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A comprehensive Study on Standardization & its Quantifiable Benefits for Telecom Engagement in the Managed Services Area

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ABSTRACT

This Paper gives an insight to deal with the customer expectation to any service provider to effectively work along with all vendors to ensure business growth and running despite multiple challenges like insufficient SOPs, Frequent Major Incidents leading Outage due to inadequate monitoring, Unavailability of knowledge base, Manual reporting, low indent resolution productivity. Moreover it gives an insight into the benefits of Standardization. Here it is worth mentioning that standardized work routines are suggested, approved, and overseen by managers and supervisors but are developed by the team members performing the work. The objective of standardized work is the removal of the eight Lean wastes at the process level while ensuring project/product quality and leading productivity improvements. Standard work describes the way in which task should be performed to achieve highest level of efficiency and quality. In this way Standard work is the foundation for continuous improvement.

INTRODUCTION

In today's world of Globalization and Technology, many of the Programs we are getting into area of Managed Services e.g. application, Infrastructure support etc. These programs are huge in nature (cost, Impact–Business, Users, Geographies, Stake holders etc.). Successes of these Programs are extremely critical for the Customer as it impacts their competitiveness in the market. The difference today is that empowered consumers (B2C) and buyers (B2B) are demanding more. Not just in lower price, but in better service as well.

According to **Thomas H. Davenport**, three things must happen in order for your business and its outsourcing capabilities to function properly. An excerpt from Harvard Business Review in 7/11/2005, A business process is simply how an organization does its work—the set of activities it pursues to accomplish a particular objective for a particular customer, either internal or external. Processes may be large and cross-functional, such as order management, or relatively narrow, like order entry (which could be considered a process in itself or a sub process of order management).

Firms seek to standardize processes for several important reasons. Within a company, standardization can facilitate communications about how the business operates, enable smooth handoffs across process boundaries, and make possible comparative measures of performance. Standard processes also allow easier outsourcing of process capabilities. Therefore, organizations need a set of standards for process activities so that they can communicate easily and efficiently when discussing outsourced processes.

A second set of needed process evaluation approaches are process performance standards. Once companies in a particular industry achieve consensus about which activities and flows

constitute a given process, they can begin to measure their own processes and compare their results with those of external providers.

Finally, organizations need a set of process management standards that indicate how well their processes are managed and measured and whether they're on course for continuous improvement. Because this third type of process standard doesn't require consensus on process activities and flows, it is the easiest to create and the most widely available today. Process management standards are based on the assumption that good process management will eventually result in good process flows and performance. In some domains such as information technology and manufacturing, these standards are already in wide use (via the Software Engineering Institute's Capability Maturity Model and the ISO 9000 series, respectively). They are beginning to lead to the commoditization of capabilities that will eventually transform organizations. [...]

According to a research into the organizational value of IT standards towards a company IT standardization management framework by **Robert Marinus van Wessel** "Standards can be both enabling and inhibiting at the same time. Enabling, as economies of scale can be exploited (e.g. network effects) and technological progress can unfold inhibiting, because changes may require large switching costs (lock-in, path dependency) or otherwise hamper technological progress."

Several authors (e.g. Bonino and Spring, 1991; David, 1995; Tassey, 1995; Hesser and Inklaar, 1997;Bird, 1998; Succi et al., 1998, De Vries, 1999; Brunsson and Jacobson, 2000) identified benefits of formal and informal standardization.

From the manufacturers/suppliers point of view, standardization:

1. Gives an enlarged market in which to sell or gives rise to new markets and strategies.
2. Allows introduction of new products without having to create a complete vertically or horizontally integrated system.
3. Results in fewer varieties of products that have to be kept in stock, maintained or serviced.
4. Improves the productivity by diminishing inefficiencies associated with trial and error processes.
5. Increases efficiency with respect to e.g. internal control, reporting and procurement.
6. Creates added value product features to win new customers rather that porting or resolving differences between products.
7. Leads, through competition, to potential new alliances and/or new standards.

From the customer/user perspective

1. Increased flexibility, allows communication among heterogeneous products; e.g. the ability to move applications and data from one system to the next.
2. Freedom of choice, allows moving complementary parts from one product to the other and mixing components from several brands to build systems best satisfying one's needs; e.g. buy the best solution from the best supplier at any given time and have all of the parts interoperate.
3. Lower costs of integration, because components are built on common, specifications and have been proved to interoperate. In addition, reduced testing and reduction of user training when products change.

