Importance of People and HRM in the Digital Transformation

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Abstract

Digital transformation is disrupting manufacturing, business, and almost every field. It is imperative for all organizations to transform to be relevant in the competition. Digital transformation is not a piece of software technology that we can buy, plug in and it will work. As pointed out by scholars and industry practitioners, transformation is a continuous journey, and to be successful, we need to identify critical elements of transformation and success factors and work on it. While there are several factors, when organizations are transforming, human resource and HRM plays a critical role. Implementing digital transformation without considering the people factor will be the disastrous approach. This research aims to determine the effect of human resource factors and HR management on the organization's digital transformation. Using MS Excel, Regression analysis was carried out. Researcher has found a strong connection between organization digital transformation and human resource management factors.

Keywords
Digital Transformation, People, Human resource management, Quantitative Research, Success factors.

1. Introduction

Digital transformation has caused disruption and a tsunami of uncertainties in the business world across the globe (Kontić and Vidicki 2018; Albukhitan 2020). Plenty of organizations perish as they fail to compete in the digital era. Bankruptcy of the movie-rental company Blockbuster and the selling of the Washington Post to Amazon are good examples that demonstrate the negative impact of not transforming. Simultaneously, digital transformation offers enormous opportunities and benefits to companies and leaders who act fast. Digitaltransformation is opening new technology and business horizons (Schaede 2020). Transformation is vital for the survival and success of industries and businesses (Ramnarayan and Mehta 2020). Digital transformation is a top priority in a CEO's strategic planning list.

The current situation created by the Covid-19 pandemic has created a destructive effect on the economy of the entire world, but it is acting as a catalyst for digital transformation. Presently, every company globally started thinking about digital transformation and the various ways to engage its customers through digital communication (Twilio 2020). Covid-19 forced leaders to think about remote engineering, usage of digital technologies, the safety of resources, and limitations (Jeff 2020). Yet transformation is not an easy task, a staggering 70% of digital transformation initiatives have failed (Saldanha 2019). All companies and executives know how crucial it is to evolve with technology and create digital processes and solutions but developing and managing the strategy is a different story (Blake 2019). Hence question is how to embrace the transformation and position it as a competitive advantage (Hess et al. 2016; Van der Zande 2018). Blake (2019) revealed in a publication that even though companies like GE and Ford failed in their transformation effort initially, they managed to adjust their strategy and succeed at a later stage. Narayana and Mehta (2020), further detail the digital transformation success stories of L&T, Symphony and kelvein keith.

There is no doubt that technical aspects are more important, but even more complex problems can be resolved with competent resources either internally or by using external resources. There are several success factors pertaining to digital transformation. This article will focus on aspects of people and Human Resource Management (HRM). Research will focus on people and human resource management factors in the successful implementation of digital transformation.

The success of the digital transformation depends on the employees working for it and their management. Organizations and their leaders must incorporate innovative HRM by monitoring the employee's digital skills,

gap analysis, recruiting techniques, and rewarding system. Organizations are focusing on people and human resource management to effectively deploydigital transformation and to gain competitive advantage.

Digital transformation is once in a lifetime opportunity for companies to transform their way of doing business. Several factors influence the transformation's success, and this research intends to study factors of people and human resource management in the successful implementation of digital transformation in organizations.

1.1 Objective
To identify the people and human resource management critical factors in the implementation of the digital transformation.

1.2 Research Question
What factors of People and human resource management impact the success of the digital transformation implementation?

1.3 Research Hypothesis
H_0: There is no relationship between human resource management and the success of digital transformation.
H_1: There is a relation between Human resource management and the success of digital transformation.

2 Literature Review
Pierre Nanterme, former Accenture CEO, once said, Digital is the main reason just over half of the companies on the Fortune 500 have disappeared since the year 2000 (Leipzig et al. 2016). Industries and the business world are witnessing unprecedented disruption (Albukhitan 2020). Organizations not adopting digital technology and new work culture are perishing from the business map.

