OPM 6090: Technology Operations Management

Module 4 Worksheet: Value-based Decision-making in Technology Operations

Submit your completed worksheet in the "Assignment and Grades" tab in your course menu. When you have submitted this assignment for grading, please return to your module for a wrap-up.

Value-based Decision-making in Technology Operations	
Directions: Listen or read the transcript to the NUMMI podcast and respond to the provided prompts.	
Companies try to mimic but rarely achieve the efficiencies of Toyota. Why?	Toyota is often cited as a prime example of efficiency in the manufacturing and business world due to its renowned Toyota Production System (TPS) or Lean Manufacturing principles. While many companies attempt to replicate Toyota's success, they often struggle to achieve the same level of efficiencies for several reasons: Long history and continuous improvement: Toyota's efficiency is a result of decades of refining and perfecting their processes. The company has a deep-rooted culture of continuous improvement, where every employee is encouraged to identify and eliminate waste regularly. This long-standing commitment gives Toyota a substantial advantage over companies just starting to adopt lean principles. Cultural differences: Toyota's approach to management and employee involvement is deeply embedded in Japanese culture. Emulating this level of commitment and engagement may be challenging for companies in different cultural contexts where hierarchical structures and management styles differ. Comprehensive system thinking: Toyota doesn't focus solely on isolated improvements; instead, it emphasizes the entire production process and supply chain as a single interconnected system. Achieving this holistic perspective and aligning every aspect of the business is a complex task for many companies. Top-down and bottom-up approach: Toyota's efficiency success comes from a combination of top-down direction and bottom-up involvement. This means that leadership sets the vision and goals while empowering employees at all levels to contribute ideas and make improvements. Balancing these approaches can be difficult for other organizations.

	Short-term vs. long-term perspective: Some companies prioritize short-term gains over long-term efficiency. Toyota, on the other hand, has consistently demonstrated a commitment to sustainable and long-term improvements, even if it means sacrificing short-term profits. Organizational culture and resistance to change: Toyota's culture fosters a mindset of innovation, learning, and adaptation. Many companies struggle to overcome resistance to change and may face challenges in fostering a culture that embraces continuous improvement. Complexity of operations: Companies may have more complex operations or a diverse product range, which can make implementing lean principles more challenging. Toyota has the advantage of focusing on a narrower range of products and streamlining their processes accordingly. Inadequate understanding of lean principles: Some companies may adopt lean practices superficially without truly understanding the underlying principles. Successful implementation requires a deep understanding and commitment to the lean philosophy. Lack of leadership support: Without strong support from top management and a clear vision for efficiency improvements, efforts to mimic Toyota's efficiencies may falter. In conclusion, achieving the level of efficiency that Toyota has reached is a multi-faceted challenge that goes beyond just copying their practices. It requires a deep cultural shift, a long-term commitment to continuous improvement, and a comprehensive understanding of the principles that underpin Toyota's success (Karn, 2013). While it is possible for companies to improve their efficiency significantly by adopting lean principles, replicating Toyota's exact level of efficiency is a complex and demanding task.
What are the limitations of easily adapting TPS in a given organization?	While the Toyota Production System (TPS) has been proven to be highly effective in improving efficiency and reducing waste in manufacturing and other industries, there are several limitations and challenges that organizations may encounter when attempting to adapt TPS: Cultural differences: TPS is deeply rooted in Japanese culture and values, which may not align with the culture of the organization trying to adopt it. The principles of respect for people, long-

	term thinking, and consensus-based decision-making may clash with the existing culture, leading to resistance and difficulties in implementation. Resource and time constraints: Implementing TPS requires significant time, effort, and resources. Many organizations, especially smaller ones, may lack the resources or have tight production schedules that hinder the comprehensive implementation of TPS principles. Complexity of adaptation: TPS is a comprehensive system that involves various interconnected principles and practices. Adapting such a complex system in an organization requires a deep understanding of each component and how they interact. Without proper guidance and expertise, it can be challenging to implement TPS effectively. Resistance to change: Employees and management may resist the changes required to adopt TPS. Employees may fear job losses or have concerns about job roles changing, while management may be hesitant to alter established processes and structures. Lack of management commitment: TPS requires strong leadership commitment and support. If top management is not fully dedicated to the transformation and does not actively participate in the process, the initiative is likely to falter. One-size-fits-all approach: While TPS provides a robust framework, it may not be a perfect fit for every organization or industry. Each organization has unique processes, challenges, and goals, and blindly applying TPS without customization may not yield the desired results. Supplier and supply chain challenges: TPS involves close collaboration with suppliers and optimizing the entire supply chain. Coordinating with suppliers to align their processes with TPS principles can be difficult, especially if suppliers are not receptive to changes. Employee training and buy-in: Proper training is crucial for employees to understand TPS principles and how to apply them. Without adequate training and employee buy-in, the initiative is less likely to succeed.