4. Decreases prices, due to increased competition among manufacturers and suppliers and larger second-hand markets.
5. Easier purchase because the benefit from having a set of standards merged into a product standard, results in significant time and costs savings and attention can focus on the business-specific aspects of the purchase.

Other benefits include economies of scale / network externalities, lower transactional and operational costs, lower operational risk, improved process efficiency, and adhered performance in terms of quality, environment or safety.

According to IEEE standards are "An extensive study initiated by DIN (German Standards Institute) and the German Federal Ministry of Economic Affairs and Technology in 1997 was completed in May 2000". The study provides detailed insight into the economic benefits for standards—to businesses and to the economy. Highlights of the study include:

- Standards contribute more to economic growth than patents and licenses
- Standards play a strategic significance to companies
- Companies that participate actively in standards work have a head start on their competitors in adapting to market demands
- Research risks and development costs are reduced for companies contributing to the standardization process
- Health and safety standards and Safety Statement Standards
- Business that are actively involved in standards work more frequency reap short and long term benefits with regard to costs and competitive status than those who do not participate
- Participating in standards development enables one to anticipate technology standardization thereby facilitating one's products progress simultaneously with technology
- Leaders in technology should become more involved in standards
- Standards are a positive stimulus for innovation
- Standards are internationally respected

Outlined in this paper are:

- Customer Expectation on productivity improvement in the area of Manage Services
- What is Productivity?
- Standardization and its need
- How to establish a Standard
- Methodology used for standardization and driver for productivity improvement
- Analysis and Findings
- Approach Implementation
- Key Business benefits

A) Customer Expectation on Productivity improvement in the area of Managed Services

Mostly Global Customers are looking offshore company acts as partner…

The customer has multiple vendors engaged to deliver solutions which will enable the Supplier to do application management and infrastructure operations support to the end customer.

Organization has to effectively work along with all vendors to ensure business up and running by addressing below common problems

- Frequent Major Incidents leading Outage due to inadequate monitoring.
- Unavailability of Knowledge base for referencing earlier similar incidents.
- Insufficient SOPs
- Manual reporting
- Low incident resolution productivity
- Order failure

B) What is Productivity?

'Productivity' is about how well people combine resources to produce goods and services. For countries, it is about creating more from available resources – such as raw materials, labour, skills, capital equipment, land, intellectual property, managerial capability and financial capital. With the right choices, higher production, higher value and higher incomes can be achieved for every hour worked.

The Productivity Improvement Steering Wheel: 7 Powerful Steps Every Leader Can Take.

1. **Redefined Work**: You often hear people say, "I'm going to work," as if work was a destination. One way of obtaining higher performance from people is to move from viewing work as a place to instead viewing it as results that need to be accomplished, and for which someone is responsible. The Best Buy organization has found that productivity increases by approximately 35% when you take this approach of holding people accountable for outcomes, not merely to be "at work" for a certain number of hours.

2. **Make the targets highly visible and clear:** Nothing confuses people more and reduces productivity to a greater degree than murkiness about the objectives being sought. The simple process of reminding everyone of the target and asking team members to describe to each other their interpretation of the big goal is extremely powerful.

3. **Emphasize continuous improvement:** Everyone in the organization needs to know the organization aspires to continuously improve and to reach ever higher levels of performance. Adopt new technologies that enhance productivity and adopting methodology like Lean and Six Sigma.

4. **Convey infectious enthusiasm about your project**: Emotions are highly contagious. A leader's upbeat enthusiasm for a project causes others to put forth extra effort in its behalf. If the leader's goal is to increase discretionary effort, then the organization needs to feel enthusiasm emanating from their leaders.

5. **Treat colleagues at work with great respect:** The leader who poses important questions to subordinates and who listens to the answers will obtain higher levels of productivity than one who doesn't. The leader who invariably seeks a subordinate's opinion before expressing his or her own is far more likely to have high productivity from that individual.

6.Express appreciation and provide recognition: These simple acts take small bits of time, yet pay huge dividends. Frequent expressions of sincere appreciation from a leader create a positive work environment and have been shown to have a direct link to greater productivity.

