DIGITAL TRANSFORMATION AND LEADERSHIP

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ABSTRACT

This paper discusses the process of Digital Transformation and the Leadership foundations that influence Digital Transformation. Leadership in this context is part of Leadership 4.0 which is the preferred style to lead Industrie 4.0 of which Digital Transformation is part of. Discussion also about how Digital Transformation and Leadership influence Corporate Culture change.

KEYWORDS

Leadership, Digital Transformation

INTRODUCTION

Digital Transformation in this context is defined as the strategic change associated with the application of disruptive digital technologies to the corporate environment (Bower & Christensen, 1995; Fitzgerald, et al., 2013; Gartner, 2016; Kotter, 1996). Digital Transformation is about more than simply change though; Digital Transformation includes the Corporate Leadership required to lead this transformation; and change the corporate culture to embed this change (Fitzgerald, et al., 2013; Gartner, 2016; Hesse, 2018; Kotter, 1990; 1996).

Digital Transformation in the business context requires a certain leadership style to lead the change, requiring different capabilities than the popular leadership styles of yesterday (Bowersox, Closs & Drayer, 2005; Meier, et al., 2017). The leadership style to lead Digital Transformation emerges as part of Leadership 4.0, which is preferred leadership style of Industrie 4.0 (Raza,

2016). Digital Transformation is therefore part of Industrie 4.0 because it relies on disruptive Advanced Information Technology (AIT), to succeed (Bower & Christensen, 1995; MacDougall, 2014). Consequently Digital Transformation relies on the relationship between AIT and Leadership 4.0; a recursive relationship (Raza, 2016).

As part of Leadership 4.0, this research offers a new style of leadership built on Adaptive Structuration Theory (AST) (Avolio, et al., 2014; De Sanctis & Poole, 1994). This new style of leadership is called Digital Corporate Leadership (see Figure 1) and is part of Leadership 4.0. According to AST, AIT influences the emergence of interaction with corporate structures of which Digital Corporate Leadership is a structure (Avolio, et al., 2001). Furthermore, it is likely that corporate structures including Digital Corporate Leadership may transform as a result of AIT interaction. According to AST, AIT triggers an adaptive structurational process which over time can lead to changes in the rules and resources that corporations use in leadership interaction (Avolio, et al., 2014; DeSanctis & Poole, 1994; Kotter, 1990).

Digital Corporate Leadership is the most important part of Digital Transformation (Bowersox, et al., 2005; Kotter, 1996). Digital Corporate Leadership is a trichotomous 3D model built on digitalized popular leadership model; Digital Transformational Leadership, Digital Transactional Leadership and Digital Authentic Leadership (Avolio, et al., 1999; Bass, 1990; Northouse, 2010; Walumbwa, et al. 2008). This Digital Corporate Leadership model can be mapped on a 3D matrix model (see Figure 1) and explains the AIT-leadership relationship which incorporates digital business practice and Digital Transformation and structurationally transforms both AIT and leadership (Avolio, et al., 2014; DeSanctis & Poole, 1994).