2.1 Definition of Digital Transformation.
There is no common agreement on the digital transformation definition. Research scholars, and practitioners have different viewpoints.

Forts (2004) called digital transformation the influence or change influenced by digital technology in all aspects of human life. As per Bowersox et al. (2005), digital transformation is the process of reinventing the business process by digitizing its operation. Westermann et al. (2011), explain digital transformation as the technology used to radically improve the performance of organizations and how human resources are used to achieve it.

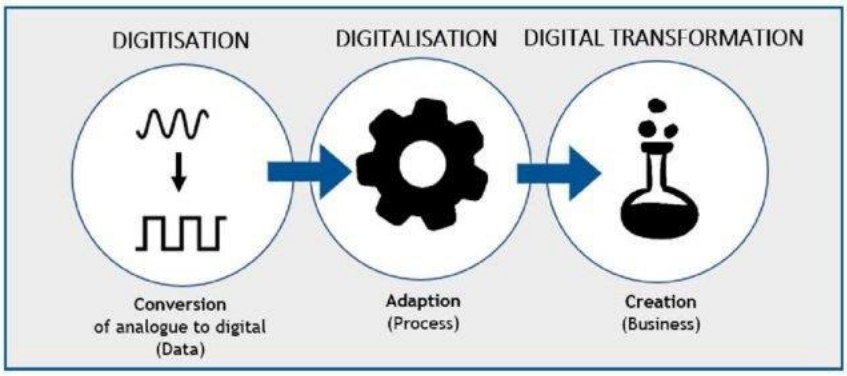

Figure 1. Definition of Digitisation, Digitalisation and Digital Transformation (Source; Maltaverne 2017; Bumann and Peter 2019).

Often digital transformation is confused with digitization and digitalization (Figure 1), resulting in the underestimate of digital transformation term and putting the survival of their organization in peril. Digitization is the process of converting information and data in digital form whereas digitalization is making manufacturing and business process more automated. Digital transformation is about inventing new business opportunities by integrating digitized data, and digitalizing applications with digital mindsets and culture. Digital transformation is developed with the customer-centric theme, and the customer may be external to the organization or internal stakeholders.

2.2 Drivers of Digital Transformation

COVID-19 has become one of the largest digital transformation drivers in the world. According to Twilio's (2020) survey, 93% of corporate leaders agreed that the pandemic pushed their organizations towards digital transformation, and 43% of leaders wanted to transform their organizations in the next 1-4 years. Jeff (2020) argues that Covid-19 forced business leaders to adopt and accelerate remote working, digital technology usage, and business work culture. In the absence of Covid-19 pandemic, industry leaders may not have acted fast, and the digital transformation process would have taken at least a decade.

According to Shirer (2022), digital transformation spending on digital transformation in 2022 is expected to reach $1.8 trillion. International Data Centre (IDC) market research during the 2022-2026 period, Dx compound annual growth rate (CAGR) will sustain 16.6% growth. IDC report further elaborates that process and manufacturing will account for 30% of worldwide Dx spending (Gosh 2022).

Industry practitioners categorize digital transformation drivers into market-driven and technology-driven. Experienced domain experts are aging and retiring, and they are replaced by a digitally savvy yet inexperienced young generation. These new young aspirants need skill development. Manufacturing companies are impacted by fluctuating commodity prices, resulting in the pressure of industry leaders to optimize expenditures like Opex and Capex (operation spending and capital investment). Industry leaders also need to focus on speedy implementation as the recent trend is about fast being slow. In addition, advanced digital technology trends like Cloud, Big data, Artificial intelligence (AI), and Machine learning (ML) are fueling the digital transformation (Yokogawa 2020).

Osmundsen et al. (2020), argue that Digital transformation may be the result of the internal trigger of the organization or externally by customers. Transformation is initiated to improve the organization's internal processes like optimization of engineering operation, recruitment process, procurement, and accounting etc. In some cases, digital transformation is triggered due to customer expectations (Haffke et al. 2017; Schmidt et al. 2017), digital shifts in the organization's industry, and changes in the competitive landscape (Berghaus and Back 2017). Sometimes it may be driven by competitor pressure or entry of new digital entrants (Haffke et al, 2016). Transformation may also be triggered by government and environmental regulations organizations must adhere to (Berghaus and Back 2017).

