DIGITALCOMMONS
@WAYNESTATE

Wayne State University

Business Administration Faculty Research Publications

Business Administration

2020

Machine Learning in Manufacturing: Review, Synthesis, and Theoretical Framework

Ajit Sharma
Mike Illitch School Of Business, Wayne State University, Detroit, MI, ajit.sharma@wayne.edu

Zhibo Zhang
Manufacturing and Design Lab (MADLab), University at Buffalo, Buffalo, NY

Rahul Rai
Geometric Reasoning and Artificial Intelligence Lab (GRAIL), Clemson University, Greenville, SC

Follow this and additional works at: https://digitalcommons.wayne.edu/business_frp

 Part of the Artificial Intelligence and Robotics Commons, Business Administration, Management, and Operations Commons, Manufacturing Commons, and the Operations and Supply Chain Management Commons

Recommended Citation

Sharma, Ajit; Zhang, Zhibo; and Rai, Rahul, "Machine Learning in Manufacturing: Review, Synthesis, and Theoretical Framework" (2020). *Business Administration Faculty Research Publications*. 2.
https://digitalcommons.wayne.edu/business_frp/2

This Article is brought to you for free and open access by the Business Administration at DigitalCommons@WayneState. It has been accepted for inclusion in Business Administration Faculty Research Publications by an authorized administrator of DigitalCommons@WayneState.

Interpretive Model of Manufacturing: A Review of Machine Learning in Manufacturing

Ajit Sharma[a] , Zhibo Zhang[b] and Rahul Rai[b]

[a]Mike Illitch School of Business, Wayne State University, Detroit, MI, USA;
[b]Manufacturing and Design Lab (MADLab), University at Buffalo, Buffalo, NY, USA

ARTICLE HISTORY
Compiled June 18, 2020

ABSTRACT
There has been a paradigmatic shift in manufacturing as computing has transitioned from the programmable to the cognitive computing era. In this paper we present a theoretical framework for understanding this paradigmatic shift in manufacturing and the fast evolving role of artificial intelligence. Policy, Strategic and Operational implications are discussed. Implications for the future of strategy and operations in manufacturing are also discussed. Future research directions are presented.

KEYWORDS
Machine Learning; Artificial Intelligence; Manufacturing; Interpretive Model of Technology; Decision Making; Analytics