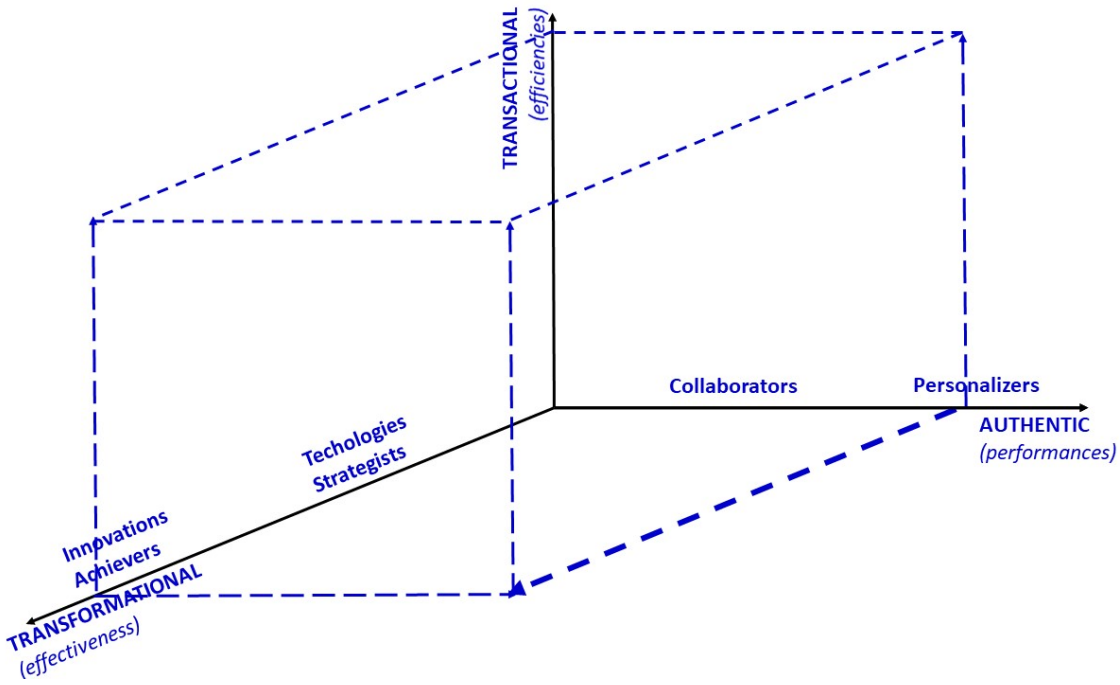

Figure 1 Digital Leadership 3D Matrix Map

Digital Transformation enables a corporation to share information in real-time which shortens the lines of command, eliminating lengthy decision making and improving supply chain accuracy, quality and operational excellence (Bowersox, et al., 2005). Operational excellence in the digital age can only come from Digital Transformation, which includes corporate transformation, organizational transformation, corporate culture change and business transformation (Bowersox, et al., 2005). Business transformation is made possible through disruptive AIT, and therefore relates to corporate leadership via the AST (Avolio, et al., 2014; DeSantis & Poole, 1994). While organizational and corporate cultural transformation are made possible through both disruptive AIT and emerging leadership style (Bower & Christensen, 1995; Kotter, 1990). Business results are influenced by the disruptive AIT revolution and how a corporate digitally transforms itself (El Sawy, et al., 2015; Hechanova & Cementina-Olpoc, 2013). This is known as digital disruption and contributes to Digital Transformational change, which some

researchers interchangeably know as digitalization (Henriette, Mondher & Boughzala, 2015; Westerman, et al., 2011).

DIGITAL TRANSFORMATION AND CORPORATE CULTURE CHANGE

Digital Transformation and corporate culture change have rarely been considered in the leadership literature, it's like a gap exists between contemporary leadership practices and Digital Transformation and corporate culture change (Andersson, Lanvin & Van de Heyden, 2017; Avolio, et al., 1999; Matt, et al., 2015; Walumbwa, et al., 2008). For Digital Transformation to be successful corporate culture needs to change also (Raut, 2017). Corporate culture is the human element of Digital Transformation and as such is related to Digital Corporate Leadership (Raut, 2017). It is the Digital Corporate Leadership and the trickledown effect that influences corporate culture to change (Wikipedia, 2017b). Corporate culture includes the intangible elements such as vision, values, beliefs, systems, language, location, assumptions, habits, symbols, ecosystems, environment (Keyton, 2011; Wikipedia, 2017b).