2.3 Factors Influencing Successful Implementation of Digital Transformation

Factors are defined as the action items and areas critical to the successful implementation of digital strategy. Holotiuk1 and Beimborn (2017), studied the current status of the industries and consolidated various research work. Researchers collected the data from various industry reports and relevant consulting firm's reports. The research duration was 2011-2015, the outcome was forty (40) critical success factors, categorized to different groups. Holotiuk and Beimborn (2017), did a holistic study of critical success factors of digital business. Research work identified sales and customer experience, and organization factors as the largest components of the CSFs forming the framework's pillars. Capabilities and HR competencies are other main components. Article observes that employees play a critical role in identifying the current value status of the organization, future desire value, and effort to reach the planned goal. Holotiuk and Beimborn (2017), further argue that for successful implementation of digital strategy, organizations must train employees in digital skills and talent. It is to be noted that beyond IT skills, visioning, collaboration, and change management skills are required for successful execution.

Osmundsen et al. (2020), acknowledge that human capital and its management play anessential role in the transformation process and its outcome. He argued that employees whowill be affected by transformation need to be involved in the entire process for the full potential outcome. To embrace digital transformation and digital technologies, the active participation of employees plays a critical role. Researcher advocated for informing, collaborating, and involving employees in the change process. Involving employees in the change process helps management reduce the resistance to change and achieve the transformation goal. For effective transformation, it is important to attract, hire, retain talented resources and integrate IT experts with domain knowledge professionals (Piccinini et al. 2015).

Burman and Peter (2019), did a comparative analysis of digital transformation models and frameworks. Analysis identified the six most applied dimensions or applied fields: technology, culture, strategy, customer, and people/employees. Each dimension has its own strength and weakness. Even though all dimensions are critical, the people action field encompasses the employee's skill and capability. Anderson et al. (2018) research also finds that along with digital technology, people and their skill and experience with those technologies are equally vital for transformation. Burman and Peter (2019), further advocated for planning skill development schemes, educating new-age digital skills, and conducting boot camps, hackathons, and E-learning materials for

employees. The survey of digitally matured organizations shows that 76% of the leaders believe that empowering their employees with digital talent helped them to achieve planned growth (Kane et al. 2016). This demonstrates the importance of talent management in the digital transformation of organizations. Making flexible working arrangements, home office facility, work from home option, mobile network, broadband facility for home office, and creating digital workplaces, will not just increase employee's motivation and attracts new-age digitally- savvy millennials but also reduces the infrastructure and operational costs (Schlaepfer et al. 2017; Burman and Peter 2019).

2.4 Human Resource Management in Digital Transformation Projects

Human Resource management plays a critical role in implementing transformation projects. HRM is one of the PMBOK's ten main process areas.

As per PMBOK the HRM includes activities like estimating resources, creating resource strategies, obtaining the required workforce, managing and developing the resources.
As a result of using tools and procedures, the transformation project team may utilize the benefits of the a centralization and standardized operations. Employees working on the transformation project, other company employees All of your employee's information may be maintained in centralized location for ready access of the staff (Patanakul et al. 2010).

HRM offers several benefits to the transformation projects team and organization.

- Standardized hiring process and centralized data maintenance.
- Key performance index and productivity measurement guidelines are established.
- Performance recognition andrewarding system is taken care
- Data on hiring expenses preserved and compared with budgeted expenses
- Human resource activities like the hiring of employees are tied to business needs

3 Research Framework

Critical elements of human resource management that impact the implementation of the digital transformation and its success are considered.

H0: There is no relationship between human resource management and the success of digital transformation.
H1: There is a relation between Human resource management and the success of digital transformation (Figure 2).

