

Principles as a bridge between theory and practice

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Agenda



- 1. Introduction
- 2. Method and approach
- 3. What are principles?
- 4. The history
- 5. What is not a principle?
- 6. Discussion of principles
- 7. Conclusion



"A leader leads by example, not by force."

Uncertain origin but often used as a Sun Tzu quote

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Method and approach

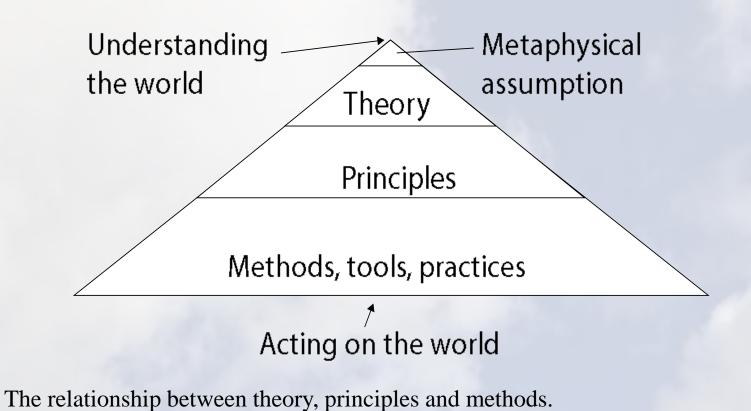


- Philosophical conceptualization
- Literature review
- Theoretical reasoning
- Discussion of the characteristics and what that means.

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What are principles?





Based on a similar figure by Koskela and Kagioglou (2005)

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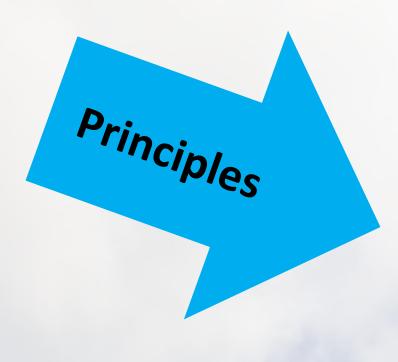
- Theory and/or practice based
- Deduced from logical thinking and induced from practical learning.

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What are principles?



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Skaar, 2019

Principles history from warefare



- Principles of War established to represents the "Art of War" (Griffith 1963)
- Two schools still debated in modern warfare (Bassford 1993):
 - Antoine-Henri Jomini: Static, absolute rules.
 - Carl von Clausewitz: Dynamic, principles should be used wisely, and action should be adjusted according to context.
- Henri Fayol took strategy from warfare to business and introduced principles for management. (Fayol 1916)
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Principles history towards lean



- The Principles of Scientific Management (Taylor 1911)
- Deming (1982), 14 points/principles for a new philosophy.
- Womack and Jones (1982) introduces 5 principles for lean.
- Liker (2004) introduces 14 principles for lean management.
- Ballard (2009) defines 5 principles that inspired the Last Planner System.

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What is not a principle?



- Scientific laws
- Absolute rules
- Methods and tools
- Should be action-oriented, not conclusive.

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Discussion of principles



- The fit between principles
 - Creates dynamic
 - · Different combinations and individual
- Represent lean theory?
 - Something more or something less?
 - Customized.
 - Process view vs substance view.
 - Yet to be phrased.
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Conclusion



- Guiding
- Dynamic
- Adjustable
- Durable
- Action-oriented
- Both prescriptive and descriptive capabilities
- Capacity to facilitate abductive reasoning
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References



- Ballard, G (2000). "The Last Planner System of Production Control.", Ph.D. dissertation, Univ. of. Birmingham, Birmingham, U.K.
- Ballard, G., J. Hammond and R. Nickerson (2009). *Production Control Principles*. 17th Annual Conference of the International Group for Lean Construction, Taipei, Taiwan.
- Bassford, C. 1993. Jomini and Clausewitz: their interaction. An edited version of a paper presented to the 23rd Meeting of the Consortium on Revolutionary Europe at Georgia State University. accessed at https://www.clausewitz.com/readings/Bassford/Jomini/JOMINIX.htm.
- Deming, W. E. (1982). "Out of Crisis" Mass. Institute of Technology, Center for Advanced Educational Services, USA.
- Fayol, H. 1916. "General principles of management." Classics of organisation theory 2(15): 57-69.
- Griffith, S. B. 1963. Sun Tzu: The art of war, Oxford University Press, London.
- Koskela, L. and M. Kagioglou 2005. On the Metaphysics of Production. 13th Annual Conference of the International Group for Lean Construction, Sydney, Australia.
- Liker, J. K. (2004). The Toyota way : 14 management principles from the world's greatest manufacturer, New York : McGraw-Hill.
- Skaar, J. (2019). The Power of Lean Principles. *Proc. 27th Annual Conference of the International Group for Lean Construction (IGLC)*, Dublin, Ireland.
- Talor Winslow, F. (1911). The principles of scientific management, Harper & Brothers, New York, London.
- Womack, J. P. and D. T. Jones 1997. "Lean thinking—banish waste and create wealth in your corporation." *Journal of the Operational Research Society* **48**(11): 1148-1148.