Often Digital Transformation occurs in combination with corporate culture change and is delivered differently by each Digital Corporate Leader position in the trichotomous 3D model (see Figure 1) (Avolio, et al., 2014; Kotter, 1990). However, corporate culture change, disruptive change and digital transformation are influenced by the combination of new capabilities and these interconnect with AIT and Digital Corporate Leadership (Henriette, et al., 2015; Kotter, 1996; Seibel, 2017). Furthermore corporate culture change helps to successfully Digitally Transform a corporation through the successful application of disruptive AIT (enablers and drivers) (Keyton, 2011; Raut, 2017). Disruptive AIT such as the Internet of Things (IoT), Industrie 4.0, Big Data

analytics, Smart technology, Artificial Intelligence (AI), Hype Cycle innovations, etc are classified as AIT enablers.

These digitally disruptive forces are powerfully reshaping tomorrow's corporate digital ecosystems (Hamilton & Lynch, 2016). This forcible reshaping likely requires different leadership skills and strategies than those found within traditional corporate models (Avolio, et al., 1999; Walumbwa, et al., 2008). Within these new corporate models it is likely that everything is connected (E2E); and this connected world creates digital imperatives for the corporation (Fitzgerald, et al., 2013). These imperatives push the corporate to succeed through rapid Digital Transformation; and failure to effectively Digital Transform likely to harm their corporate ability to effectively compete (Fitzgerald, et al., 2013). Furthermore failure to create Digital Transformation may be a result of the leader's failure to adopt a digital vision and road-map (Fitzgerald, et al., 2013). Tomorrow's Digital Corporate Leader needs to frame the strategy and road-map for Digital Transformation and corporate culture change to succeed (Rossano & Hill, 2015; Spencer & Spencer,1993).

Digital imperatives such as drivers and technology enables include behavioural capabilities and digital technology (Berman, 2012; Sandberg, et al., 2014). In digital context, the main difficulty with drivers and enablers is identifying the Digital Transformation boundaries; while the Digital Corporate Leader should be continually assessing the Digital Transformation drivers; strategies, skills, and corporate culture which include the underlying assumptions. Corporate culture change can happen through planned or forced application of AIT (Avolio and Kahai, 2002; Kotter, 1990). Forced application of AIT generally occurs because of today's changing digital ecosystems and their disruptive influence on industries and business (Raut, 2017). This is like the disruption of industries such as Uber to the taxi industry, and Air BnB to the travel industry

(Raut, 2017). Planned application of AIT is generally thought of as opportunity to gain competitive edge to business and industry, such as Amazon, Google and Alibaba (Raut, 2017).

(Kotter, 1996; Raut, 2017) says corporate culture can be difficult to change because human behaviour is difficult to change; and culture is virtually invisible to see. (Kotter, 1996; Raut, 2017) also say that for any Digital Transformation to take hold and work, cultural change is imperative. Using (Kotter's, 1996; Raut, 2017) eight step change model Digital Transformation and corporate culture change are possible (See Figure 2). The eight steps are; urgency, team, vision, buy-in, action, short-term wins, persistence, and making it stick (Kotter, 1996; Raut, 2017). Each step is imperative and missing steps can result in failure of Digital Transformation (Kotter, 1996; Raut, 2017). The first four steps create a climate for Digital Transformation, the next three steps introduce new practices, and the following step grounds change in the culture (Kotter, 1996; Raut, 2017).

(Kotter, 1996; Raut, 2017) says that if a corporation is having silo problems then corporate culture change needs to occur first before any Digital Transformation can be considered. The Lego example is that it took Lego ten years to totally Digitally Transform (Andersen & Ross, 2016). LEGO learned that after a decade of Digital Transformation the development of its people, platforms and processes was largely an ongoing commitment (Andersen & Ross, 2016). Therefore the sooner a Digital Corporate Leader acts, especially in today's digital climate, the more quickly it can become cutting edge in today's digital business ecosystems (Raut, 2017).

