Leadership in the Age of Digitalization

Ramesh Prasad Pattnaik
Project Manager, Bharati Vidapeeth deemed to be University, Pune Maharashtra

Dr. Ambar Beharay
Associate Professor Department of Management, Tilak Maharashtra Vidyapeeth,
Pune Maharashtra

Dr.Yogitha L J
Assistant Professor, Department of Commerce, Mount Carmel College, Bangalore

Dominic Amalan. A
(Ph.D Scholar) pursuing PhD in HR Management in OPJS University, Churu, Rajasthan

Ms. Shikha Kansal
Assistant Professor, Vidya Knowledge Park, Meerut, U.P.

Abstract
This research paper focuses on the digitalization within the current industry dynamics and impact in the leadership. Digital transformation has impacted the leadership vision, mission and strategy objectives. A systematic review in the basis of industry case study has been done in this research. The four case studies have been based on Pope Francis, Elon Musk, Microsoft leadership and Apple leadership. The impact of leadership dynamics within the contexts of digital tools and technology like CRM, social media and big data has been identified. The impact of the digital transformation on the leadership choice and strategies has been discussed. Digital tools have contributed in the value creation and opportunity development.

Keywords: Digitalization, Leadership, transformation, Elon Musk, apple, Microsoft

INTRODUCTION

Digitization has significantly transformed the way an industry operates, and current market dynamics are completely controlled by the digitized process. All of the industry sectors, such as manufacturing production or information, have adopted a complete or quasi-digitized framework in terms of supporting their competitive needs. However, this transformation has not been done on its own There are leadership and managerial characteristics that have helped this transformation happen. Digital transformation is fundamentally about the change that requires leadership support Leadership in the era of Digitalization has drastically changed due to improvement in communication, collaboration and engagement dynamics. This study has identified all the potential dynamics that current leadership offers within a digital organization environment.

RESEARCH OBJECTIVES

The objectives of this research are
RO 1:To evaluate the impact of digitization and technology on leadership
RO2: To analyze the changes experienced by the new leaders in the era of digitization against the traditional leadership characteristics
RO 3: To analyze whether Digitalization has affected leadership strategy making

RO 4: To perform a systematic review of different leadership case studies and compares them with others

BACKGROUND

The below graph suggests that between 2016 and 2017, most global industries have started to take initiatives to partially or completely transform their organization with digitized opportunities (Burns, 2017). Companies are feeling the pressure of whether digitization completely would be the right strategy to leverage future possibilities.
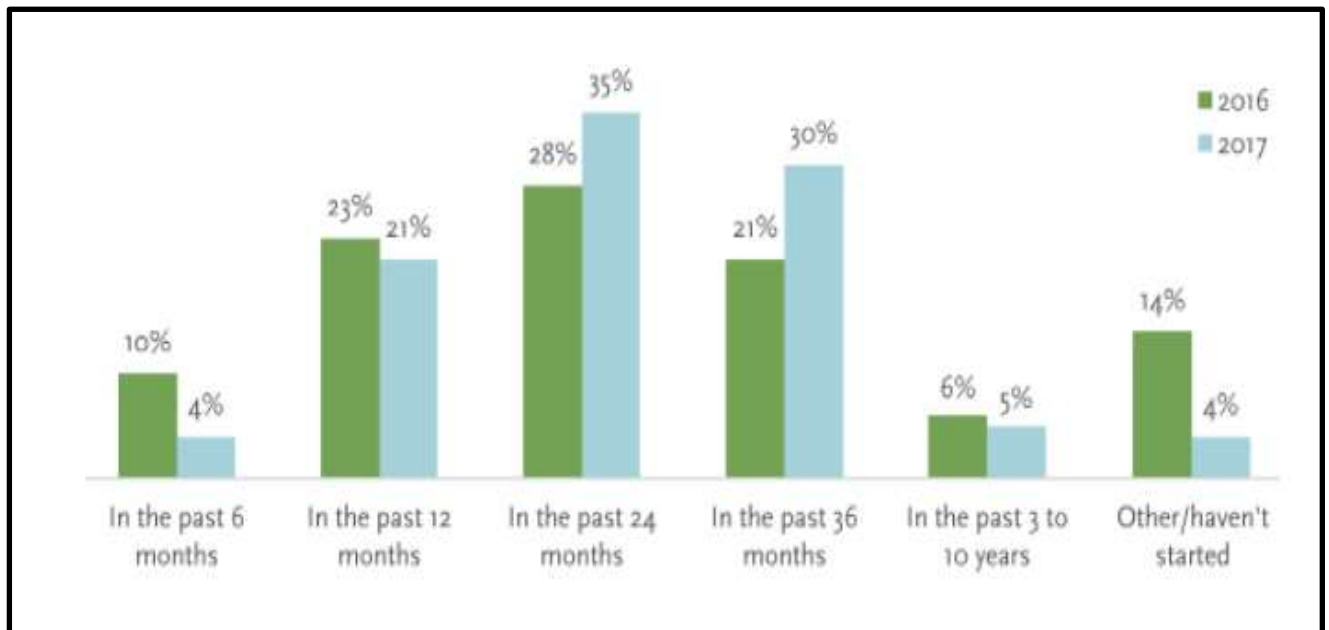

