DIGITAL LEADERSHIP AND LEADERSHIP STYLES AMONG LEADERS IN THE LEBANESE HIGHER EDUCATION

Ali HAMDOUN, PhD. Student
Varna Free University, Bulgaria, Administration, Management and Political Science, Faculty of International Economics and Administration
hamdounn@gmail.com

Abstract *With the emergence of the need for innovative teaching techniques and improved learning opportunities, student demands are changing, leading to alterations in the understanding of the learning concept itself as well as introduction of novel challenges faced by teachers and learners in such educational setting. This led to the emergence of education 4.0, that had a holistic adoption worldwide yet is constrained by specific skills needed among the workforce, including adaptive thinking, cognitive and computational ones mainly in the areas of information technology, data analytics, etc. Thus, in order to continue implementing new trends and give future talents significance, universities should update the existing programs, facilities and infrastructure and adopt effective leadership practices of digital transformation in order to integrate academics among departments. Therefore, the main purpose of the study falls in investigating the leadership skills and styles adopted by these academics and analyzing their point of view towards digital leadership. In order to reach this purpose, academics working at universities in Lebanon participated by responding to the Multi-factor Leadership Questionnaire (MLQ), where the collected data was analyzed using SPSS software.*

Keywords*: Digital leadership, higher education, transformational leadership, outcome leadership*

1. INTRODUCTION

The factors of production and competition in a knowledge-based economy push companies to aim at achieving novel accomplishments. Due to that, innovations elevated in areas such as factory floors, operating rooms and energy facilities as a variety of great technological ideas were focused around how people in an organization connect, exhaust, perform and move (Carrillo, 2015). In the light of such phenomena, organizational performance approaches were pushed towards change in order to focus on being more sociable and is currently shifting from consumption and entertainment to production of and investment in technologies that increase efficiency (Company, 2020). When it comes to Lebanon, a challenge exists when higher educational institutions aim at keeping up with the new technologies with a limited financial ability although it is enriched with an educated labor force (DIBEH, 2020; United Nations, 2021).

In higher education, the university itself along with its human resources have a significant role in offering its learners a superior learning environment as they cooperate and put in an effort to deliver the finest service (Runhaar, 2016). In order to achieve such service quality, the university's human resources, especially instructors and academics, must be capable of leading their students in order to guide them into reaching their aspirations and expectations in life and prepare them for the workforce. Nowadays, digital media is a considered as natural in our society and is leading to a new aspect in communication habits focusing on virtual networking as a digital medium, which remains to gain popularity among members of the society, and resulting in challenges when applying traditional leadership styles (District, 2020). So, in such competitive environment, academics must think strategically in order to succeed and become familiar with new terminologies and phenomena such as remote leadership, digital leadership, virtual / e-leadership. In addition, leaders in higher educational institutions must be aware of the applications

that allow communication in order to predict the technological advancements that help improving the implementation of leadership at their organizations (Mat Rahimi Yusof, 2019).

The importance of an instructor is realized due to its effect on the learner's own growth shaped by exchanges the two parties. In addition, the instructor adequately satisfies the needs of the learner and thus must show leadership in new ways. Due to the widespread of digital technologies, instructors show the ability to overcome obstacles in creative ways and must challenge himself to enhance the leadership activities by adopting technological tools that can create a suitable environment digitally for both, instructors and learners. Thus, in order to be applying the most suitable leadership style for such period, instructors must practice a creative digital leadership approach in order to prepare learners sufficiently for development (U.S. DEPARTMENT OF EDUCATION , 2017).

Unfortunately, there is no certain model designed specifically for the Lebanese higher education environment and there are relatively few researches done on this transformation process in higher education institutions, thus the concept is quite challenging due to the high number of institutions impacted by the process (Ehlers, 2020). Thus, this study aims at explaining the concept of digital leadership and its styles, employed in Lebanese universities to provide recommendations for improvement, as well as conducting a status quo analysis that pay close attention to the potential fields of action. Thus, this research aims at answering the below proposed questions: Which of the leadership styles practiced by instructors is most effective? What factors determine the leadership outcomes? Does incorporating e-skills affect what leadership style is adopted and how it is implemented? Are the style and leadership outcome differentiated according to the leaders' years of experience?