According to (Kotter, 1996; Raut, 2017) eight change steps, the first four steps in Digital Transformation should unfreeze the status quo; and skipping any steps creates unnecessary problems. Initially, we need to examine the market and competition, identify and discuss any crises, and major opportunities (See Figure 2) (Kotter, 1996; Raut, 2017). Secondly a team is

established to lead the transformation (Kotter, 1996). Thirdly, developing strategies and vision such as using AIT, value creation, financial considerations, and changes to structure are important (Kotter, 1996; Matt, et al., 2015). (Matt, et al., 2015) says strategy is the most important step in unfreezing the status quo. Finally the fourth step of unfreezing the status quo is communicating the vision of the Digital Transformation (Kotter, 1996; Raut, 2017).

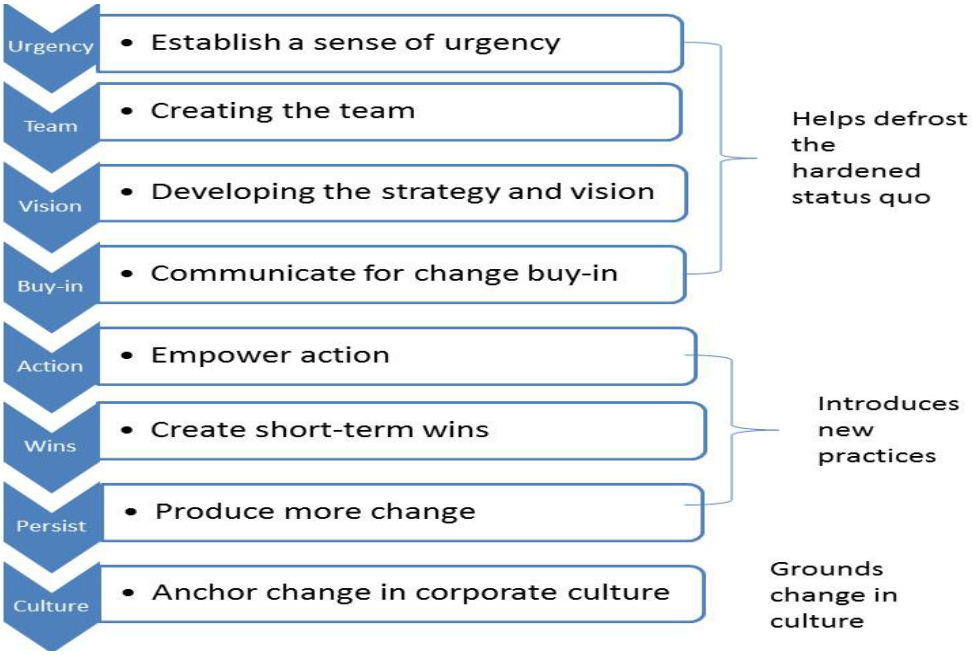

Figure 2 (Kotter's, 1996) Eight Step Change Model

(Kotter's, 1996; Raut, 2017) next three steps introduce new practices. (Kotter, 1996; Raut, 2017) say people often try transformation by undertaking only the following three steps. By ignoring the first four steps sets the transformation up for failure without a secure foundation (Raut, 2017). These three steps communicate the vision and strategies (Kotter, 1996; Matt, et al., 2015; Raut, 2017); followed by getting rid of obstacles, and changing systems that undermine the vision and encourage risk taking; and planning for improvements in performance (short-term wins), and visibly rewarding people who make wins possible (Kotter, 1996; Raut, 2017).

(Kotter's, 1996; Raut, 2017) final step anchors the Digital Transformation in the corporate culture, thus creating better performance through customer centricity and productivity centred behaviour change; and also better overall leadership and more effective management style. This stage articulates connections between corporate success and new behaviours (Kotter, 1996; Raut, 2017). These successful behavioural developments lead to succession planning, more leadership development, and planned digital ecosystems (Kotter, 1996; Raut, 2017).

