

# PEOPLE DEVELOPMENT SYSTEM AS A PILLAR IN IMPLEMENTING LEAN FOR PUBLIC SECTOR

A.P. Puvanasvaran

Faculty of Manufacturing Engineering  
Universiti Teknikal Malaysia Melaka

E-mail: punesh@utem.edu.my

## ABSTRACT

*Human factor plays an important role in ensuring lean process management to be successful and provides good proposition for the success of the organisation in the long run. One of the main elements of people is their problem solving capability in identifying and eliminating wastages. The purpose of this paper was to review the challenges faced by the public sector and find the solution to integrate LEAN concept in their daily business. The paper also proposed the conceptual framework of people development system which can help public sector to enhance employees' capability in identifying and eliminating wastages continuously and effectively.*

**Keywords:** *lean, people development system, problem solving capabilities, public sector.*

## 1.0 INTRODUCTION

In today's competitive world, the success of social development depends upon a competent, well-functioning government and public sector (UN Expert Group Meeting, 2003). But however, no organisation in business and even in public sector in developing countries can afford to reduce and to eliminate the waste resources whenever they face the challenge of delivering a wide range of services essential for development – from infrastructure and social services to the functioning of the legal system and enforcement of property rights – all of which pose the challenge of how to get governance “right”. In both organisations the most underutilized resource is their people.

Since the good governance has always been important in organisations, even before it became fashionable, actually people are one of the few appreciating assets an organisation has. But governance is complex, both as an idea and in the work needed to realize good governance even though governance has infused our collective conscience and

pervades the way we talk about management, whether in business, community organisations or public administration whereby the quality of governance institutions has a significant impact on economic growth.

Unfortunately, most countries in developing countries are finding centrally regulated public service policy a hindrance to effective delivery of public services in modern globally competitive competitions (Matheson, 1998). One part of this reason is because too often for government to design public services on the one-size-fit all model which is as the mistaken belief that a standard service necessarily offers economies of scale (Bhatia and Drew, 2008). In fact, governments that invest in becoming faster, more flexible and more responsive are far more likely to meet their goals which related to the part of the economy concerned with providing basic government services (AT Kearney Study, 2003).

Making government function better implies not only improving efficiency and cost-effectiveness of public sector functions and operations, but it also improving all effectiveness of public sector so that government policies and programs function well, are better delivered, achieve the stated, desired objectives, treat recipients with respect and dignity and positively affect the people that they are designated to reach while minimizing any negative distortionary side effects (UN Expert Group Meeting, 2003). Moreover, since the governments all over the world have been under pressure to reduce the size of public sector, budgets and expenditures (sometimes especially in the social sector), while at the time improving their overall performance, then come the challenges of government particularly in striking the right balance between accountability and increased flexibility (Halachmi, 2002).

The range of issues in improving the provision and quality of public sector involve establishing public services where they are needed yet lacking, while in the cases where they do exist, increasing their effectiveness to achieve improved outcomes. The reason is that the public sector is the portion of society controlled, where they are also provide services that non-payer cannot be executed from services which benefit to all of society rather than just the individual who uses the service and services that encourage equal opportunity as well. The public sectors are those entities owned and/or controlled by the government, as well as the entities and relationships that are funded, regulated operated solely or in part by the government.

However, the most important and often spilled out criticism for various

limitations of public sector are as follow:

- Lack of motivation. Employees of public organisations are partially prepared to take larger workload and think that requirements raised for them are rather too small than too large.
- Status officials. Too strictly defined status determines lack of flexibility, and this first of all does not allow optimal use of personnel capabilities, and thus preventing public officials from seeking personnel career in the public sector.
- Lack of possibilities to pursue career and to develop skills
- Limitations of motivation
- Automatically position upgrading
- Limited possibilities to select personnel

## **2.0 LEAN IMPLEMENTATION IN PUBLIC SECTOR**

Most research on expectations relates to consumers' purchase and consumption experiences in private markets are theoretically highly-relevant to people's experiences with public service, although they require modification for use in the context of public sector. Dr Zoe Radnor and Mr. Paul Walley as the researcher of Warwick Business School have found the method employed by Toyota in making their production system "Lean" that can be applied to public sector services. They said, by using "lean" in the public sector will have a positive impact on employees' moral, customer satisfaction, and process efficiency because the organisation will improve in customer waiting times, service performance, processing times, customer flow and quality by achieving more for less, generating a better understanding of the process, better joined-up working, improved use of performance data, increased staff satisfaction and confidence, and embedding a continuous improvement culture (Radnor, 2006). In simple words, lean technique takes the premise that all organisations are made up of a number of processes which looking at organisational processes to seeking the identification what constitutes customer value. Bhatia and Drew (Bhatia and Drew, 2008) commented, that crucially for public sector, a lean approach breaks with the prevailing view that there has to be a trade-off between quality of public services and cost of providing them.

The term "Lean" stems from a 1990s bestseller, *The Machine that*

Changed the World: the Story of Lean Production. The book authors, Daniel Jones and James Womack, identified five core principles of Lean as follow:

- Specify the value desired by the customer.
- Identify the value stream for each product providing that value and challenge all of the wasted steps.
- Make the product or service “flow” continuously along the value stream.
- Introduce “pull” between all steps where continuous flow is impossible.
- Manage toward perfection so that the number of steps and the amount of time and information needed to serve the customer continually falls.