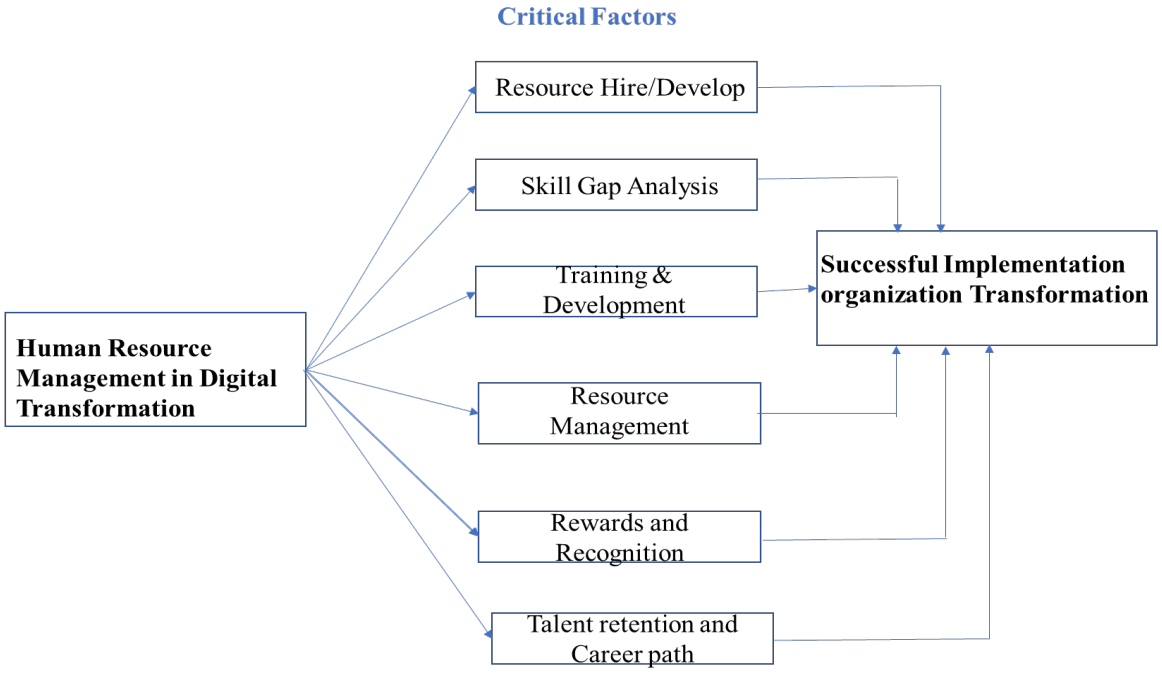

Figure 2. Research Framework

4. Research Method

The Researcher has used the survey method to collect the data. The researcher has chosen the quantitative research approach to analyze the human resource management factors for successful digital transformation implementation. Both primary and secondary data is used in the research. Firsthand information from the survey method formed the primary source of data, and data collected from research articles, publications, and textbooks on digital transformation, and journals formed the secondary source of data (Müller et al. 2014). Researcher after reviewing the literature from various scientific journals, prepared the questionaries for the survey (Figure 3).

The researcher has used Excel for the statistical analysis as it provides most of the data analysis provision. Regression and correlation are used to test the research hypothesis analyzed (Mir and Pinnington 2014).