7. Take an active role in the development of subordinate: Areas carving out time for ongoing coaching is highly correlated with the highest levels of employee productivity.

C) Standardization and its need: Standard work is the foundation for continuous improvement.

- Standard work describes the way in which task should be performed to achieve highest level of efficiency and quality
- Creating standard work will defining the task with boundaries
- Gathering best practices
- Training employees and supervisors
- Pilot the standard approach and make improvements as necessary

The key to standard work is to keep it clear and simple, so that the team members can quickly and accurately complete their work moreover it Maximize efficiency, minimize waste. In other words we can say that without standardization, one cannot do long lasting lean kaizen, effective lean management or manufacturing process improvement.

D) How to establish a Standard

1. Collect data to find the most efficient work sequence.
2. Practice the sequence up to ten times. If employees can repeat it exactly and consistently, then it is a viable sequence.
3. Create a work standard to help employees repeat the optimum work sequence.

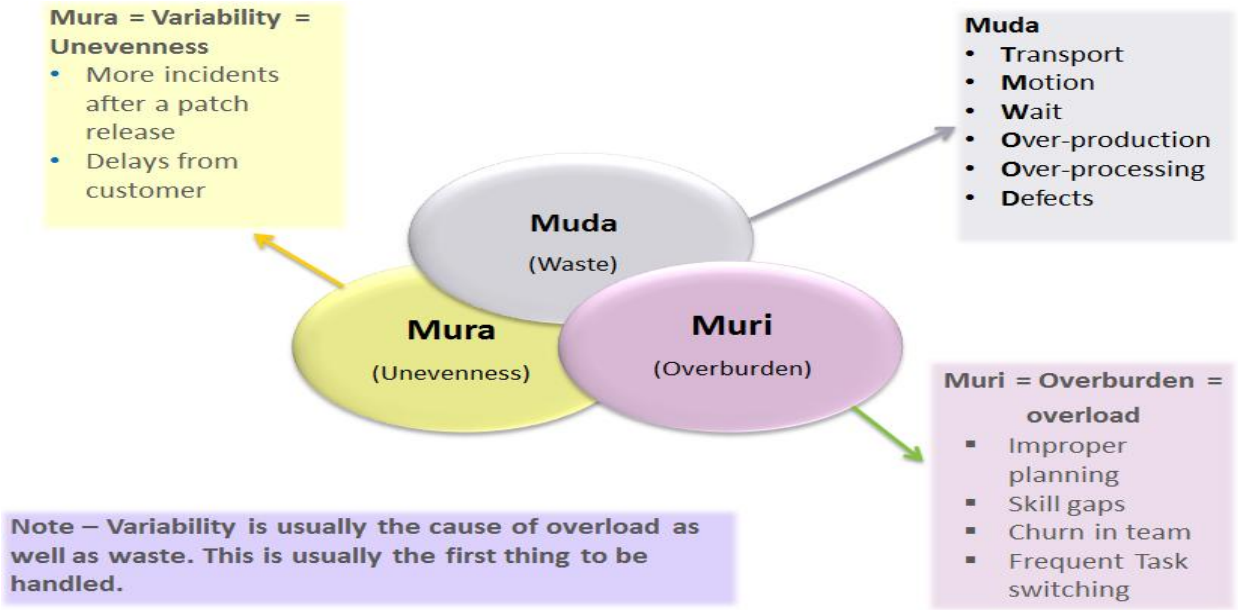
E) Methodology used for standardization and driver for productivity improvement

a) Value Stream and Value Stream Mapping

- Value creation happens through the Value Stream
- Value Stream includes the process through which value creation happens and the environment that has a bearing on it
- Efficiency in the value stream implies efficiency in operations
- Value Stream Mapping is a structured approach to record operational details information flows between the organization and the other stakeholders
- Depicts the way inputs flow through the system while getting transformed into final value deliverable
- Identifies inefficiencies in the entire Value chain
- Goal of VSM is to identify and decrease waste in the value stream

b) Waste Elimination-3 M

Next step to value stream mapping to find the non-Value added items to improve the process efficiency.