Read (2008) commented, that the lean manufacturing process can be used by government departments to improve customer focus and avoid some common business pitfalls because lean concept encourages services to consider three main elements as follow:

- Failure demand (what extra work is created because processes fail)
- Remove processes that do not add value (what work can be stripped out because they do not add value for the majority customer)
- Reduce the movement of work between departments (reduce “double” handling or more work is dealt at the point of contact).

Therefore, to succeed, then public-sector organisations must find a way to align their growth strategy – providing new and better services at limited costs – with regard for the interests of their workers besides to optimize costs, quality, and customer service constantly. By using lean principles, a like business companies, government can realign its organisation and invest in the development of team leaders.

Although they differ in nature of the value of the resources (capabilities and environments) and also in ways which have implications for making and implementation the strategy, but such of both private and public sector organisation were tasked with producing value for stakeholders in their environment by deploying resources and capabilities (Ackoff, 2003) and Bridgman (2007) stated, compliance against the cost is a significant and mandatory investment, even though compliance alone is insufficient for high performance or good governance despite by

understanding the relationship between compliance, performance and good governance that increase the prospect of achieving return on investment. By having a strategy it allows clear policy deployment and concentration of effort which in return, allow increased process capability and exploitation new capabilities as shown in figure 1.

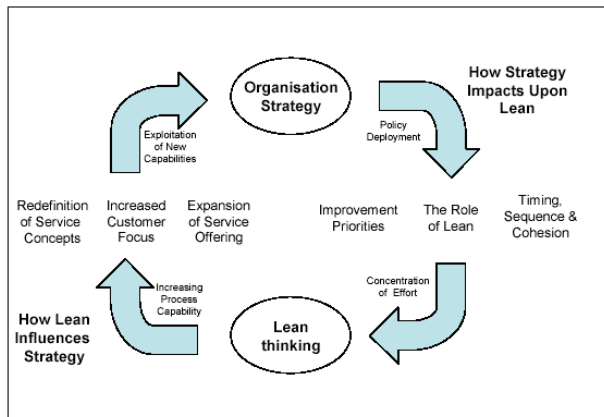


Figure 1: Relationship between strategy and lean  
(Adapted from Articles by Radnor, 2006)

In order to become fully lean, an organisation must understand lean as a long-term philosophy where the right processes will produce the right results and value can be added to the organisation by continuously developing people and partners, while continuously solving problems to drive organisational learning (Liker, 2004). While there is no exact definition for a fully lean organisation, it is important that an organisation must understand and apply all of the practices and principles. It is also important to understand that lean thinking, which affects the whole business model, is the key and not solely leaner production, where only parts of the whole lean philosophy are applied.

## 2.1 Performance Measurement in Improving Public Sector

Since nowadays performance measurement is as a central element of new public management, which is characterized by some authors as a global movement reflecting liberation management and market-driven management (Ginakakis, 2002.) The liberation management means that public sector managers are relieved from a plethora of cumbersome and unnecessary rules and regulations. Instead of the control of input factors, control should focus on outcome measures.

Public sector bodies are mostly institutional in form and the facts shows

public sector effectiveness may vary according to cultural and historical contexts, legislative frameworks and institutions, as well as differences in levels of socio-economics development among high, middle and low income countries. Some organisational forms are not consistent with public administrations beside the scale of an organisation impacts on its capacity to deliver on complex governance activity. Big agencies can afford the organisational costs of strong compliance and performance activity while smaller ones may vary struggle to meet these overheads. But, if scale makes finding resources easier, it can also make governing harder because most government entities are allocated a budget through centralized process. This has important implications and points to differences from other sector. Therefore, performance measurement may provide data on how effectively and efficiently public services are delivered. Within public sector, performance measurement has fostered a move towards a contract value on various levels. Anyhow, managing and measuring performance has been one of the key drivers in the reform of the public sector in recent year.

Performance measures are necessary to create something like in the private sector bottom line. Follows are few examples of activities which are practices by them:

- *“Voice and Accountability”* (in China-Lioning province citizen participation on local hearing against major cases of corruption and the diversion of public fund) (Knox & Qun, 2007).
- *“Simplification of Administration”* (communities and advisory bodies of communities e.g. KGSt or *Kommunale Gemeinschaftsstelle für Verwaltungsvereinfachung* that work with local government board which is an advisory body of German local governments (cities, municipalities and countries). They come up with the new steering model which use Tilburg model as of performance measurement reference scheme) (Greiling, 2005).
- *“One Stop Shops”* (in Latvia into public administration with objective to change the priorities of public administration so the intention would be served the people and anyone could receive the necessary service attending the competent institution only once) (Riga, 2000).
- *“Strategic Personnel Management”* (in Kaunas-Lithuania in personnel management through new public management) (Čiarnienė et al., 2006).

- *“Expectations Disconfirmation, Expectations Anchoring and Delivery Process”* (in England against service and households refuse collection) (David, 2007).
- *“Total Quality Management”* (in Malaysia) (Common, 1999).
- *“The Results-Oriented Management Initiative”* (in Uganda) (Langseth, 1995).
- *“Privatization & Downsizing”* (in UK and New Zealand in converting service departments into free-standing Agencies or enterprise, whether within civil service or outside it altogether) (Polidano, 1999).