Today's digital business ecosystems are transforming society's ecosystems, and this should be influencing corporations to Digitally Transform; and yet Digital Transformation is more than simply disruptive AIT application (Yoshida, 2017). AIT may easily Digitally Transform the customer experience, but if the back-office processes are unaffected then the same old ways of working can prevail and productivity fails to improve (Yoshida, 2017). To improve productivity we need to Digitally Transform business processes and corporate culture together (Cameron & Quinn, 2011; Kotter, 1996). However, corporate culture changes can come undone if not grounded in the appropriate norms and values (Cameron & Quinn, 2011; Kotter, 1996).

Even if the Digital Transformation goes well; if the corporate culture has not been compatible with the Digital Transformation, corporate culture can regress back to its original state (Kotter, 1996). However, the key to changing corporate culture is to integrate disruptive AIT into business architecture; thus supporting Digital Transformation delivering business improvements and competitive edge (Yoshida, 2017). How Digital Transformation delivers business improvements; by starting the Digital Transformation process with innovation and fully embracing digital innovation's potential is a good place to start; and through full support of the leadership team (Yoshida, 2017). For example including IoT sensors in products provide big data analytics to gain consumer buying feedback and transition to real-time analytics that

drive predictive decision-making (Yoshida, 2017). Also the ability to adapt core systems with disruptive AIT, like in-memory computing and innovative new applications can lead to Digital Transformation (Yoshida, 2017).

DIGITAL CULTURE AND LEADERSHP

The most important part of Digital Transformation is the support from the leadership team (C suite) (Kotter, 1996; Raut, 2017). Although leadership is important Kotter says that management is also important, for stability (Kotter, 1996; Raut, 2017). (Kotter, 1996) says that successful transformations require 70% leadership and only 30% management. Although management is correlated with bureaucratic governance, it is generally more common in corporations than leadership (Kotter, 1996; Raut, 2017). The emphasis on management has traditionally been institutionalised in corporate culture and this discourages leadership learning; leaving no force for change, resulting in an arrogant culture (Kotter, 1996; Raut, 2017).

The shape and strength of culture however, is determined by the homogeneity and adoption of selected culture by the C suite; to unfreeze the hardened status quo (Kotter, 1996; Raut, 2017; Schein, 1984). It is important for the C suite to fully support the corporate culture change. Traditionally, culture change has been an inwardly focused activity, however with the changes in today's digital ecosystems culture change needs to focus both inward and outward activity (Kotter, 1996; Matt et al., 2015; Raut, 2017).

The Lego experience is a good example of Digital Transformation and corporate culture change (El Sawy et, al., 2015). Lego took ten years to totally transform; and yet in the beginning of transformation it was a matter of survival of the fittest (El Sawy, et al., 2015). Lego went back

to basics to focus on their core business (the brick), closing some business lines, selling off some business lines (theme parks), downsizing employees (8500 – 5000), and partnering with others (video game design); while strengthening their identity, focusing on customers, and improving information flow (El Sawy, et al., 2015).

The Lego strategy was to allow the Digital Transformation to focus the corporate on its long term vision and strategy to the year 2032 (Lego's 100year anniversary) (El Sawy, et al., 2015). The Digital Transformation and corporate culture change were used as catalysts for making core business appealing by integrating physical and digital play while also using digital marketing, e-commerce, social media and enterprise systems (El Sawy, et al., 2015). Digital Transformation and corporate culture change were executed as core pillars of business strategy; and the business strategy was executed through Digital Transformation (El Sawy, et al., 2015). This Digital Transformation focused on new ways; enterprise Digital Transformation, digital platforms, digital workforce and corporate capabilities (El Sawy, et al., 2015).