Figure 1: Transformation initiation in the global industries
(Source: Burns, 2017)

It can be seen from the below graph that the automotive electricity and logistics sectors are at their initial stage of digitization. Hoover, the consumer industry, has been completely changed through the digitized environment (Weforum, 2022). It is evident that the consumer industry has identified that value and benefits opportunity lies within digitized outcomes.
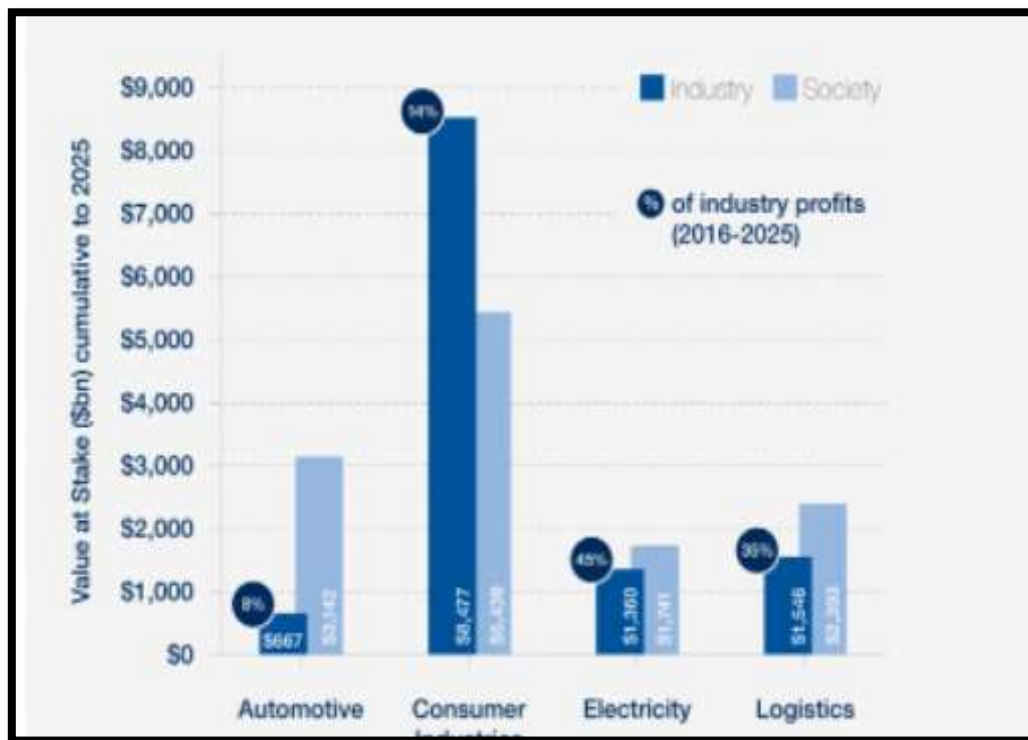
Figure 2: Industry vs society in digitization stake
(Source:We forum, 2022)

With more than 30% placing that their respective organization has reached the maturing stage, it can be said that companies are taking digital disruption more seriously (We forum, 2022). It should be mentioned that leadership and current shifts in digitized workplaces have directly related to each other.