Because market-driven management seeks to create internal and external competition for budgetary resources in order to decrease X-inefficiency and budget-maximizing behaviour, then Čiarnienė et al., (2006) commented, that for an organisation to become “High Performance” public organisation is need to spot the following aspects to their organisation:

- Vision, mission, and goal directed with continuous improvement.
- Preference to multi-skilled worker.
- A flatter and more flexible one replaces the tall and rigid organisation hierarchy.
- Job enrichment and dispersed decision making which as a result of policy promoting continuous learning at all organisation levels.
- Managerial control is maintained less by exercise of formal authority.

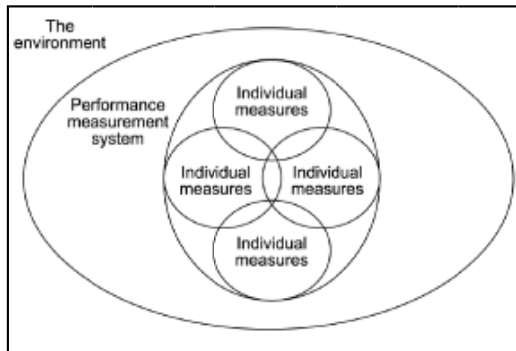
With the critical success factors that must be met (Radnor, 2006) as follow:

- (Developing) Organisational readiness
- Organisational culture and ownership
- Management commitment and capability
- Adequate resources fund initial changes and external expertise that will create ongoing internal skills and competences.
- Clear communication process and engagement
- Strategic deployment and management of lean activities (strategic approach)
- External support
- Teamwork



- Timing

Performance control system can serve two purposes, to measure and to motivate (Mintzberg, 1978). The firm becomes what it measures (Hauser & Katz, 1998). Measurement has become such an accepted approach within organisations that considerable effort is expended in trying to identify “What” can be measured and “How” to measure it. Every measurement activity incurs costs to both implement and maintain. Few individual performance measurements will be integrated into a performance measurement system. This is shown in figure 2.



**Figure 2:** Individual measures when integrated will develop a performance measurement system (Adapted from Neely et al., 2000)

## 2.2 Problems of Lean Implementation in Public Sector

Of course, there are obstacles to overcome. Applying lean is difficult in the private sector, and more so in the public sector. The biggest challenge they faced in implementing organisational that need a change for lean organisation was in freeing up resources from existing activities to devote to new initiatives because public sector managers sometimes lack the skills, experience, and mind-set to take this approach (Bhatia and J. Drew, 2008). Organisational rigidity and silo structures and thinking tend to inhibit cooperation and communication throughout agencies, which make finding the necessary resources that much more complicated (AT Kearney Study, 2003). And therefore, the developers of a lean system should identify end-to-end processes from a customer’s perspective and then design and manage the system to keep information and materials flowing smoothly through those processes.

When performance measurement is used primarily to assist administrators to manage their agencies, the task of developing them is more likely to be seen as an investment. However, when the development of performance measurement is imposed from the outside, even though



it may help internal accountability, it is more likely to be seen as a means of assuring external accountability, and thus may meet resistance (Townley and Cooper, 1998). These problems result from the nature of the metrics or the instruments used for benchmarking and assessing change in performance, the political context of agency operations and the possible dysfunctions of performance measurement (Halachmi, 1996; Halachmi & Boorsma, 1998).

Like experience elsewhere, lean in the public sector is not a quick fix, yielding results steadily over a long implementation time span. Anyhow, there is need for many organisations which adopt lean immediately to possess the change management experience or the right leadership style to make the transition straight away (Radnor, 2006) since most public organisations do not have agility or frontline empowerment to respond to changing demands of their customers. This is due to the customer to government usually has no choice of provider.

As the key characteristics of lean organisation is its ability to improve itself constantly by bringing problems to the surface and resolving them, then a system masks which underlying problems in many organisation that keep their "water levels" high and deal with problems drive the managers in public sector are often temptation to add something to the system (e.g. installing expensive IT systems, whereas this tempted could be failures. Huge benefits probably would have been more likely even without the new IT systems if government managers had tackled the underlying problems).

Successful lean transformations must close the capability gap early in the process, so managers and staff can make the transition to a new way of working. This because lean requires more than the courage to uncover deep-seated organisational problems; it may call for the ability to deal with job losses as well. A lean process requires a performance-tracking system that breaks down top-level objective into clear, measurable targets that workers at every level must understand, accept, and meet.

The overriding purpose of a lean system is to configure assets, material resources, and workers in a way that improves the process flow to the customer's benefit while minimizing losses caused by waste, variability, and inflexibility. In order to become fully lean, an organisation must understand lean as a long-term philosophy where the right processes will produce the right results and value can be added to the organisation by continuously developing people and partners, while continuously solving problems to drive organisational learning (Liker, 2004). While

there is no exact definition for a fully lean organisation, it is important that an organisation must understand and apply all of the practices and principles. It must also understand that lean thinking, which affects the whole organisation model, is the key and not solely leaner production, where only parts of the whole lean philosophy are applied.