Digital corporate culture goals help to Digitally Transform a corporate through the successful application of disruptive AIT (Bower & Christensen, 1995; Keyton, 2011; Raut, 2017). Disruptive digital technologies such as the IoT, Industrie 4.0, Big Data Analytics, Smart, Hype Cycle innovations, etc are also known in this research as AIT (Bower & Christensen, 1995). AIT are disruptive to every aspect of industry and corporate structures; leadership, customers, employees, businesses, organization, culture and other stakeholders (Bower & Christensen, 1995; Matt, et al., 2015; Raut, 2017). Different AIT and different forms of value creation are in play, structural changes are needed to provide foundations for the new digital corporate culture (Matt, et al., 2015). The person who is operationally responsible for the Digital Transformation strategy needs to be guided by professionals experienced in Digital Transformational projects; and this

person has to directly align with the strategy's targets and processes (Matt, et al., 2015). This person should ideally be a Digital Corporate Leader (Matt, et al., 2015).

(Dahlstrom, Desmet & Singer, 2017) deliver necessary change with an ecosystem of partners, and design a Digital Transformation program targeting customer focused corporate culture. (Dahlstrom, et al., 2017) argue seven decisions that matter to a Digital Corporate Leader should make when planning corporate culture change. These decisions should guide the business reinvention, such as deciding where a business should go, who can lead the effort, selling the vision, digital ecosystem position, decisions during Digital Transformation, allocation of funding and increasing the transformation's success prospect (Dahlstrom, et al., 2017). Transformations of the core business are seen to be imperative with the value proposition, processes, people, structure and technologies all mattering (Dahlstrom, et al., 2017). Existing corporate structures need to become flexible such that this is where change should occur; such as value creation and financial aspects can also be expected (Matt, et al., 2015).

CONCLUSION

As Digital Transformation reshapes corporate boundaries, how do we know when a competitive shift really takes place? When other corporates in the same industry aim to capture the opportunities these innovations present (Kasser, Tschiesner, & Muller, 2018). When an industry has been in relative stasis, and then followed by massive disruption; then disruptive digital innovations have been responsible (Christensen, 1997; Siebel, 2017). Evidence suggests we're seeing a mass disruption in the corporate world; since 2000 over 50% of Fortune 500 corporations have been merged, acquired or declared bankrupt (Siebel, 2017). As a result we are seeing

innovative corporate's such as Amazon, Facebook, Uber, and Zappos change their entire industry (Siebel, 2017).

This mass industry extinction, and events happen quickly and for a reason; and the causal factor is Digital Transformation (Siebel, 2017). The reason being a new trend that Digital Transformation is being driven from the top, from the CEO position; previously technology adoption was the responsibility of the Chief Information Officer (CIO) and the CEO was simply briefed on result and cost (Siebel, 2017). Now the technology adoption cycle has been inverted (Siebel, 2017). Visionary CEO's have become the wheels of massive change for the first time in the history of AIT, and possibly in the history of commerce (Siebel, 2017).

In the automobile industry, think Tesla; it grows as a competitive force because of the data it collects with the more miles driven (Siebel, 2017). Tesla is a virtual IoT collecting terabytes of data and using machine learning to improve predictive maintenance continuously and self-driving capabilities (Siebel, 2017). Similarly Amazon is Digitally Transforming its retail industry with network effects, big data, and AI and estimates of increasing market share from 34% to predicted 50% in the US in the year 2021 (Wahba, 2017).

Assembling a C-suite team to step up the Digital Transformation is the way to go (Siebel, 2017). Upgrading strategy with new business targets including expectations for digital value creation are working through scenarios to anticipate future disruptions, and asking important questions such as "What are our customers really buying?" "And why?" "Do they need us?" and "which competitor provides a better product or insight?" These truthful what if question's can instigate new road maps to break out of same old thinking implementing new digital efforts (Siebel, 2017).

Digital Transformation is about far reaching change; changing everything about products, designs, manufacturing and delivery, sales and service; and changing the very nature of customer relationships (Siebel, 2017). Policy decisions such as Digital Corporate Leader's being forced to rethink corporate execution of new business processes, management practices, information systems and people networks; and if they are not thinking and talking about Digital Transformation then they are in the wrong job (Siebel, 2017).

REFERENCES

Andersen, P., & Ross, J.W. (2016). Transforming the LEGO group for the digital economy. MIT Sloan Management. 407(March)1-14.