Figure 3: Digital maturity in the organization
(Source: Deloitte, 2018)

The biggest challenge that current leadership is facing is associated with the increasing pace of business (Deloitte, 2018). There is a shift in organizational culture that focuses on productivity and operational efficiency due to improved communication through digital technology.
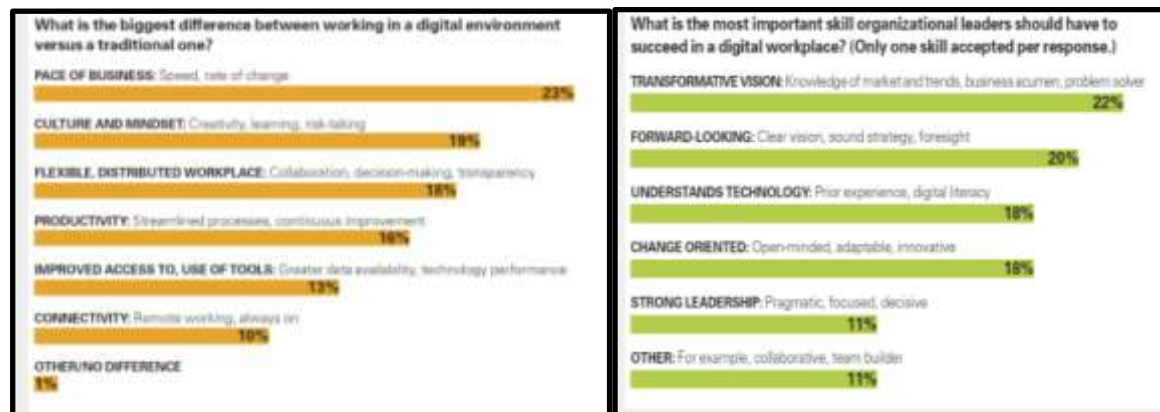

Figure 4: Leadership dynamics in the digital industry
(Source: MIT Sloan, 2019)

It is evident that global leadership and its associated characteristics have been significantly changed due to digitized opportunities.

LITERATURE REVIEW
Critical analysis of the changes

The Digital era has marked the changes in different industries by offering a large number of opportunities. The role of the leader has changed significantly since the adoption of a digitized workforce Cortellazzo et al. (2017) opined that digital technologies are fundamentally changing the traditional role of leaders. The increased connectivity and the high-speed information transfer have contributed to the breaking down of the traditional hierarchical dynamics and boundaries Larjovuori et al. (2016) suggested that many organizations' traditional confrontation and speech culture are getting replaced with virtual teams Leaders can manage a significantly diverse team with cultural and time variation in a virtually managed team environment. The benefits of solid communication and cross-cultural skills are some of the requirements that every leader poses in regarding managing digital teams.

At the same time, changes in the power structure can be observed within an organization that is going through digital maturity levels   Kitada et al. (2018) mentioned that members have been sharing their decision making power instead of relying on one sole leadership. The change can be seen in the distribution of power. The responsibility area has become wide, and power criteria's are being divided   Håkansson et al. (2018) opined that traditional social skills that leaders were associated with, such as active listening and decision making, are being supported by additional skills like quick feedback and implementation ability The Culture of strategic management and vision adoption has also changed significantly   In the digital era, strategies

taken by leaders are quick in terms of enforcing and vision is realistic.

Critical evaluation of the impact

There are positive and negative impacts of transforming leadership characteristics within the digital needs Ariyani & Hidayati (2018) suggested leaders are now focused in terms of providing employees with more opportunities in their life. These opportunities can be either economic or social freedoms Strategies of employee management have improved the organization-employee relationship de Araujo et al. (2021) suggested that work has become more cognitively complex, team-based and highly dependent on social skills Technology competencies and mobile work have become critically significant within the demands of the digital workplace.

The situational leadership theory suggests that there are two particular factors, such as style and maturity levels of the followers. Bolte et al. (2018) suggested that different situations require different leadership styles and decision making. This theoretical dynamic can be applied to modern leaders that have changed their style as per the requirements of the digital workforce. The modern leaders in the digital workforce environment have improved skills in network building Abbu et al. (2020) suggested that leaders are now actively attracting partners through information and technology opportunities. The ability to incorporate data in decision making has now become an organizational culture. The need for a digital workforce and digital leadership has significantly focused on strategy development.

METHODS

This is a secondary research process, and here previous articles and journals have been explored in order to deliver on the predetermined research objectives Mohajan (2018) mentioned that secondary research should be done through a systematic review of the past resources of the same relevance. Similarly, a systematic review of the secondary resource has been performed within the data analysis contexts. The primary benefit of a secondary systematic review is that it is cheap and fast in terms of conducting. Requirements for skills are also limited. It is important to mention that a positivist ideology has been imposed in the data collection and interpretation process.