However, the major difficulties an organisation encounter in attempting to apply lean are a lack of direction, a lack of planning, and a lack of adequate project sequencing (Bhasin & Burcher, 2006). This is because, since decades ago the lean concepts were viewed as a counter-intuitive alternative to traditional manufacturing model proposed (Womack et al., 1990). The concept of waste has not yet been effectively extended to the self-defeating behaviours of individuals and groups of people in the workplace (Emiliani, 1998).

Pullin (2002) insists, that to reap the full benefit, we need to view lean as not as an abstract philosophy, but one which include both concepts- a philosophy, and practices, tools or processes. In addition, Tony and Tonchia (1996) commented, in lean production, management by process is an organisational method the aim of which is to carry out, at the same time, several performances, including their continuous improvement, by means of an organisation structure operation flows oriented towards results and flexible with regards to changes.

As what Flamholtz (2001) explained, there appear to be four key areas in which all organisations must manage their culture or values:

- The treatment of customers
- The treatment of an organisation's own people or human capital.
- Standards of organisational performance
- Notions of accountability

Barnes et al., (2001) said, the key shift for organisations in the increasingly competitive operating environment revolves around the heightened emphasis on the concepts of upgrading, and the different conceptualization of what value means for manufacturing firm. In addition, Parker (2003) said, when lean production is introduced, it is often accompanied by modifications that adapts it to local conditions. And therefore, lean organisation can also vary in how it's implemented. Gates and Cooksey (1998) realized, that the conventional approaches that over-rely on single-loop learning process which ignore dynamic complexities in the human condition and in organisation system, has failed to take into account the more demanding experiential side of

human learning and development which may be just as important as the rational approach which so often capture the delivery agenda. Importantly, new skills demands are no skills longer solely technical. There is now a strong emphasis on the development of the 'softer' skills that are required for increased team-working, the acceptance of increased responsibility, and the new focus on the communication and transmission of knowledge and ideas both within and without the organisation.

Emiliani (1998) defines repeated mistakes as another primary type of waste and argues that a business that is unable to learn and change its behaviour will, "no doubt, risk the future existence of their entire enterprise as currently governed". In a lean organisation, learning continues, since "lean is a continuum and not a steady state" (Liker, 1998).

### **3.0 PEOPLE DEVELOPMENT SYSTEM AS LEAN SOLUTION IN PUBLIC SECTOR**

Various strategies for the improvement process could be developed to identify if and how this could be achieved (Kaplan & Norton, 2000). In this way, the local set of performance measures for the improvement process (and subsequent emergent organisation) would be fully aligned with the organisational aims. In effect, the supply chain of the improvement/change processes is the strategy for transforming the organisation from its current capability, to the level of performance that is required to ensure future organisational success.

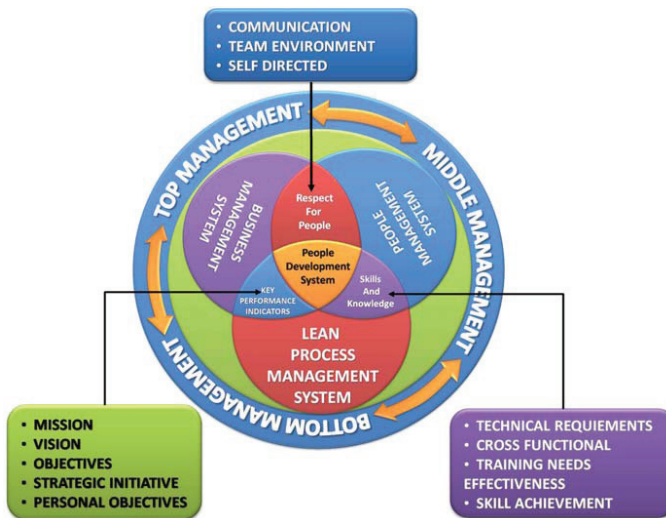
The goal of becoming a fully lean organisation can only be reached if the employees are well aligned with the new philosophy. A like in the production organisation that Gagnon and Michael's (2003) studied, "Employees who are not well aligned with a philosophy will exhibit lower levels of desired attitudes and behaviours". Since lean thinking requires a great level of employees' involvement and change in attitude and behaviours, strategic employees' alignment plays an important role in the quest to become lean. To ensure employees alignment, it is particularly crucial to have open, honest communication, and delegation of authority (Gagnon & Michael, 2003; Spear & Bowen, 1999).

Although lean thinking is a buzzword, the lean philosophy, practices and principles offer public sector a potential mechanism for improving performance. Since the improvement work begins at the point and requires full involvement of organisation employees throughout the

service, then it is needed the philosophy that personal organisation, neatness, cleanliness, standardization, and discipline form the foundation for achieving high quality standards in the production of goods and services from a well organized working environment (O'hEocha, 2000).

As what was studied about a lean process point of view in aerospace company, A.P Puvanasvaran et al., (2008) suggested the people development system can be implemented in the manufacturing environment to eliminate wastages:

- To enhance problem solving capability among employees at all levels.
- To get total commitment of employees from top to bottom.
- To create lean behaviours among employees and become change agent with the lean culture.
- To produce workers with skills and knowledge in using lean tools and techniques.
- To increase CI (Kaizen) Activities.
- To work towards Vision and Mission of company and Integrate LPM in company strategy to work towards achieving business goals and be cost competitive.



