	90.41%	29th				
2005 (sanction)	8.34%	48th	10.68%	45th	86.79%	37th				
2006 (bonus)	4.64%	18th	7.67%	39th	83.06%	43rd		<2%	> 20	
2007	4.44%	18th	5.20%	26th	80.00%	48th	\$42.35	~6%	15	
2008 (bonus)	3.59%	12th	0.72%	3rd	91.32%	16th	39.20	~20%	11	
2009	2.69%	11th	2.76%	8th	94.81%	11th	\$30.72	~25%	8	
2010 (bonus)	3.32%	18th	2.39%	6th	98.24%	2nd	\$19.80	72.2 %	2	96%
2011 (bonus)	2.52%	5th	1.97%	4th	99.06%	1st	\$15.16	71.3%	2	99%
2012 (bonus)	2.49%	14th	10.02%	5th	99.28%	1st	\$16.15	71.8%	2	98.7%

Timeliness best in the nation
Good Accuracy (Negative and Positive measures)
Administrative cost per case is one of the lowest in the nation
Customer complaints are at an all time low

Figure 8 Overall Lean Results

These improvements don't happen without the buy-in and support of people throughout an organization. Getting this buy-in is not always easy as was the case within the IDHW. As mentioned previously, communication was a key tool used by the leadership team to explain the need for change.

Lean champions from across the state were recruited to help sway opinion and gain support of the staff in the service centers. For example, the idea of moving the "back room" staff out front to meet directly with customers was not popular. To help move that idea forward, a well-known informal leader and vocal skeptic of past improvement initiatives was engaged in the lean movement. But this time, she began to see that positive changes

were happening. As she gradually started to see things from the customers' perspective she became a supporter and an advocate for the changes which helped sway staff opinion across the state to make this change happen. Other process changes followed a similar pattern. As changes were made and positive results were observed, the push-back became less and support for the lean effort increased.

As mentioned earlier, the economic crisis of 2008 led to budget cuts for IDHW and all Idaho state agencies. As a result, IDHW was forced to reduce staffing levels in all of its programs including Food Stamps. There was a need to consolidate some of the service centers across the state. It should be pointed out that some of these changes were in process prior to the lean implementation, but the recession, and associated budget cuts, created opportunity to build on this foundation. As a result, the layoffs that occurred were strategic and did not impact critical functions. This was all happening as demand for the Food Stamp Program was increasing (see Figure 1). Fortunately, the lean efforts that were undertaken not only significantly reduced the application lead time and improved quality and customer satisfaction, the program improvements resulted in a 70 percent reduction in the monthly cost of administering a case between 2007 and 2012, making Idaho's cost per case one of the lowest costs in the nation (see Figure 8).

6. Conclusions

This article provides an example of how the lean management philosophy was applied in a governmental setting. The leadership at the Idaho Department of Health & Welfare credits the lean approach with transforming the Idaho Food Stamp Program from one of the poorest performing programs in the country to one of the best. This was accomplished during a period of staff cut-backs and rapid, increasing demand for the program's services. Although the IDHW made major process transformations, the effort to make this transition was not any greater than just doing their normal work. Instead, management and staff at IDHW just changed how they did their work.

We indicated earlier that the ultimate motivation for process changes and lean implementation is to increase customers' *perceived value* related to the goods and services. The Idaho Food Stamp Program improvements enhanced both the numerator and the denominator of the perceived value equation. The applicant customers benefited from receiving Food Stamps faster, the federal government customers benefited from more accurate application processing, and the Idaho taxpayers benefited from the productivity gains which compensated for the reduced budget.

Although there is no single approach to how lean should be implemented in a governmental organization, the lessons learned by the leaders and staff at the IDHW as they went through the process should prove valuable to other organizations. The most important of these lessons are:

- The new paradigm, or future state, must be clearly defined
- Leaders must be engaged and willing to take risks
- View the people who receive services as customers and look at everything from the customers' perspective
- We must stop doing those things that our customers don't value (except those things that are mandated by law or Federal rules. In that regard, we must constantly examine how we are interpreting these laws and rules to make sure we are applying them in the most customer friendly way possible.)
- Creating a lean culture requires extensive effort and can only be achieved when the leaders are trusted and the staff is included in the lean transformation.
- Improvement only comes from measurement and selecting the right metrics is critical to driving us in the

right direction.

- Lean will be most effective when it is approached from a system perspective and not as a series of independent improvement projects.
- Performance variation is a major negative and standardization of work functions is required to reduce this variation
- Sustaining the gains and maintaining the lean culture is challenging; we must understand that lean is not a program, but a journey that is never fully completed.

Idaho's success, and its potential for sustaining what has been achieved, is based on the IDHW's effort that has not been as much about the lean implementation process as it has been on developing a foundation that allows the transformation to take place. Idaho's Food Stamp Program has become a "process driven organization". Process is just as important, if not more important, than policy. This is critical because ongoing improvement occurs as processes are evaluated for effectiveness and subsequently improved. When "policy is king", or is revered as most important, a compliance driven mindset occurs and the organization becomes unable to see the customer, process, or administrative impacts.

Time will tell whether the Idaho Department of Health & Welfare will sustain these impressive results and continue to improve, and whether lean has truly been embedded into the culture. We do know that doing so will require ongoing, consistent leadership and a continued focus on looking at the Food Stamp Program through the eyes of the customer.

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