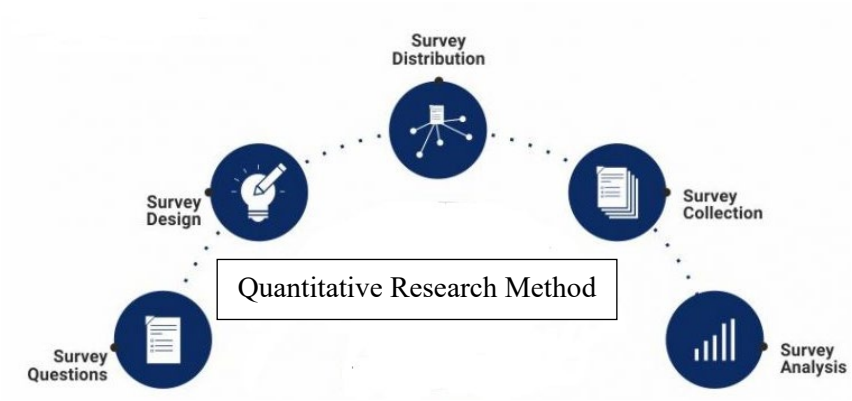

Figure 3. Research Methodology

5 Data Collection

The researcher collected the data from 100 professionals, and leaders across the industries and businesses. Industry and businesses selected are part of the digital transformation initiative. Researcher uploaded the questionnaires on the internet via Google form, and an email with a survey path was sent to each employee requesting the responses. Email briefly explained the intention of the survey.

Out of 100 participants, 10 participants were above 20 Years of overall experience, 50 are between 10 to 20 years and, thirty members had 5-10 years and ten members were less than 5 years of experience (Figure 4, figure 5 and Table 1 and table 2).

Pertaining to digital transformation experience, participants had less experience; out of 100, just five participants had ten or more than ten year of experience. Majority (75) fall under five or less than five years in DX experience and twenty participants were between 5-10-year experience. This is a quite reasonable considering the fact that DX is still new concept and finding the professionals above 10 years difficult. Even above 10 year claimed that they started some digital tool utilization and automating the process but complete digital transformation started in 5-6 year back.

Table 1. Participant's Total experience

Participant's Experience	Count
>20 Years	10
10-20 Years	50
5-10 Years	30
<5 Years	10

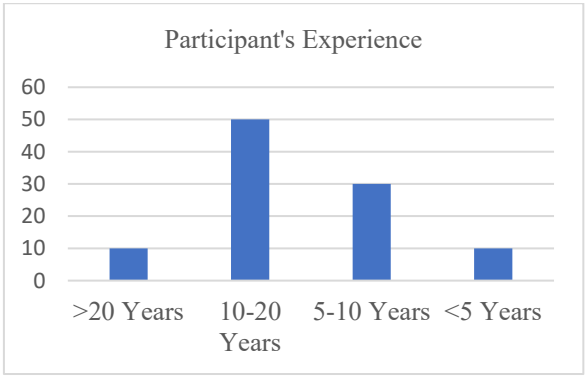

Figure 4. Participant's Total experience

Table 2. Participant's DX experience

Participant's DX Experience	Count
>10 Years	5
5-10 Years	20
<5 Years	75

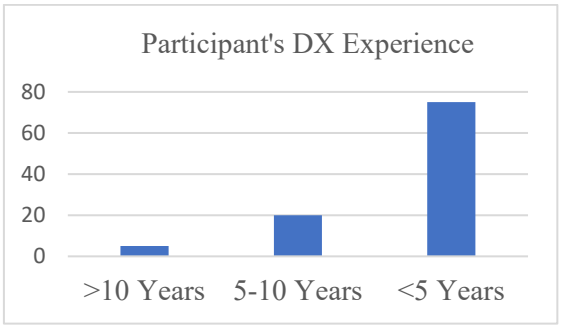

Figure 5. Participant's DX experience

6. Analysis

As discussed in the research method, researcher has used the quantitative analysis method. Survey questions were raised via Google form, and participants were requested to select the appropriate answer. Questions were related to critical elements of human resource management concerning to the implementation of digital transformation. The researcher also collected data on the rating of transformation success rate. After data collection (Section 5) data were analyzed using ANOVA and Correlation. Researcher used the MS office excel for the data analysis (Table 3).

Table 3. ANOVA **Relationship Between Hrm and Digital Transformation Success**

Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig. (P value)**
Regression Residual Total	21.114 6.7515 27.8658	6 142	3.5190 0.0475	74.0137	0.0000

P value is 0.000, which is less than <0.05 A statistically significant test result ($P \leq 0.05$) means that the test hypothesis is false or should be rejected.