**Figure 3:** PDS Framework for enhance problem solving capabilities among employees  
(Adapted from A.P. Puvanasvaran et al., 2008)

By adopting the lean concept into means of people as an essence of

lean spirit from People Development System as a part of People Management System, Lean Process Management System, and Business Management System (as show in figure 3), where the aspects of Skill & Knowledge, Respect of People, and Key Performance Indicator are integrated in performance measurement of public sector organisation effectiveness, then the objective of the lean process management system can be channeled into identified and eliminated wastages by removing non value added activities through the domain as follow as:

### **3.1 People Management Systems (PMS)**

People management systems are those activities, practices, and procedures that will empower the company's people. And therefore, People Management Systems need to provide the capability for rapid improvement and adoption to change. They provide the direction and challengers in the development of people. This system assists the employees in the implementation of the company's business plan. Included in such system are employee education program, focused involvement teams, and self-directed work groups. People Management System reduces the 'red tape' typical of most traditional companies. They allow decision making to be leveraged and made at the lowest level that is realistically possible. In order to realize this tremendous benefit, people need to arm with clear objectives and proper skill sets. Unfortunately, these requirements are not common in the classic pyramid type of organisation structure.

### **3.2 Lean Process Management System (LPM)**

The objective of the Lean Process Management System is to identify and eliminate wastages by removing non value added activities. Lean Process Management System enables any types of organisation to reduce or eliminate wasteful practices. In addition, it is used to establish standardized conditions and methods to eliminate opportunities for waste.

### **3.3 Business Management Systems (BMS)**

Business Management Systems are the company's practices, policies and procedures. They plan and direct the activities of the organisation's personals in applying company resources to satisfy customer requirements. These systems include a company's compensation and reward system, organisational structure, distribution systems and management of supply chain. Business management system are critical because no company has unlimited resources. The winners in competition are those who understand how to maximize the amount

of value they add while minimizing the resources they require to add this value. The most precious resources in today's manufacturing and business world in general is time. The objective of the business management system is to apply carefully the organisation's limited resources, including capital and hard assets as well as time and human assets.

### **3.4 Key Performance Indicator (KPI)**

Systematically implementing improvement actions based on customer expectation and strategic decisions through business processes, and prioritizing improvement actions that definitely contribute to strategic objective of process management. KPI carry out for every level such as company, department, section and individual levels which is link towards organisation goal. Workers initiatives and combined with their enablers directly linked down the strategy of those activities at the operating level of the organisation which contribute most to public service excellence.

- Two of the features are emphasis based on clear targets and common understanding of direction which involves a unifying picture to hold the improvement programmed together and consistent focus on improvement which means using the picture identified above and using previous improvement activities to direct new activities.
- The goal setting and timely feedback will lead to improved work performance, greater efficiency, and the establishment of more challenging goals. It provides significant insight into ways to improve productivity through the use of goal setting and performance feedback implemented by information systems.

### **3.5 Respect for People (RFP)**

Respect for people which mainly focuses on the lean behaviours that each employee in organisation should build in their mind. Top managers who practice lean management must make greater efforts to ensure that they understand the true meaning of kaizen – “change for the better” – and the “continuous improvement” and “respect for people” principles. Because success with lean can be limited unless recognize the behaviours of employees that changes in business process, the model serves as a foundation for those familiar with world



class manufacturing methods to focus on self-improvement efforts and useful as a mnemonic device to simplify the difficult task of personnel development, as well as ensure consistency between business process and group of individual behaviour.

- Behaviour is important to change culture to sustain implementation of lean concept, preferably is the behaviours that add or create value by minimization of waste associated with arbitrary or contradictory thought and actions that leads to defensive behaviour, ineffective relationship, poor co-operation, and negative attitudes. Fat behaviour is defined as behaviours that add no value and can be eliminated. They include the display of irrational and confusing information that results in delays or work stoppages, or the articulation of unsubstantial subjective thoughts and opinions. It clearly states that common fat behaviours that result in waste and selected lean behaviours that promote flow between people.
- Many efforts failed due to the behaviour of management. Employees will follow the management behaviour if they are ordered to do new things. There are seven best practice components must be present in order to apply lean. They are environment change, leadership, culture, employee empowerment, training, communication, measurement. These components first bring changes in the management's behaviour which will then influence the employees to practice the seven components. A cocktail of factors for lean success is focused not only on the necessity to implement most of the technical tools, but an organisation's culture too needs transformation.

### **3.6 Skill and Knowledge (S&K)**

Skill and Knowledge for employees will support them in practicing lean concept effectively and efficiently by utilizing the lean tool and techniques. Learning and application of a few significant techniques to improve basic practice in company, which produce large volume, high quality by identifying opportunities for improving operational efficiencies including analysis of current processes, identification of non-value -added activities including wastes and proposing process change. And therefore to be successful, a company must educate their



workforce and create a fulfilling work environment for each of their employees. Because their involvement is essential and critical in today's society and gaining workers' trust and commitment is extremely important.

- The successful implementations of lean rely on well-trained employees. In a lean environment, training is necessary in order to develop a workforce which is capable of shouldering the increased responsibility, to develop multi-skilled workers, and to create an environment in which workers have the skills and ability to push for continuous improvement.
- The structuring process improvement efforts to deepen problem solving skill require managers to reshape their roles. Therefore, it has become essential for managers to develop "dynamic capabilities" so that their organisations could adapt to and exploit changes in the competitive environment".