	External factors: External factors such as economic conditions, market demands, and changes in customer preferences can influence the success of TPS implementation. Adapting to unforeseen external factors while implementing TPS can be challenging. Measuring success: Measuring the success and impact of TPS implementation can be complex. Traditional performance metrics may not accurately capture the improvements brought about by TPS, making it difficult to assess its effectiveness. In summary, while TPS offers numerous benefits, it is not a plug-and-play solution and comes with its limitations and challenges. Organizations need to carefully assess their readiness for TPS implementation, tailor the approach to their specific context, and address potential roadblocks to maximize its effectiveness.

5 TPS Practices

Identify five TPS practices you can use to influence change in an organization suffering from years of old habits (Example: GM) and explain why and how the practice is useful.

TPS Practice #1:

Explanation: Kaizen (Continuous Improvement):

Why it's useful: Kaizen is the foundation of TPS and encourages a culture of continuous improvement. It empowers employees at all levels to identify problems, suggest solutions, and make incremental improvements to processes and systems.

How to implement it: Encourage and reward employees for coming forward with improvement ideas. Establish regular Kaizen events where cross-functional teams address specific issues and work on finding solutions collaboratively. Create a mechanism for tracking and implementing suggested improvements.

TPS Practice #2:

Explanation: 5S Methodology:

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Why it's useful: The 5S methodology (Sort, Set in Order, Shine, Standardize, Sustain) helps create a clean, organized, and efficient workplace. It fosters discipline, standardization, and waste reduction. How to implement it: Start by organizing the workspace, removing unnecessary items, and ensuring everything has a designated place. Implement visual management techniques to make abnormalities quickly visible. Standardize the processes to maintain cleanliness and organization. Encourage employees to sustain the 5S practices through regular audits and feedback.
TPS Practice #3: Explanation: Value Stream Mapping (VSM): Why it's useful: VSM is a powerful tool to visualize the flow of materials and information through a process. It helps identify bottlenecks, waste, and opportunities for improvement. How to implement it: Conduct value stream mapping exercises to map the current state of key processes within the organization. Identify areas of waste and inefficiency. Create a future state map with optimized processes, focusing on improving flow and reducing lead times.
TPS Practice #4: Explanation: Just-In-Time (JIT): Why it's useful: JIT is about producing and delivering products exactly when they are needed, minimizing inventory and waste, and increasing responsiveness to customer demands. How to implement it: Gradually transition from batch production to JIT production. Implement pull systems like Kanban to control inventory levels. Collaborate closely with suppliers to establish JIT deliveries. JIT requires a cultural shift in the organization, emphasizing flexibility, rapid response, and a focus on customer needs.
TPS Practice #5:

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Explanation: Andon System:

Why it's useful: The Andon system is a visual signaling method that allows employees to stop the production process when they encounter an issue. It fosters a culture of stopping to fix problems immediately and emphasizes quality and continuous improvement.

How to implement it: Install Andon boards or visual signals in work areas. Train employees to recognize issues and use the Andon system to halt production when necessary. Establish problem-solving processes to address issues promptly and prevent their recurrence.

References

Provide 3 sources that you consulted to create your responses.	References 1. Bulsuk, Karn. "Why the Toyota Production System Doesn't Always Work for Others." *K Bulsuk: Full Speed Ahead*, 14 Mar. 2013, www.bulsuk.com/2013/03/why-toyota-production-system-doesnt.html#:~:text=While%20many%20companies%20attempt%20to. 2. Graphic Products. "Toyota Production System | Graphic Products." *Graphicproducts.com*, 2019, www.graphicproducts.com/articles/toyota-production-system/. 3. J, S. M. "Limitations of Toyota Production System (TPS) & Lean Manufacturing." *LeanSixSigmaMaster*, 3 Dec. 2021, www.leansixsigmamaster.com/post/limitations-of-toyota-production-system-tps-lean-manufacturing.

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Works Cited

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