H0: There is no relationship between human resource management and the success of digital transformation. Hence the null hypothesis is rejected.
H1: There is a relation between Human resource management and the success of digital transformation. We accept alternative Hypothesis.

Table 4. Correlation

Hypothesis	Value	Remark
Relationship between resource hiring and digital transformation success	0.6195986	Moderate correlation
Relationship between skill gap analysis and digital transformation success	0.6973807	Good correlation
Relationship between training & development and digital transformation success	0.6259262	Moderate correlation
Relationship between resource management and digital transformation success	0.6924396	Good correlation
Relationship between rewards and recognition and digital transformation success	0.6014216	Moderate correlation
Relationship between talent retention and digital transformation success	0.6185996	Moderate correlation
Relationship between HRM and digital transformation success	0.8497787	Strong positive correlation

Dependent Variable: Digital Transformation Success
Independent Variable: Human resource management key elements.

Correlation tables (Table 4) reveal that human resource elements have either a moderate or good relationship with success rate of the digital transformation. Industry professionals who participated in the interview believe that human resource management will positively impact the transformation's success. The average success rate of the digital transformation is almost equal to four on the Linkert scale, indicating management professionals believe that the transformation initiative was average or just above average successful. The human resource management factor has a strong positive relationship with digital transformation success.

6 Conclusion

Digital transformations are managed as plug-in software; organizations focus more on digital tools than resources and human resource management. Digital transformation is an enterprise-wide initiative with the objective of doing business in an innovative way. Companies look for the ROI from transformation implementation and more customer engagement to enhance the business. Objective of the digital transformations can be achieved through proper resource management. This article studies the resource and human resource management impact on the success of digital transformations. The analysis result indicates that human resources and practicing of its key elements have a significant impact on the success of the digital transformation.

References

Al-Hajj, A., and Zraunig, M. ,The Impact of Project Management Implementation on the Successful Completion of Projects in Construction, *International Journal of Innovation, Management and Technology*, Vol: 9. No: 1, 2018.

Albukhitan, S, Developing Digital Transformation Strategy for Manufacturing. Procedia Computer Science, Volume 170, 664–671, 2020.

Alzhrani, A. ,A Research Paper on Human Resources Planning, Process and Developing. *International Journal of Recent Technology and Engineering (IJRTE)* ISSN: 2277-3878, Vol: 8. No: 6. , 2020.

Andersson, P., Movin, S., Mähring, M., Teigland, R., & Wennberg, K, Managing Digital Transformation. Stockholm School of Economics Institute for Research (SIR). Retrieved from https://www.hhs.se/contentassets/a3083bb76 c384052b 3f3 f4c82236e38f/managing-digital-transformation-med-omslag.pdf , 2020.

Berghaus, S., & Back, A., Disentangling the Fuzzy Front End of Digital Transformation: Activities and Approaches. In ICIS 2017 Proceedings, pp. 1–17, 2017..

Blake, M, Companies That Failed at Digital Transformation and What We can Learn from Them. Forbes Business Magazine. Retrieved from;https://www.forbes.com/sites/blakemorgan/2019/09/30, 2019.

Bumann, J., & Peter, M. K. , Action fields of digital transformation–a review and comparative analysis of digital transformation maturity models and frameworks. *Digitalisierung und andere Innovationsformen im Management. Innovation und Unternehmertum*, *2*, 13-40, 2019.

Haffke, I., Kalgovas, B., & Benlian, A, The Role of the CIO and the CDO in an Organization's Digital Transformation. In ICIS 2016 Proceedings (pp. 1–20), 2016.

Hess, T., Matt, C., Benlian, A., & Wiesbock, F., Options for Formulating a Digital Transformation Strategy. MIS Quarterly Executive, 123–139, 2016.

Holotiuk, F., & Beimborn, D. , Critical success factors of digital business strategy, 2017.

Imran, A., Lukuman, M., and Zaki, A. , Impact pf Human Capital Practices on Project Success. Kuwait Chapter of Arabian Journal of Business and Management Review. Vol: 5. No: 6, 2016.