People management systems need to provide the capability for rapid improvement and adoption to change. It is important that Key Performance Indicators and their relative components to be identified where they should be used as a performance management tool. After the Key Performance Indicator has been defined and a way to measure it has also been determined, a clear target has to be demarcated which should be understandable to everyone. The target should also be specific so that every individual can take actions towards accomplishing it. Best ways to represent variance (from the target levels) should be defined, eventually making sure that everyone in the organisation is focused towards meeting target levels of the Key Performance Indicators. Key Performance Indicators are quantifiable measurements, agreed to beforehand, that reflect the critical success factors of an organisation. They will differ depending on the organisation such as mission, vision, core value, objective, strategy, strategy initiative, and personal objective towards respectively QCDAC (Quality, Cost, Delivery, Accountability, and Continuous Improvement).

Emiliani (1998) said, shop productivity takes precedence over behavioural productivity because money, defects, inventory, and time are much easier measure. Customer value may drive continuous improvement of quality because it exists in several modes (i.e. added value, perceived value, and received value), which is due to the fact that customer value occurs in several contexts and the term 'customer' usually refers to a heterogeneous groups of people and sometimes involves several customer tier (Setijono & Dahlgard, 2007).

The following key characteristics, Critical Success Factor (CSF) and related performance metrics are identified as crucial in people development system of lean process management as in Table 1 below.

**Table 1:** An analytical framework for measuring problem solving capability in lean process management (Adapted from A.P. Puvanasvaran et al., 2008)

Key characteristics of integration elements	Critical success factors (CSF) of People Development System (PDS)	Performance Matrix
<b>KPI</b> Mission Core Value Vision Objective Strategy Strategy Initiative Personal Objective	Customer Satisfaction On Time Delivery Zero Defect Cost reduction Effective Operation Cost	Achievements of KPI for each level versus goal/target. <ul style="list-style-type: none"> <li>• Productivity</li> <li>• Customer complain</li> <li>• Scrap/Number of reject</li> <li>• Attendance/ Absenteeism</li> <li>• Tardiness (Schedule time)</li> <li>• Using QCDAC principles</li> </ul>
<b>Respect for people</b> Team Environment Self Directed Communication	Top Management Commitment Team effectiveness/formation Ideas cost or value Continuous improvements Lean Behaviors Rewarding system	<ul style="list-style-type: none"> <li>• Number of ideas generated</li> <li>• Level of people involvement</li> <li>• Usage of lean tools</li> <li>• Total cost saving projects</li> </ul> Measured by Likert-type scale on the following items: <ul style="list-style-type: none"> <li>• Top Management Commitment</li> <li>• Lean behaviors</li> <li>• Achievement of Leanness level</li> </ul>
<b>Skill and Knowledge</b> Technical Requirements Cross Functionality Training Needs & Effectiveness Skill Achievement	Produce skilled, knowledgeable and innovative employees	<ul style="list-style-type: none"> <li>• Lean tools and techniques assessment</li> <li>• Employee skill metric</li> <li>• Audit by 3<sup>rd</sup> party or customers on lean practice</li> </ul>

- KPI in lean process management determination through Mission, Core Value, Vision, Objective, Strategy, Strategy Initiative and Personal Objective for people development system is crucial. This will align overall workforce of the company to follow for one common goal. Each level has its own portion of contribution towards the target. The results are compared with the target or goal used to measure the success of KPI. The accumulation of success from each portion will reflect the overall achievement of the company goal.
- Respect for people in lean process management is crucial factor in developing the lean culture throughout organisation. In order to measure the

lean behaviours, top management commitment, leanness level of the company and perception of team member's capability. For example, through survey the managers rate the degree of support by top management. Thus, the problem solving capability also can be measured by counting the number of ideas generated, level of people involved, and the total cost of the project.

- Skill and Knowledge in lean process management is the fundamental requirement for employees to equip themselves in performing well for solving problem by identifying and eliminating wastages. For example, using of lean tools and assessment techniques for assessment criteria to determine the level of implementation. Another measurement is by using employee skill metric that emphasized on employees skill and their cross functionality.

#### **4.0 CONCLUSION**

The development of performance measurement towards public sector which is imposed as part of lean implementation may meet resistance. And therefore, the improvement in performance across a range of business, technical, and human factors in public sector is who their top managers led the lean transformation through direct participation and consistent' application of both principles: "continuous improvement" and either explicitly or implicitly, "respect for people" where the managers directly participating in kaizen and other process improvement activities (Emiliani, 2006). If the focus is on improving people, a likely outcome is that those people will possess the right skill set to continue improvement activities on other processes even though these varied accounts toward the effective and behavioural aspects of lean which are largely as important as its cognitive dimension when it comes to implementing it (Balle, 2005), since the lean implementation in the public sector is not a quick fix and the lean itself as a long-term philosophy to drive organisational learning in problem solving capability.