Andersson, L., Lanvin, B., & Van der Heyden, L. (2017). Digitalisation initiatives and corporate strategies: A few implications for talent. In B. Lanvin and P. Evans (Eds.) The Global Talent Competitiveness Index 2017, Insead Business School.

Avolio, B.J., Bass, B.M., & Jung, D.I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. Journal of Occupational and Organizational Psychology, 72(4)441-462.

Avolio, B.J., Kahai, S., & Dodge, G.E. (2001). E-leadership: Implications for theory, research, and practice. The Leadership Quarterly, 11(4)615-668.

Avolio, B.J., & Kahai, S. (2002). Adding the "e" to Leadership: How it may impact your leadership. Organizational Dynamics, 31(4)325-338.

Avolio, B.J., Sosik, J.J., Kahai, S.S., & Baker, B. (2014). E-leadership: Re-examining transformations in leadership source and transmission. *The Leadership Quarterly, 25*(1)105-131.

Bass, B.M. (1990). From transactional to Transformational Leadership: Learning to share the vision. Organizational Dynamics, 18(3)19-32.

Berman, S.J. (2012). Digital transformation opportunities to create new business models. *Strategy & Leadership*, 40(2)16-24.

Bower, J.L., & Christensen, C.M. (1995). Disruptive Technologies: Catching the wave. *Harvard Business Review.* (January-February). Downloaded 29.01.2018 http://danieldalonzo.com/wp-content/uploads/2015/05/disruptive-technologies-catching-the-wave-christensen.pdf

Bowersox, D.J., Closs, D.J., & Drayer, R.W. (2005). The digital transformation: Technology and beyond. Supply Chain Management Review, 9(1)22-28.

Cameron, K.S. & Quinn, R.E. (2011). Diagnosing and changing organizational culture: Based on the competing values framework (3rd Ed.). Jossey-Bass, San Francisco: CA.

Christensen, C.M. (1997). The innovators's dilemma: When new technologies cause great firms to fail. Harvard Business School Press, Boston: MA.

Dahlstrom, P., Desmet, D., & Singer, M. (2017). The seven decsions that matter in a digital transformation: A CEO's guide to reinvention. Digital McKinsey (February). Downloaded 23.02.18 https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/the-seven-decisions-that-matter-in-a-digital-transformation

DeSanctis, G., & Poole, M.S. (1994). Capturing the complexity in advanced technology use: Adaptive Structuration Theory. Organization Science. 5(2)121-147.

El Sawy, O.A., Amsinck, H., Kraemmergaard, P., & Vinther, A.L. (2016). How Lego built the foundations and enterprise capabilities for digital leadership, MIS Quarterly Executive, 15(2)141-166.

Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2013). Embracing digital technology: A new strategic imperative, MIT Sloan Management Review (2013)1-12.

Gartner. (2016). *Gartner's 2016 hype cycle for emerging technologies identifies three key trends that organizations must track to gain competitive advantage.* Gartner Inc. downloaded 08/02/17 http://www.gartner.com/newsroom/id/3412017

Hamilton, J.R., & Lynch, R.P. (2016) '*CEO's and tomorrow's leading-edge corporates'*, First World Conference and 2016 Asia Pacific DSI Conference, 24-27 July, Beijing China. 21(1) 283-290.

Hechanova, R.M., & Cementina-Olpoc, R. (2013). Transformational leadership, change management, and commitment to change: A comparison of academic and business organizations. *Asia-Pacific Education Research, 22*(1)11-19.

Henriette, E., Mondher, F., & Boughzala, I. (2015). *The shape of digital transformation: A systematic literature review*. The 9th Mediterranean Conference on Information Systems (MCIS). Samos, Greece, 2015.

Hesse, A. (2018). Digitalization and leadership – How experienced leaders interpret daily realities in a digital world. Proceedings of the 51st Hawaii International conference on System Sciences, pp 1865-1863.