2. LEADERSHIP STYLES AND OUTCOMES

2.1. Digital Leadership

The emergence of digital technology has been deemed as beneficial to the economy as a whole, businesses, as well as society's daily activities. In education, digital leadership represents the incorporation of technologies such as Internet of Things (IoT), Artificial Intelligence (AI), big data, and machine learning as well as e-platforms, social media and webinars. This digitalization can aid not only in promoting the higher educational institution, but also in transforming the conventional workplaces into digitalized ones (Byström, 2021). Based on this, job standards for educators must be fundamentally improved, thus, leading instructors must exert effort to enhance their knowledge of digital leadership and its importance in order to transform into a project-oriented leadership and incorporate digitalized technologies (Saykilia, 2019). Therefore, the purpose of this study aims at showing how digital leadership benefits the higher education sector in Lebanon and its necessity in the skill set of instructors and academic staff.

2.2. Types of leadership (transactional vs transformational)

In reference to Burns' theory, two different types of leadership exist, transformational leadership and transaction leadership. A transactional leader is someone who takes into consideration his followers' needs and seeks to attain them, on condition that their operation is worth honoring. Moreover, the transactional leader, although encouraging change, thrives to keep the organization stable by applying numerous efforts to attain its goals (Desrosier, 2015) and rewarding such activities reinforces their significance. These rewards can be materialistic or sentimental. Transactional leadership has four dimensions that include the following:

a. **Contingent rewards leadership**: Leaders receive compensation to honor the commitments made. They communicate agendas, determine clear strategies, share commitments, and compensate employees for their efforts and contribution to the organization's objectives. In addition, they form advantageous partnerships, exchange assets, offer support when needed, and honor progress, which is seen to be constructive.

b. **Active Management by exception:** Leaders employing such administrative approach track their followers' performance and perform amendments in case of missing the objective.

c. **Passive Management by exception:** A difference exists between this dimension and the preceding one by which in the passive management approach, the leader resolves problems after it occurs, unlike the active exception management approach where it offers solutions prior to the complications.

d. **Avoidant leadership:** Leaders adopting this leadership style actually avoid such positions. That's why it is regarded as an unsuccessful type to the point that it might not even considered as a type of transactional leadership.

Because employees usually tend to limit their work to the requirements of the job description or contract, transactional leadership often fails to yield targeted outcomes. Unlike contingent reward leadership, active exception management, passive exception management and avoidant leadership impact the employee's efficiency specifically when the leader passively anticipates problems (Xenikou, 2017).

In reference to (Steinmann, 2018), a transformational leader is the one that interacts with his team to prioritize the organization's goals over personal goals by continuous motivation to go beyond what the organization needs. When referring to Maslow's hierarchy of human needs, appreciation, acceptance and self-actualization are prioritized by a transformational leader as they work to motivate

and lead their colleagues and teammates by expressing interest in what they do, in their intellectual abilities, and their willingness to cross challenges as well as their continuous contribution in completing the objectives of the job. Transformational leadership focuses on pushing their associates towards improvement and development rather than degrading their efforts if were inappropriately exerted by attempting to develop and implement improvements to the set organizational strategy, goals, processes, and tasks while meeting the demands of stakeholders. In addition, these leaders attempt to benefit from their past experience and create a culture of trustworthiness and confidence. Thus, this approach to leadership is considered as an efficient and effective type of leadership and according to Bass (1985), transformational leadership had been seen through the supreme historical facts. Moreover, the practices of transformational leadership are connected to the levels of productivity of such leaders as well as the success of their teams (Sadeghi, 2012).