Fundamentally there is general agreement with the point of view, and in fact, the few companies (even public sectors) that have successfully implemented lean in some of their operations have approached it as a system, rather just a tool box. This fact has been noted by many, but

beyond the obvious need for management commitment, the reasons why lean proves so hard to implement are due to understanding the puzzle of lean implementation (Balle, 2005). This further requires the organisation to rethink their definition of success and they evaluate managers. Because a true lean organisation focuses first on improving people, recognizing that a workforce with a higher skill set will accelerate any program of continuous process improvement (Veech, 2004), and all employees are experienced and working at the top of their learning curve (Womack and Jones, 2005), such as leadership, consensus building, coaching, motivation and rewards (Emiliani, 1998). One of the most important systems principles is never to improve performance of a part unless it improves the whole (Alford, 2002). This is a fundamental shift in attitude for leaders. *“You should not manage people who know how to do their job better than you do in the same way you manage people who don’t.”*

Indeed, we need to unify the two parts of our own heads – the way we think and act as consumers which conflicts sharply with the way we think and act in our other role as provider. And therefore, what we need is to move ahead with a grander vision of consumption and provision as a shared process that is clearly visible to everyone and in which problems are jointly defined and resolved (Womack and Jones, 2005), where the framework of quality improvement starts with an assessment of the product’s (services) competitiveness in providing customer value relative to competition related to Key Performance Indicator and Key Improvement Indicator (Setijono & Dahlgard, 2007) based on Critical Success Factor. Thus, this reason will shift the performance measurement system that drive the individual and organisation behaviour which affects to their public sector organisation abilities to achieve its strategic objectives since the developing performance measures are intended to align with the objectives which plays a crucial role in accomplishing long-term goals (Cochran et al., 2000).

The proposed People Development System framework in this paper is expected to contribute to the public sector as a pillar to implement Lean Process Management and continue to be competitive in terms of the service provider. This People Development System will act as a package to continuously develop their employees with all the needs base on the review that have gathered to be successful organisation. There is a potential for the implementation of this People Development System framework in the public sector beside manufacturing industries which have been proven working.

## REFERENCES

- Ackoff, R.L. (2003). Creating a Competitive Strategic Advantage. *Journal of Innovative Management*. Vol.9, No.1 (Fall 2003).
- Alford, J. (2002). "The Implication of 'Publicness' for Strategic Management Theory" in Scholes, K. and Johnson, G.: *Exploring Public Sector Strategy*, Financial Times, Prentice Hall, Harlow, 1-16.
- A.P. Puvanasvaran, Megat, M.H.M.A., Tang S.H, Muhamad, M.R, Hamouda, A.M.S., (2008). "A Review of Problem Solving Capabilities in Lean Process Management" *American Journal of Applied Sciences*. Vol.5 No. 5, 504-511.
- Balle, M. (2005.) Lean Attitude. *IEE Manufacturing Engineer*. April/May, 14-19.
- Barnes, J., Bessant, J., Dunne, N., and Morris, M.. (2001). Developing Manufacturing Competitiveness within South African Industry: The Role of Middle Management. *Technovation*, Vol. 21, 293-309.
- Bhasin, S. and P. Burcher. (2006). Lean Viewed as a Philosophy. *International Journal of Manufacturing Technology Management*, Vol.17, No.1, 56 -72.
- Bhatia, N. and Drew, J. (2008) Applying Lean Production to Public Sector. Articles in [http://www.mckinseyquarterly.com/Public\\_Sector/Applying\\_lean\\_production\\_to\\_the...](http://www.mckinseyquarterly.com/Public_Sector/Applying_lean_production_to_the...) (access on August, 11, 2008).
- Bridgman, P. (2007). Performance, Conformance, and Good Governance in the Public Sector. *Key Issues: Risk Management – Keep Good Companies*, April 2007, 149-157.
- Čiarnienė, R., Sakalas, A., and Vienažindienė, M. (2006). Strategy Personnel Management in Public Sector: The Case Study of Kaunas Municipality. *Engineering Economics*, Vol.47, No.2, 62-69.
- Cochran, D.S, Kim Y.S., and Kim J. (2000). The Impact of Performance Measurement on Manufacturing System Design. *1<sup>st</sup> International Conference on Axiomatic Design*. Cambridge, MA. (June 21-23, 2000).
- Common, R. (1999). Accounting for Administrative Change in Three Asia-pacific States: The Utility of Policy Transfer Analysis. *Public Management* Vol.1, No. 3, 429-438.
- David, F. (2007). Professional Fellowship: Models Measurement and Inference in Social Research. *Full Research Report, ESR End of Award Report, RES-153-25-0036*, Swidon: ESRC, 22-45.
- Emiliani, M.L. (1998). Continuous Personal Improvement. *Journal of Workplace Learning* Vol.10, No. 1, 29-38.
- Emiliani, M.L. (2006). Origins of Lean Management in America. *Journal of Management History* Vol. 12, No. 2, 167-184.
- Famholtz, E. (2001). Corporate Culture and the Bottom Line. *European*