Picture-1: WASTE ELIMINATION TECHNIQUE

C) Visual Control:-Visual control helps in enabling the clear cut communication in the below scenario

- Make the performance, Problems, Abnormalities, or deviation from standards visible to everyone and thus corrective action can be taken immediately, where applicable
- Display the Process Performance .Operating Status and Progress Status in an Easy to see, Easy to Understand Format
- Convey Information and Provide immediate Feedback
- Alarm Monitoring

Picture-2: Live visual monitoring for the application health checks and order flow

d) Automation:-This tenet can explore for reducing the manual intervention, errors and failure. It also helps in increasing the compliance to standards

- Asses the operation using Value Stream Map and evaluate the Layout
- Identify Lean Automation Opportunities
- Reduce Repetitive Motion
- Improve Quality, Accuracy, Consistency, Speed, performance
- Implement Lean Automation

E) Analysis and Findings:- Regression equation on productivity built with influencing factors before applying the Lean Tenets

Regression Equation

Ticket Productivity = -0.522042 + 0.0603574 % KEDBUsage + SOP + 0.921121 Skill

Coefficients

Term	Coef	SE Coef	T	P
Constant	-0.522042	0.253908	-2.05603	0.070
% KEDBUsage + SOP	0.060357	0.021264	2.83847	0.019
Skill	0.921121	0.219893	4.18894	0.002

Summary of Model

S = 0.188005 R-Sq = 95.87% R-Sq(adj) = 94.96%

PRESS = 0.630378 R-Sq(pred) = 91.82%

Analysis of Variance

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Regression	2	7.39105	7.39105	3.69553	104.554	0.0000006
% KEDBUsage + SOP	1	6.77083	0.28478	0.28478	8.057	0.0194518
Skill	1	0.62022	0.62022	0.62022	17.547	0.0023448
Error	9	0.31811	0.31811	0.03535		
Total	11	7.70917				

Fits and Diagnostics for Unusual Observations

No unusual observations

- ✓ **P value is less than 0.05 so KEDB + SOP usage is the significant factor to work upon**
- ✓ **Other influencing factors for consideration are Automation of Manual Reports and skill improvements**

Statistical significance of improvements on outcome: Two sample T test conducted after applying Lean tenets

Two-Sample T-Test and CI: Ticket Productivity (Before), Productivity (After)

Two-sample T for Ticket Productivity (Before) vs Productivity (After)

	N	Mean	StDev	SE Mean
Ticket Productivity (Before)	12	1.358	0.837	0.24
Productivity (After)	12	4.017	0.204	0.059

Difference = mu (Ticket Productivity (Before)) - mu (Productivity (After))
Estimate for difference: -2.658
95% CI for difference: (-3.200, -2.116)
T-Test of difference = 0 (vs not =): T-Value = -10.69 P-Value = 0.000 DF = 12

***P value is less than 0.05 so Productivity improvement is significant**

Approach Implementation:-The actual Implementation can be done in following way

Corrective Action:

(a) Domain Knowledge and Application Knowledge:

- Training session conducted for the team members to enhance the knowledge
- SOP and SMTD revised after the major released
- KEDB implemented in the home developed tool
- Program Induction and onboarding process created to induct rookies and new comers
- Program Level Knowledge Management Portal created

(b) Automation and Standardization:

- Automation of Hourly reports sent to all stakeholders through a "Value Chain Monitoring" function that monitors all applications and infrastructure, as along with the received and processed orders for each hour
- Standardize internal Change Management Team to track the schedule and dependency of CR to avoid effort waste due to reschedule, cancellation of CRs
- Standardize and Develop Incident Common Structure in in the home developed Tool and Problem Management team maintain all the RCA done for future references in the same
- Development of Operation Readiness Checklist
- Alarm Notification functionality enhanced by using monitoring tool

Preventive Action:

Preventative Maintenance (including health-check and automated housekeeping scripts) across all applications and different environments to proactively identify application and/or infrastructure related challenges before services get disrupted

Conclusion

- ✓ Productivity on Incident resolution improved by 10%
- ✓ Order Success rate improved
- ✓ Improve Customer Relationship and stake holders confidence
- ✓ Team Spirit and motivated team
- ✓ Healthy Work environment

- ✓ No Blame Game
- ✓ Improve Revenue
- ✓ Improve Customer satisfaction
- ✓ Business Growth

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