Burns saw that the leader can be either transformational or transactional making them opposing ends of the concept. However, Bass et al stated that there was complementarity among these two types as the leader can display both of these forms' behaviors at once. Thus, later studies developed a unified theory that deemed transformational leadership to be an extension of transactional leadership through the relationship building process among leaders and followers and the secret to success of transformation falls in the constructive feedback of the leader (Chen, 2018). In turn, the appreciation expressed for the efforts made will push associates to strengthen ties with the leader, that are built on honesty and trustworthiness, and continuously seek their acceptance, which results in progress from transactional to transformational leadership.

2.3. Leadership Outcomes

Success of the whole team is based on the style of leadership adopted, whether transactional or transformational (VARELA, 2020). In order to measure such success, a multifactor leadership questionnaire was adopted from previous researches, as it is considered as one of the most significant and effective tools of success measurement. The key factors that determine the success of leadership, as stated by (Reid, 2018; Serrat, 2020), include:

a. **Extra Effort**: this refers to the extent to which the associates believe that their leader inspires and motivates them to exert effort in order to reach the set goals. When they are motivated, associates will tend to go beyond their acknowledged capabilities and thrive to improve in order to succeed and achieve a certain objective.

b. **Effectiveness**: This represents the level of interaction that the leader displays at different organizational levels. Effectiveness is determined by the questions a leader asks regarding team representativeness at managerial levels of a company, satisfaction levels at achieving job requirements and capability of guiding a successful team

c. **Satisfaction with the Leadership**: It refers to the extent at which associates perceive the leaders' working practices and tactics appropriate and collaborative.

Thus, on the basis of previous researches adopting this questionnaire, the highest rated leader in transformational leadership elements is the one who is highly effective, pushes his followers to put in some extra effort and satisfy their job needs as well as succeeds in attaining the set goals, unlike those who are highest rated in transactional components (Filip Lievens, 2010).

3. METHODOLOGY

Data will be collected by conducting a questionnaire that leaves its respondents anonymous as it is considered the most unbiased type of data collection tool regarding opinions, attitudes, beliefs and values as the respondents have complete freedom without fearing the reaction of their superiors or leaders.

This closed-ended questionnaire consists of 3 parts, where the first provides a characterization of the sample's demographics (age, gender, experience level, university degree, etc.). It was distributed to a sample of 117 instructors by a Google Forms link. This data will be then statistically analyzed on SPSS Statistics and a conclusion will be deducted from the analysis, that might be generalized in larger population groups.

In order to measure the effectiveness of the leadership styles previously mentioned, questions from the multifactor leadership questionnaire were adopted that include questions about transformational leadership, transactional leadership, passive exception management, active exception management, avoidant leadership as well as questions that explore leadership outcomes in terms of extra effort, effectiveness and satisfaction with the leadership. Respondents were asked to rate on a scale from 1 (not at all) to 5 (almost always), the extent to which they exhibit certain leadership behaviors.

Digital leadership was similarly measured by asking 5 interrelated questions where their average score may range between 1 and 5. Those that exercise such leadership style have a higher score. Questions focused on investigating if leaders follow trends such as mobility, cloud computing, big data analysis, social media, Internet of Things, customer experience and IT security (Lighton, 2018; Jenkins & A.C., 2016).

When analyzed, descriptive methods and inductive methods were applied to the variables in SPSS program. Descriptive methods include frequency, percentage

tables and charts, minimum and maximum values, mean values, standard deviation. In addition, relationships were examined through inductive methods like Pearson Chi-Square and correlation, linear regression, Kruskal-Wallis, Wilcoxon Signed Tanks Tests, etc.