Kane, G. C., Palmer, D., Nguyen Phillips, A., Kiron, D., Buckley, N., Copulsky, J., & Buckley, N. Strategy, not Technology, Drives Digital Transformation Becoming a digitally mature enterprise. Retrieved https://www2.deloitte com/content/dam/Deloitte/fr/Documents/strategy/dup_strategy-not-technologydrives-digital-transformation.pdf, 2015.

Kloppenborg, T., and Opfner, W, The current state of project management research: trends, interpretations, and predictions. Project Manage Journal. 33(2). PP: 5–18, 2002.

Kontić, L., & Vidicki, Đ, Strategy for Digital Organization: Testing a Measurement Tool for Digital , 2008.

Müller, R., Pemsel, S., and Shao, J. , Organizational enablers for governance and governmentality of projects: a literature review. International Journal of Project Management. Vol: 32. No: 8. PP: 1309–1320, 2014.

Munns, A., and Bjeirmi, B, The role of project management in achieving project success. International Journal of Project Management. Vol:14. No: 2. PP: 81-87, 1996.

Osmundsen, K., Iden, J., & Bygstad, B. , Digital Transformation: Drivers, Success Factors, and Implicatio*Proceedings of the 2nd Indian International Conference on Industrial Engineering and Operations ManagementWarangal, Telangana, India, August 16-18, 2022*ns. In MCIS (p. 37), 2018.

Patanakul, P., Iewwongcharoen, B., and Milosevic, D. , An empirical study on the use of project management tools and techniques across project life-cycle and their impact on project success. Journal of General Management. Vol:35. No: 3. PP: 41-65, 2010.

Piccinini, E., Hanelt, A., Gregory, R. W., & Kolbe, L. M, Transforming industrial business: The impact of digital transformation on automotive organizations. In Icis , (pp. 1–20), 2015.

Project Management Institute. , A Guide to the Project Management Body of Knowledge (PMBOK® Guide). Project Management Institute, Incorporated, 2017.

Purkey, D., Escobar Arias, M., Mehta, V., Forni, L., Depsky, N., Yates, D., and Stevenson, W., A philosophical justification for a novel analysis-supported, stakeholder-driven participatory process for water resources planning and decision making. Water, 10(8), 1009, 2018.

Ramnarayan, S., & Mehta, S, Leading Digital Transformation in Traditional Organizations, 8–23, 2020.

Saldanha, T. , Why Digital Transformations Fail: The Surprising Disciplines of How to Take Off and Stay Ahead. Berret-Koehler Publishers, Inc. Oakland. Canada. Retrieved from: https://www.amazon.in, 2019.

Samimi, E. and Sydow, J, Human resource management in project-based organizations: revisiting the permanency assumption. The International Journal of Human Resource Management, Volume: 32. NO: 1, 2021.

Sirshar. M, Liaqat. R. and Siddique. S, Effective Human Resource Management In Project Management. Preprints (www.preprints.org), 2019.

Schaede, U, How Japan Can Compete: Executing the Ambidexterity Strategy and Managing Change for the DX and the post-COVID-19 Era. Nippon Institute for Research Advancement, 2020.

Schlaepfer, R., Von Radowitz, K., Koch, M., & Merkofer, P, Digital future readiness - How do companies prepare for the opportunities and challenges of digitalisation? , 2017.

Schmidt, J., Drews, P., & Schirmer, I. , Digitalization of the Banking Industry: A Multiple Stakeholder Analysis on Strategic Alignment. In AMCIS 2017 Proceedings (pp. 1–10)., 2017.

Twilio , Covid-19 Digital Engagement Report. Retrieved from: https://www.twilio.com/covid-19-digital-engagement-report, 2020.

Van der Zande, J, Banks and digitalization. In R. Teigland, S. Siri, A. Larsson,A. M. Puertas & C. I. Bogusz (Eds.), The Rise and Development of FinTech:Accounts of Disruption from Sweden and Beyond (pp. 327–349). New York:Routledge, 2018.

Biography

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