: What are major managerial dilemmas of digital transformation?

by Daniel J. Power

Editor, DSSResources.com

Managers face some difficult choices among potentially disruptive or in other ways undesirable solutions related to analyzing and using data from digital transformation initiatives. Meeting the needs of 7.4 billion people on Planet Earth is challenging and our population is growing at the rate of 1 more person every 14 seconds. Imagine a CRM system with 7.4 billion or even 74 million customers. Imagine how much food McDonald's serves every day. In a 2010 estimate, McDonald's served 1% of the world's population every day or approximately 74 million people. Digital transformation is required given the expanding global population, but changing processes and activities to use more digital technologies and implement predictive analytics and Artificial Intelligence has costs and consequences.

Digitization and digital transformation has been occurring in organizations since the 1950s. The vacuum tube computers of 1943-1958 led to transformations in accounting, decision support and transaction processing. The gains were modest because of technology limits and constraints. The 1960s saw more transformations including introduction of some manufacturing robots, online transaction processing, and time sharing. By the mid-1970s the personal computer revolution was beginning. Throughout the 1980s adoption of computing technology accelerated. Visicalc and Lotus 1 2 3 were "killer" applications that changed management and management decision making. The 1990s brought data warehouses, local area networks, the global Internet, digital data storage, and digital phones to the expanding technology possibilities managers needed to cope with. The 2000s saw the realization of affordable cellular phones, faster parallel processors, distributed computing and storage, and digital cellular networks. Digital data storage and computing capabilities increased exponentially in the early 2010s. Enterprise applications, the Internet of Things (IoT), Machine Learning, Artificial Intelligence applications, speech recognition, and modeling and analytics technologies provide real-time monitoring, digital assistants, personalization, distributed decision support, and predictive analytics. The current and continuing digital transformation challenge is how to appropriately and effectively use the computing, networking and data storage capabilities that are now available. Data is important, but the transformation will primarily involve using data effectively.

To compete and survive, organizations must include digital transformation as a core strategy. Westermann et al. (2014) define digital transformation as "the use of technology to radically improve performance or reach of enterprises." They found in their research "Executives are digitally transforming three key areas of their enterprises: customer experience, operational processes and business models." Gruman (2016) defines digital transformation as "the application of digital technologies to fundamentally impact all aspects of business and society." Both views are ambitious, the later is much more all encompassing. The following are major dilemmas facing managers:

: What are major managerial dilemmas of digital transformation?

1. Priorities. The first dilemma is whether increasing the efficiency of current operations is the priority or should the focus be on the customer and meeting needs. The two tasks may be incompatible and focusing on efficiency may reduce customer satisfaction, customer loyalty and purchases.

2. Aggregate data or personalize. Emphasizing predicting customer behavior may lead to seeking patterns and ignoring serving individual customers. Meeting needs often requires personalization, while too much emphasis on patterns and customer categories and stereotypes leads to depersonalization. Ideally managers will pay attention to trends and profiles of customers and employees and understand, and serve the individual.

3. Providing more resources to IT staff versus more self-service analytics. Both IT staff and non-IT employees want more resources. The return from more data scientists and IT staff compared to more training and resources for managers and staff in functional areas is difficult to assess.

4. Storing all data versus selecting data to store that serves a specific purpose. All data can be stored at a cost. Understanding what data is captured and available for analysis is considerably more difficult. Indexing data resources and assessing data quality while finding opportunities to combine data resources creates even more challenges. Data is both an opportunity and a problem. Data that is not or cannot be used is worthless.

5. Work performed by people versus computing machines. Computing machines and robots have and will continue to displace unskilled and semi-skilled workers. The ongoing transformation involving Question/Answer bots, personal assistants and decision automation suggest that skilled employees may also be replaced.

6. Security versus accessibility. Data can be easy to access and use or difficult. Managers must balance data importance and sensitivity with accessibility concerns.

7. Privacy of individuals versus understanding of an individual.

A strategic vision for digital transformation is useful, but vision **MUST** be grounded in a deep understanding of customer needs and technology possibilities. A transformative vision must be adaptive. Identifying the specific actions to take in the near term to accomplish short-term goals is difficult. That means managers must take bold action to try new and novel technologies and adopt and apply innovations. Managers may quickly reject and throw away some technology solutions,

keeping or modifying others. Managers need to continually evaluate success and failure and know when new is better. Technology "waste" is part of the excitement of rapid technology change. The proverbial Gordian Knot does go **NOT** away, it must be cut again and again by managers pursuing digital transformation.

References

Gruman, G., "What digital transformation really means," InfoWorld, June 14, 2016 at URL http://www.infoworld.com/article/3080644/it-management/what-digital-transformation-really-means.html .

RBR Staff, "The First Industrial Robot: Why It Failed," Robotics Business Review, October 14, 2012 at URL https://www.roboticsbusinessreview.com/manufacturing/the_first_industrial_robot_why_it_failed/

Stodder, D., "Five Emerging Trends in Business Intelligence and Analytics," at URL https://tdwi.org/articles/2011/11/09/feature-five-emerging-trends-in-business-intelligence-and-analytics.aspx

Westermann, G., D. Bonnet, and A. McAfee, "The Nine Elements of Digital Transformation," MIT Sloan Management Review, January 07, 2014 at URL http://sloanreview.mit.edu/article/the-nine-elements-of-digital-transformation/ .

Author: Daniel Power
Last update: 2017-05-29 05:34