The secondary analysis framework is supported by a descriptive exploratory framework. It should be mentioned that the research resources are mainly four case studies on different leaders that have experienced changes in the digital workforce. The four case studies from the different industry sectors have been reviewed with a quality review and thematic coding outputs in terms of generating two critical themes Taherdoost (2016) mentioned that interpretation of the themes should be supported with data Likewise, two descriptive themes have been delivered in the results with the help of qualitative data.

RESULT AND ANALYSIS
Quality review

Authors	Study design	Number of resources or samples	Measured outcomes	Results	Quality review
Khan, 2021	Qualitative research method	82	Tesla motor's leadership style is charismatic	Elon musk prefers influential leadership	Moderate
Narbona 2016	Qualitative method	232 social media impressions and posts analysis	Impact of digital leadership on the follower's perception	The pope has been influencing followers with transcendental leadership through social media platforms	High
Birch et al. 2021	qualitative interviews with policymakers, financial data and quantitative annual report analysis	n= 21 for interview And Annual reports from 2010-to 2019	The apple leadership and Microsoft leadership have used big data and customers relationship management (CRM) for operational engagement	Digital technologies have increased intangible asset management by the leaders	High
Pesce et al., 2019	Case study analysis	32	Value creation and stakeholders' satisfaction through digital opportunities in Microsoft and Apple	Digital tools like CRM and big data are creating values, and leaders recognize it in tier strategies.	Moderate

Table 1: Quality Review

(Source: Learner)

Thematic coding

Author	Code	Theme
Khan, 2021, Naronna 2016	Elon Musk, Pope Francis, Digital leadership, Twitter, industry digitization	Elon musk Vs Pope Francis, the impact of social media leadership on the followers
Birch et al. 2021, Pesce et al. 2019	Apple, Microsoft, CRM, Big data, Big tech firms, Digitalization	CRM and BIG data are the prime focus strategy for Apple and Microsoft leadership.

Table 2: Thematic coding
(Source: Learner)

Thematic analysis

Theme 1: *Elon musk Vs. Pope Francis, the impact of social media leadership on the followers*

The first theme is based on two case studies; one is related to Elon Musk, Ceo of Tesla, and the other is on Pope Francis, Head of the Catholic Church. Both of these leaders have influential-style leadership, and they have taken significant leverage from social media for this purpose. Khan (2021) mentioned that Musk has a deep appreciation for technology, and social media has been one of the tools that he has used in the communication of strategies. Elon's vision towards strategizing through social media is that it adds value to the organization. Digital leadership is one of the critical characteristics that Musk has developed over the past few years. Khan (2021) opined that when employees and leaders participate in open communication through social media platforms, it adds credibility to the company. The interconnectedness between leaders and followers enforces a strong company culture that can be witnessed in the Culture.

On the other hand, Pope Francis has used social media platforms like Twitter to analyze new movements and revolutions Narbona (2016) mentioned that social media analytics is one of the features of digital organizations, and leaders have been taking advantage of analytics in the making strategies Pope Francis has been using social media as a tool to communicate and collaborate on the views and perspectives of catholic organizations Narbona (2016) opined that social media have benefits like extending the capacity of a leader to become persuasive Twitter has helped Pope Francis to strengthen relationships with the followers and followers Narbona (2016) mentioned that, on social media, the image of a leader is particularly built on the informative value of the messages and posts It should be mentioned that the degree of influence a leader can make should be the primary contributor in the operational efficiency of the team members.
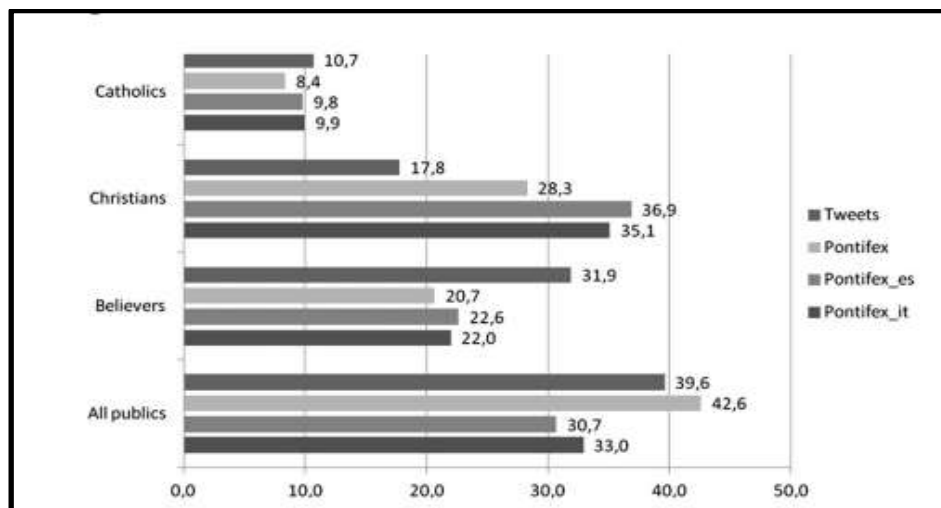
Figure 6: Impact of leadership communication through social media (Pope Francis)
(Source: Narbona, 2016)