4. RESULTS AND DISCUSSIONS

As a primary step, demographic characteristics of the sample will be described in order to understand their backgrounds. More than 50% of the respondents were males (61.5%) such that females made up only 38.5%. Their ages ranged mainly between 31 and 40 years old (41%) and 28.2% were aged between 41 and 50 years. The remaining 30.8% represent those younger than 30 years old and older than 51 years old. As for their years of experience in higher education, approximately 90% of the respondents have an experience of 6 years and above. Also, most of the respondents have served in managerial positions with 28.2% have serviced for 1-3 years, 23.1% have served for 4-6 years, 23.1 have served 7-9 years and 25.6% have been in managerial positions for more than 9 years. Finally, most of our participant hold a PhD Degree with 51.3%, followed by those holding a Master Degree for 28.2% of the population and 18% are associate professors and professors.

Table 1: Descriptives and Cronbach Alpha of Variables

	N	Min.	Max.	Mean	SD	Cronbach's Alpha
Transformational Leadership	108	2.55	4.7	3.9	0.475	0.838
Transactional Leadership	108	2.88	4.75	3.69	0.474	0.532
Passive/Avoidant Leadership	117	1.13	3.25	1.85	0.541	0.627
Leadership Outcome	114	2.83	5	3.97	0.61	0.87
Digital Leadership	117	1	5	3.45	0.859	0.864

In reference to table 1, reliability of all scales is considered as satisfactory with a Cronbach's alpha value greater than 0.5, with 0.532 for transactional leadership till 0.87 for leadership outcome. If focusing on the alpha of digital leadership (0.864), it shows that the 5 questions are interrelated and can be deemed as 1 variable that equals the average of the questions.

Regarding the Wilkoxon Signed Ranks Test conducted, the results showed that the differences between transformational leadership and transactional leadership as well as between transformational leadership and passive-avoidant leadership are statistically significant ($p < 0.05$). However, the difference between applying transformational leadership and the leadership outcome doesn't show any significance when examined in this test.

Table 2: Wilkoxon Signed Ranks Test

	P-Value
Transformational Leadership - Transactional Leadership	0.000
Transformational Leadership - Passive-Avoidant Leadership	0.000
Transformational Leadership - Leadership Outcome	0.262

In order to see if leadership styles are influenced by demographics characteristics, non-parametric Mann-Whitney and Kruskal-Wallis tests were conducted. From the results (Table 3), it is seen that gender did affect transformational and passive-avoidant leadership only (p-value < 0.05). However, gender didn't influence the adoption of digital leadership, outcome leadership or transactional leadership with p-values of 0.684, 0.194, and 0.073 respectively.

Table 3: Leadership Style and Gender

	P-Value
Transformational Leadership	0.000
Transactional Leadership	0.073
Passive/Avoidant Leadership	0.019
Leadership Outcome	0.194
Digital Leadership	0.684

Regarding leadership styles and age, results showed that only transformational and transactional leadership styles were influenced by the age group of our respondents.

Table 4: Leadership Style and Age

	P-Value
Transformational Leadership	0.042
Transactional Leadership	0.000
Passive/Avoidant Leadership	0.351
Leadership Outcome	0.815
Digital Leadership	0.993

As for the level of higher education, p-values seen in table 4 show that only transactional leadership, passive-avoidant leadership and digital leadership were affected by the educational level of respondents.

Table 5: Leadership Style and Higher Education

	P-Value
Transformational Leadership	0.287
Transactional Leadership	0.045
Passive/Avoidant Leadership	0.001
Leadership Outcome	0.287
Digital Leadership	0.046

Finally, leadership styles and years of service in administrative positions showed an influence only in digital leadership and in leadership outcome ($p = 0.000 < 0.05$). Thus, we can conclude that the demographics of the sample do not seem to influence all leadership styles and cannot be generalized to all.

Table 6: Leadership Style and Experience in Administration

	P-Value
Transformational Leadership	0.305

Transactional Leadership	0.697
Passive/Avoidant Leadership	0.146
Leadership Outcome	0.000
Digital Leadership	0.000

Correlation was conducted in order to study the effect of applying the leadership styles on the outcome of leadership. The below table shows that there's a significant relationship between transformational, transactional as well as passive-avoidant leadership styles and leadership outcomes with significance value of 0.000 (p-value < 0.01). Referring to the Pearson correlation value, transformational leadership and transactional leadership have a positive relationship with the leadership outcome, whereas passive-avoidant leadership has a negative relationship with the leadership outcome.