Kasser, M., Tschiesner, A., & Muler, T. (2018).Competing in a world of digital ecosystems. McKinsey Quarterly (February). Downloaded 23.02.18 https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/competing-in-a-world-of-digital-ecosystems

Keyton, J. (2011). Communication & organizational culture (2nd Ed.). Sage Publications, Thousand Oaks: CA.

Kotter, J.A. (1990). *A force for change: How leadership differs from management*. Free Press, London: UK.

Kotter, J.A. (1996). *Leading change*. Harvard Business Review Press: Boston, MA.

MacDougall, W. (2014). Industrie 4.0: Smart manufacturing for the future. Germany Trade & Invest. Downloaded 06.12.17 https://www.gtai.de/GTAI/Content/EN/Invest/_SharedDocs/Downloads/GTAI/Brochures/Industries/industrie4.0-smart-manufacturing-for-the-future-en.pdf

Matt, C., Hess, T., & Benlian, A. (2015). Digital transformation strategies. *Business Information Systems Engineering*. 57(5)339-343.

Meier, C., Sachs, S., Stutz, C., & McSorley, V. (2017). Establishing a digital leadership barometer for small and medium enterprises (SME), *The International Conference of Technology, Innovation and Industrial Management* (May 2017)103-109.

Northouse, P.G. (2010). *Leadership theory and practice* (5th Ed.) Los Angeles, CA: Sage Publications.

Raut, S. (2017). Why Culture change is essential for digital transformation. D!gitalist Magazine. Downloaded 01.12.17 http://www.digitalistmag.com/future-of-work/2017/01/09/culture-change-is-essential-for-digital-transformation-04824251

Raza, B. (2016). Leadership 4.0. Frankfurt University of Applied Sciences. Downloaded 06/10/16 http://fh-frankfurt.academia.edu/BaqarRaza

Rossano, S., & Hill, S. (2015). The literature review: Soft e-leadership skills. Emasmus+, European Commission.

Sandberg, J., Mathiassen, L., & Napier, N. (2014). Digital options theory for IT capability investment. *Journal of the Association for Information Systems, 15*(7)422-453.

Schein, E.H. (1984). Coming to a new awareness of organizational culture. MIT *Sloan Management Review, 25*(2)3-16.

Siebel, T.M. (2017). Why digital transformation is now on the CEO's shoulders. *McKinsey Quarterly (December)*. Downloaded 23.02.2018 https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/why-digital-transformation-is-now-on-the-ceos-shoulders

Spencer, L., & Spencer, S. (1993). Competency at work: Models for superior performance. Wiley, New Jersey: NY.

Wahba, P. (2017). Amazon will make up 50 percent of all US e-commerce by 2021. *Fortune (April).* Downloaded 24.02.18 http://fortune.com/2017/04/10/amazon-retail/

Walumbwa, F.O., Avolio, B.J., Gardener, W.L., Wernsing, T.S., & Peterson, S.J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management, 34*(1)89-126.

Westerman, G., Calmejane, C., Bonnet, D., Farraris, P., McAfee, A. (2011). *Digital Transformation: A roadmap for Billion-Dollar organizations*. Capgemini Consulting. Downloaded 26.07.17 https://www.capgemini.com/resource-file-access/resource/pdf/Digital_Transformation__A_Road-Map_for_Billion-Dollar_Organizations.pdf

Wikipedia. (2017a). *Digital transformation*. Downloaded 28.11.17 https://en.wikipedia.org/wiki/Digital_transformation

Wikipedia. (2017b). *Organizational culture.* Downloaded 01.12.17 https://en.wikipedia.org/wiki/Organizational_culture

Yoshida, H. (2017). 2017: The year business will learn the true meaning of digital transformation. *The D!gitalist Magazine*. Downloaded 01.12.17 http://www.digitalistmag.com/cio-knowledge/2017/01/02/2017-year-businesses-learn-true-meaning-of-digital-transformation-04789127