It can be seen that both Pope Francis and Elon musk have significantly improved their leadership opportunities with the help of digital technology like social media. They have reached a wide range of people through mass communication platforms like Twitter. The impact can be seen through the below illustration that communication strategies with social media have helped Catholic organizations to reach a wide range of audiences. Out of 100% of the total audience influenced by Pope Francis's tweets, 39.6% are new (Narbona, 2016); this suggests that leadership in the digital era have changed significantly and influencing a large audience base is a new Culture.

Table 1   Consolidated financial data from 2014 to 2018

Year ended December 31

	2018 (2)	2017	2016 (1)	2015	2014
Consolidated statements of operations data:					
Total revenues	$ 21,461,268	$ 11,758,751	$ 7,000,132	$ 4,046,025	$ 3,198,356
Gross profit	$ 4,042,021	$ 2,222,487	$ 1,599,257	$ 923,503	$ 881,671
Loss from operations	$ (388,073)	$ (1,632,086)	$ (667,340)	$ (716,629)	$ (186,689)
Net loss attributable to common stockholders	$ (976,091)	$ (1,961,400)	$ (674,914)	$ (888,663)	$ (294,040)
Net loss per share of common stock attributable to common stockholders, basic and diluted	$ (5.72)	$ (11.83)	$ (4.68)	$ (6.93)	$ (2.36)
Weighted average shares used in computing net loss per share of common stock, basic and diluted	170,525	165,758	144,212	128,202	124,539
As of December 31					
	2018 (2)	2017	2016 (1)	2015	2014
Consolidated balance sheet data:					
Working (deficit) capital	$ (1,685,828)	$ (1,104,150)	$ 432,791	$ (29,029)	$ 1,072,907
Total assets	29,739,614	28,655,372	22,664,076	8,067,939	5,830,667
Total long-term obligations	13,433,874	15,348,310	10,923,162	4,125,915	2,753,595

Figure 7: Tesla balance sheet
(Source: Khan, 2021)

The influence of Elon musk's charismatic leadership behaviour can be witnessed in the Tesla valuation. It is evident from the above data that Tesla's total revenue can be seen to escalate to $ 21,461,268 from $ 3,198,356 within four-year time differences (Khan, 2021). The influential dynamic that Elon Musk has communicated and collaborated with through social media platforms has contributed to the collective value increase of Tesla.

Theme 2: *CRM and BIG data are the prime focus strategy for Apple and Microsoft leadership.*