Because there was a relationship between these three leadership styles and the leadership outcomes, a linear regression model was conducted in order to further understand to what extent do these leadership styles impact outcomes when applied together. Based on the results below (Table 8), the final regression model shows that with every increase of 1 unit in transformational leadership, transactional leadership and passive-avoidant leadership, leadership outcome increases by 0.778, 0.184 and decreases by 0.209 respectively.

In order to understand the effect of adding digital leadership, correlation tests and a regression model were conducted to see if these leadership styles influence it and by how much. In reference to table 9, there are strong relationships between the variables as p-values were all recorded to be 0.000 < 0.01 with R equals to 0.667 for transformational leadership, 0.569 for transactional leadership, -0.499 for passive-avoidant leadership and 0.720 for leadership outcomes. The high and positive correlation between digital leadership and leadership outcomes mean that a high degree of digital leadership implementation leads to a high degree of effectiveness and satisfaction.

Due to the relationship among these variables, a regression model was conducted and showed that all the leadership styles had a significant influence on digital leadership as their p-values < 0.05. as for leadership outcomes, it shows that it also had a significant difference with p-value = 0.000 < 0.05 leading us to conclude that the added effectiveness and satisfaction in leadership practices, the more is digital leadership applied.

Table 7: Correlation between Leadership Styles and Outcomes

Leadership Outcome	Transformational Leadership	Transactional Leadership	Passive-Avoidant Leadership
Pearson Correlation	0.816	0.500	-0.650
Sig. (2-tailed)	0.000	0.000	0.000

Table 8: Regression Model of Leadership Styles and Leadership Outcomes

Dependent Variable	Parameter of Simple Linear Regression	Transformational Leadership	Transactional Leadership	Passive-Avoidant Leadership
Leadership Outcome	**Beta Coefficient**	0.778	0.184	-0.209
	P-value	0.000	0.04	0.034

Table 9: Correlation between Digital Leadership, Leadership Styles and Leadership Outcomes

Digital Leadership	Transformational Leadership	Transactional Leadership	Passive-Avoidant Leadership	Leadership Outcome
Pearson Correlation	0.667	0.569	-0.499	0.720
Sig. (2-tailed)	0.000	0.000	0.000	0.000

Table 10: Regression of Digital Leadership, Leadership Styles and Leadership Outcomes

Dependent Variable	Parameter of Simple Linear Regression	Transformational Leadership	Transactional Leadership	Passive-Avoidant Leadership	Leadership Outcome
Digital Leadership	**Beta Coefficient**	0.260	0.449	-0.112	0.572
	p-value	0.000	0.04	0.034	0.000

In addition, respondents were asked to list digital tools and characteristics that they most likely would use and find necessary when applying leadership practices. Based on their listing, it was seen that mobile applications, social media and web development tools were most utilized and found to be necessary for leaders as more than 50% responded with their importance. The least perceived important tools include digital architecture, complex business systems and ERP systems.

Table 11: Listing of Digital Skills for a Leader

Mobile Apps	87	74%
Social Media	78	67%
Web development and Tools	63	54%
Big Data	57	49%
Cloud Computing	42	36%

Security Skills	36	31%
Digital Architecture	30	26%
Complex Business Systems	24	21%
ERP Systems	12	10%