- Management Journal, Vol.19 No.3, pp.268-275 Veech, D.S. (2004). A Person-Centered Approach to Sustaining a Lean Environment-Job Design for Self-Efficacy. *Defense Acquisition Review Journal*, August-November, 159-171.
- Gates, G.R. and Cooksey, R.W. (1998). Learning to Manage and Managing to Learn. *Journal of Workplace Learning*, Vol.10, No.1, 5-14.
- Gagnon, M.A., and Michael, J.H. (2003). Employee Strategic Alignment at a Wood Manufacturer: An Exploratory Analysis Using Lean Manufacturing. *Forest Products Journal*, Vol.53, No.10, 24-29.
- Ginakis, G.A. (2002). The Promise of Public Sector Performance Measurement: Anodyne or Placebo? *Public Administration Quarterly*, Vol.26, No.1, 34-64.
- Greiling, D. (2005). Performance Measurement in the Public Sector: the German Experience. *International Journal of Productivity and Performance Management*, Vol. 54, No.7, 551-567.
- Halachmi, A. (1996). "Promises and Possible Pitfall on the Way SEA Reporting," in Halachmi, A., and G. Bouckaert (Eds.) *Organisational Performance and Measurement in the Public Sector*, Quorum Books, Westport, CT, 77-100.
- Halachmi, A. (1997). Government Reform and Public Productivity: Do We Have All the Answer? *Work Study*, Vol. 46 No.7, 233-245.
- Halachmi, A. and Boorsma, P.B. (1998). Intern-and Intra-Government Arrangement for Productivity: *An Agency Approach*, Kluwer Publisher, Boston, MA.
- Halachmi, A. (2002). Performance Measurement and Government Productivity. *Work Study*, Vol. 51, No.2, 63-73.
- Hauser, J.R., Katz, G.M. (1998). Metrics: You are what you measure!" *European Management Journal*, Vol. 16 No. 5, pp.517-28.
- Kaplan, R.S. and Norton, D.P. (2000). *The Strategy Focused Organisation*. HBS Press, Boston, USA.
- Knox, G. and Z. Qun. (2007). Building Public Service-Oriented Government in China. *International Journal of Public Sector Management*, Vol. 20, No.5, 449-464.
- Langseth, P. (1995). Civil Service Reform in Uganda: Lessons Learned. *Public Administration and Development*, No.15, 365-390.
- Liker, J.K. (1998). *Becoming Lean: Inside Stories of U.S. Manufacturers*. Portland, Oregon, Productivity Press.
- Liker, J.K. (2004). *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*. New York: McGraw-Hill.



- Matheson, A. (1998). Managing Public Service Performance: Some Ideas from the Commonwealth. Paper to the Commonwealth Advanced Seminar on Setting Agenda for Public Service Reforms, Wellington.
- Mintzberg, H. (1978), "Patterns in strategy formulation", *Management Science*, Vol. 24, No. 9, 934-48.
- Neely, A.D., Mills, J., Platts, K., Richards, H., Gregory, M., Bourne, M. and Kennerley, M. (2000). "Performance measurement system design: developing and testing a process-based approach", *International Journal of Operations & Production Management*, Vol. 20, No. 10, 1119-45.
- O'hEocha, M. (2000). A Study of the Influence of Company Culture, Communications and Employee Attitudes on the Use of 5Ss for Environmental Management at Cooke Brothers Ltd.: *Case Studies*. The TQM Magazine, Vol.12, No.5, 321-330.
- Parker, S.K. (2003). Longitudinal effects of Lean Production on Employee and the Mediating Role of Work Characteristics. *Journal of Applied Psychology*, Vol.88, No.4 620-634.
- Polidano, C. (1999). The New Public Management in Developing Countries. *IDPM Public Policy and Management Working Paper No.13*, November 1999.
- Pullin, J. (2002). In pursuit of Excellence. *Professional Engineering*, Vol.15, 1-6.
- Radnor, Z. (2006). Can the Public Sector Become Lean? Warwick Business School Articles in <http://www.wbs.ac.uk/news/releases/2006/06/16/can/The/Public>.
- Read, C. (2008). Applying Lean in the Public Sector: How We Use Lean Manufacturing Techniques in Government Departments. 10 May 2008. Article in [http://customermanagement.suite101.com/article.cfm/applying\\_lean\\_in\\_the\\_public\\_sector](http://customermanagement.suite101.com/article.cfm/applying_lean_in_the_public_sector).
- Riga. (2000). Activities for Public Service Quality Improvement in Public Administration Institutions of Latvia. The 8th NISPACEE Annual Conference. Working group of Better Quality Administration for Public.
- Setijono, D. and Dahlgaard, J.J. (2007). Customer Value as a Key Performance Indicator (KPI) and a Key Improvement Indicator. *Measuring Business Excellence*, Vol.11, No.2, 44-61.
- Spear, S.J., and Bowen, H.K. (1999). Decoding the DNA of the Toyota Production System. *Harvard Business Review*, Vol. 77, No. 5, 96-106.
- Toni, A D. and Tonchia, S. (1996). Lean Organisation, Management by Process and Performance Measurement. *International Journal of Operations & Production Management*, Vol.16, No. 2, 221 -236.



- Townley, B. and Cooper, D. (1998). Performance Measures: Rationalization & Resistance. A Paper for Performance Measurement: Theory and Practice Conference, Cambridge University, Cambridge, July 17.
- UN Expert Group Meeting. (2003). Improving Public Sector Effectiveness. 42<sup>nd</sup> Session of the Commission for Social Development Priority, Dublin Ireland, 16-19 June.
- Veech, D.S. (2004). A person-Centered Approach to Sustaining a Lean Environment-Job Design for Self-Efficacy. *Defense Acquisition Review Journal*, August-November, 159-171.
- Womack, J.P. and Jones, D.T. (2005). *Lean Solution*. New York: Free Press Pubs.