The second theme is based on the two organizational leadership case studies of Apple and Microsoft. This theme focuses on the organizational strategy making through leadership influence regarding the complete adoption of CRM and Big data. Birch et al. (2021) mentioned that Big data and CRM both are digitalization dynamics that are being explored by organizations in terms of gaining stakeholders' satisfaction and competitive advantages. Microsoft leadership has been focusing on increasing its intangible assets. Birch et al.(2021) mentioned that Microsoft had spent $52.2B over the last few years in terms of acquiring large organizations. This is due to the fact that Microsoft wants to take advantage of the data gathered by all these organizations and incorporate them into their big data strategy. Big technology firms and their leadership are valuing personal customer data in terms of improving their customer's services.
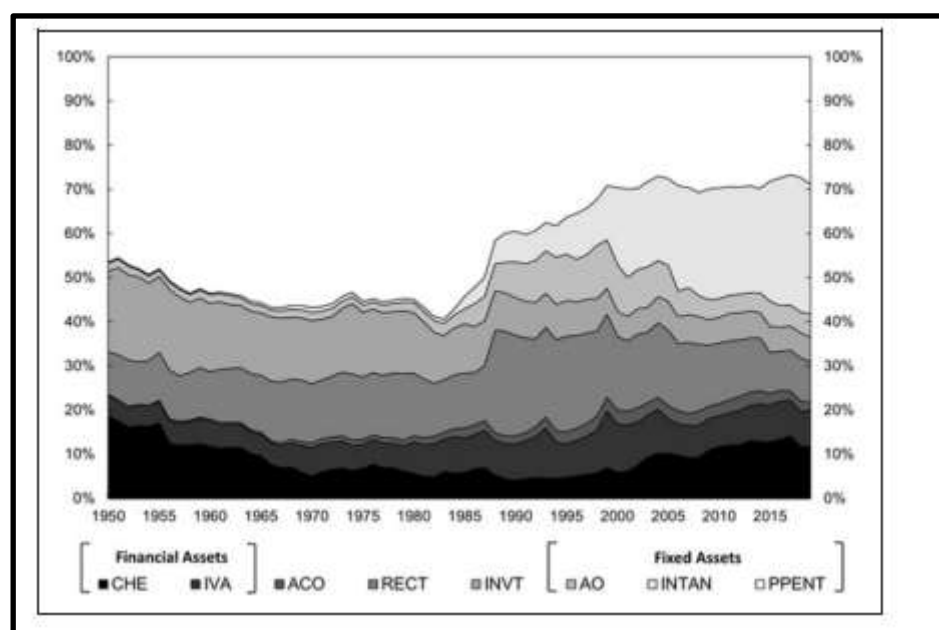

Figure 8: Increase in intangible asset management in big tech firms
(Source: Birch et al. 2021)

On the other hand, bigtech firms like Apple and its leadership have based their business model on both portability and interconnectivity of digital tools. Pesce et al. (2019) mentioned that CRM as a digital platform had offered the opportunity to facilitate interaction between the buyers and suppliers. The Apple leadership can be seen focusing on interconnectivity, and CRM has supported

this objective with communication and collaboration development. Apple leadership is transformational, and it has helped the company to generate economic value. Therefore, it is evident that the technology leaders are strategizing through CRM and Big data integration. This is changing the traditional decision-making ecosystems in industries.

DISCUSSION

The above data analysis section has recognized two themes regarding the change in leadership dynamics during the digital era. The first theme has demystified that leaders have changed their communication and collaboration techniques under the pretexts of digital tools and opportunities. Two of the influential leaders of the world have used social media platforms in order to create value for their respective organizations. Based on the study of Hendrasto et al. (2019), organizational leaders have improved organizational transparency and established relationships with their followers. This implies that present-day leadership is highly influenced by the technologies and tools offered by the digital era. Similarly, achieving company reputational goals and objectives with the help of social media communication have become one of the most critical values creation strategies.

Likewise, organizational decision making is now influenced by digital technologies like CRM and Big data. Big technology firm leaderships have incorporated CRM and data in their strategic decision-making process Anshari et al. (2019) commented that big data and CRM have improved the decision making effectiveness of the leaders. It is evident that leaders in Apple and Microsoft are making informed decisions with the help of CRM and Big data environments.

CONCLUSION

Hence, this study has conceptualized the effect of digital transformation on leadership dynamics. Digital transformation of the industries has also transformed the process a leader takes to make a decision. Nowadays, data plays a critical factor in making informed leadership decisions. Similarly, leaders are focusing on creating organisational value through the help of investing in intangible asset management Leaders have made significant progress in digital maturity achievement and technology; tools are playing a critical contributing factor in achieving such progress.

LIMITATION

This study has multiple limitations like method selection, data interpretation and decision making. The selection of a mono-method has limited the opportunity to explore a vast resource area. Similarly, decision making around the qualitative interpretation of the data has reduced study comprehensiveness.

FUTURE SCOPE

There are several opportunities that should be explored in future research. In future studies, statistical significance determination between leadership strategies and Digitalization needs to be done. Similarly, there are a number of different industries that are not conventional in the research process that should be explored in future studies. Future studies should highlight the

positive and negative impacts of digitization and whether leaders are taking strategies against these.

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