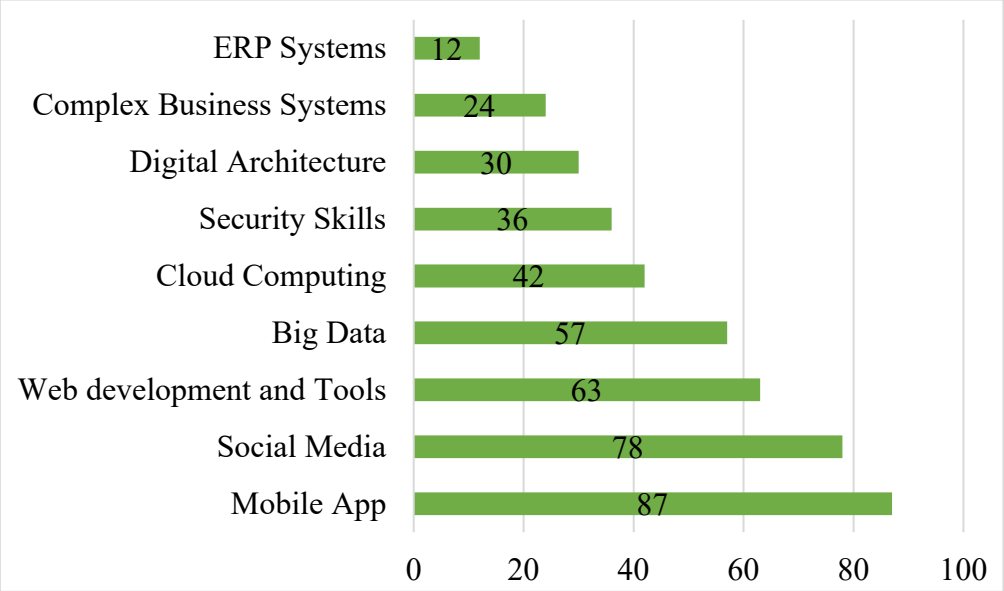

Figure 1: Digital Skills for a Leader

Because some of these tools are deemed important, the relationship of different leadership styles and leadership outcomes with the digital skills was examined and the results (Table 12) showed that the relationship exists only between passive-avoidant leadership and digital skills as well as between digital leadership and digital skills (p-value < 0.05). However, the rest of the leadership styles do not affect and are not affected by digital skills of leaders.

Table 12: Correlation between Digital Skills and Leadership Styles

Digital Skills	Transformational Leadership	Transactional Leadership	Passive-Avoidant Leadership	Leadership Outcome	Digital Leadership
Pearson Correlation	0.124	-0.074	-0.194	0.077	0.231
Sig. (2-tailed)	0.201	0.444	0.036	0.077	0.012

At last, the number of digital skills was recoded to show percentages of respondents who stated few or many skills. The results showed that approximately 75% of the respondents stated that a low number of skills can be exploited that they consider essential for a successful leadership style. The remaining 25% stated that 4 to 6 skills should be used and applied when practicing leadership effectively (Table 13).

Table 13: Number of Digital Skills as Levels

	Level	N	%
Number of Digital Skills	Low (1-3)	87	74.4
	Intermediate (4-6)	30	25.6

Since digital skills showed a significant relationship with digital leadership, a Mann-Whitney test was conducted and yielded a p-value equal to 0.000 which is less than 0.05. meaning that those who stated a low number of digital skills have a lower degree of digital leadership than those who claimed a higher average number.

Table 14: Mann-Whitney Test of Digital Leadership Skills

	Level	Mean	P-value
Number of Digital Skills	Low (1-3)	44	0.000
	Intermediate (4-6)	102.5	

5. CONCLUSION AND RECOMMENDATION

In order to successfully motivate academics and enhance the higher education institutions, leaders must integrate the educational leadership in foundations of leadership, concepts and conditions along with digital leadership. That's why instructors as well as academic staff in managerial positions should always remain updated of all new technologies and enroll in training sessions and courses in order to understand them well and incorporate them into their leadership styles.

Thus, digital leadership is seen as a significant aspect that can enhance the higher education institutions' entire functions and yet another incentive to involve such concept into their leadership styles. The study has some limitations including a small sample size due to the limited time and resources available. Thus, it is recommended that this study include a larger sample of Lebanese universities' academic staff in order to have a better generalization of conclusions. In addition, further researches can be done to understand more about the components necessary for the most effective implementation of digital leadership. As for instructors, it is recommended that they be trained on new digital skills that can enhance their leadership skills and overall styles.

References

1. Byström, H. V. (2021). Challenges to learning and leading the digital workplace. *Studies in Continuing Education*.

2. Carrillo, F. (2015). Knowledge-based development as a new economic culture. *J. open innov*, 1, 15.

3. Chen, Y. N. (2018). Is transformational leadership always good for employee task performance? Examining curvilinear and moderated relationships. *Front. Bus. Res*.

4. Company, M. &. (2020). *The Next Normal The recovery will be digital.* McKinsey Global Publishing.

5. Desrosier, D. P. (2015). Leadership Style in Social Work Educational Administration. *International Journal of Business and Social Science*.

6. DIBEH, G. (2020, january 28). *IS LEBANON READY FOR THE FOURTH INDUSTRIAL REVOLUTION?* Retrieved from arab development portal: https://www.arabdevelopmentportal.com/blog/lebanon-ready-fourth-industrial-revolution

7. District, B. D. (2020, june 24). *HOW WILL TECHNOLOGY AND INNOVATION IMPACT EDUCATION?* Retrieved from Beirut Digital District: https://beirutdigitaldistrict.com/blog/how-will-technology-and-innovation-impact-education

8. Ehlers, U.-D. (2020). Digital Leadership in Higher Education. *Higher Education Policy And Leadership Studies* , 6

9. Filip Lievens, P. V. (2010). Identification of Transformational Leadership. *EUROPEAN JOURNAL OF WORK AND ORGANIZATIONAL PSYCHOLOG*, 415-430.

10. Jenkins, D., & A.C., A. (2016). Developing Critical Thinking Through Leadership Education. *New Directions for Higher Education*, 57-67.

11. Lighton, J. R. (2018). Acquiring Useful Tools and Skills. In Measuring Metabolic Rates: A Manual for Scientists . *Oxford Scholarship Online.*, 232-238.

12. Lindqvist, M. H. (2019). School leaders' practices for innovative use of digital technologies. *British Journal of Educational Technology*.

13. Mat Rahimi Yusof, M. F. (2019). Digital Leadership Among School Leaders in. *International Journal of Innovative Technology and Exploring Engineering (*, 1481-1485.

14. Reid, W. M. (2018). Burns, Senge, and the Study of Leadership. *Open Journal of Leadership*, , 89-116.

15. Runhaar, P. (2016). How can schools and teachers benefit from human resources management? Conceptualising HRM from content and process. *Educational Management Administration & Leadership*, 1–18.

16. Sadeghi, A. (2012). Transformational Leadership and Its Predictive Effects on Leadership Effectiveness . *International Journal of Business and Social Science*.

17. Saykilia, A. (2019). HIGHER EDUCATION IN THE DIGITAL AGE. *Journal of Educational Technology & Online Learning*, 1-15.

18. Serrat, O. (2020, 8 july). *The Full Range Leadership Model: Essentials and Practicum*. Retrieved from researchgate.net: https://www.researchgate.net/publication/342782205_The_Full_Range_Leadership_Model_Essentials_and_Practicum

19. Steinmann, B. K. (2018). The Path Is the Goal: How Transformational Leaders Enhance Followers' Job Attitudes and Proactive Behavior. *Frontiers in psychology*.

20. U.S. DEPARTMENT OF EDUCATION . (2017). *Reimagining the Role of Technology in Education:.* Office of Educational Technology.

21. United Nations. (2021). *Catching technological waves.* New York,: United Nations Publications.

22. VARELA, N. D.-M. (2020, 11 12). *Measuring transformational leadership style and its effectiveness on virtual work-teams in Mexico*. Retrieved from revista espacios: https://www.revistaespacios.com/a20v41n43/a20v41n43p09.pdf

23. Xenikou, A. (2017). Transformational Leadership, Transactional Contingent Reward, and Organizational Identification: The Mediating Effect of Perceived Innovation and Goal Culture Orientations. *Frontiers in psychology*.