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Leadership Theory in Digital Era: A Preliminary Investigation to Leadership in the Digital Startup

Nur Hendrasto[1], Arya Hadi Dharmawan[2], Sumardjo[3], Lukman Mohammad Baga[4]

Tazkia Islamic University College, Bogor, Indonesia[1]
Management and Business Doctoral Program, Institut Pertanian Bogor, Indonesia[2,3,4]

nurhendrasto@tazkia.ac.id[1]; adharma@apps.ipb.ac.id[2]; sumardjo@apps.ipb.ac.id[3]; lukmanba@apps.ipb.ac.id[4]

Abstract. The digital transformation has been a significant discussion since scientists predicted the birth of the digital era. The transformation affects many things, especially in the leadership concept. This article aims at investigating the development of academic literature on leadership in the digital era. We use bibliometric analysis and literature review to give further suggestions on which topics on leadership for a digital startup shall go to the fore. This study has mapped out the academic literature on the keyword "digital leadership" from the early year of the rise of the digital era in 2000, up until the end of 2018. This study shows that the topics related to digital leadership are digital transformation, internet, system, and organization. Between these four topics, the closest relation found in the topics of organization. Therefore to have a better understanding of leadership for the digital startup, further research should target the area of the organization.

Keywords: leadership, digital transformation, start-up companies, organization, innovation

Abstrak. *Transformasi digital telah menjadi diskusi penting sejak para ilmuwan memprediksi kelahiran era digital. Transformasi memengaruhi banyak hal, terutama dalam konsep kepemimpinan. Artikel ini bertujuan untuk menyelidiki pengembangan literatur akademik tentang kepemimpinan di era digital. Kami menggunakan analisis bibliometrik dan tinjauan pustaka untuk memberikan saran lebih lanjut tentang topik kepemimpinan mana untuk startup digital yang akan dikedepankan. Studi ini telah memetakan literatur akademis tentang kata kunci "kepemimpinan digital" dari tahun awal kebangkitan era digital pada tahun 2000, hingga akhir 2018. Studi ini menunjukkan bahwa topik yang terkait dengan kepemimpinan digital adalah transformasi digital, internet, sistem, dan organisasi. Di antara keempat topik ini, hubungan terdekat ditemukan dalam topik organisasi. Oleh karena itu untuk memiliki pemahaman yang lebih baik tentang kepemimpinan untuk startup digital, penelitian lebih lanjut harus menargetkan area organisasi.*

Kata kunci: *kepemimpinan, transformasi digital, perusahaan baru, organisasi, inovasi*

INTRODUCTION

The term leadership had drawn attention from many social scientists for over a century in both academic and popular world. They believe that leadership will drive the organization to have better performance (Rosete and Ciarrochi, 2005), impacting the economic growth of a nation (Olken and Jones, 2005), and even leadership practitioner such as Jason Walker said that leadership is the cure of all things. Burns (1978) noted that leadership is one of the most observed and least understood phenomena on earth. The world had known the term leader long before religion exists, but scientific research on leadership did not begin until the 20th century. Numerous studies had been done in the quest to define leadership (Stogdil, 1974; Maxwell, 1998), organization implementation (Avolio, 2007), measurement of effectiveness (Rosete and Ciarrochi, 2006; Kerr and Jermier, 1978), gender issues (Kent, Blair, Rudd, and Schuele, 2006), leadership traits and behavior model (Mcgregor, 1960; Blake and Mouton, 1964; Maxwell, 2011), and yet scientist still asking the same question, what does it takes to be an effective leader? The debate continues to the premise of whether a leader was born or made has also affected the way we deal with the leadership concept.

Scientist differs in their definition of leadership because they select different phenomena and interpret it in a different way (Yukl, 2013). Therefore, it has likely led us to reach the conclusion that no leadership theory as a golden triumph and fits all situations. From the evolutionist's scholar perspective, leadership and followership arose in humans and other species in order to survive (Vugt and Ajuha, 2011). Yammarino and Andserau (2011) also noted that human and social behaviour is determined with the interconnections between heritable psychological mechanism and environmental cues. In other words, in order to survive from environmental and social changes, leadership had to evolve throughout history. Leadership concept is not operating in an empty room. Changes of the people and organizations within which leadership operates change also the leadership concept. These changes occur even though the evolutionary process of leadership concept is not in a rigid sequence, but simultaneously risen and subsided in a short-term period (Seters and Field, 1990).

The change of the leadership concept goes to the fore, especially in the face of changing global situation in an exponential speed within the last decades. The rapid development of technology, especially information technology, has caused

an immediate effect in society and change the way they live. It is not the first time this significant change in society happens.
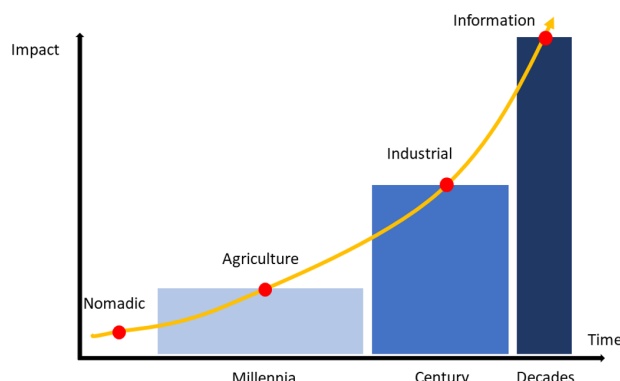
Figure 1. Toffler's Third Wave Model
Source: Processed by the author (2019)

Toffler (1980), a futurologist, has published a phenomenon work in predicting future society changes which he called "the third wave". He divided the society into four groups with three evolutionary changes wave. The rise and the rapid development of information technology have made him predict the coming of the new age, the information age.

Toffler prophecy has come true by the changes in society and its dependency on the internet. This information era has changes society faster than in any other era before it. Innovation is born at an amazing speed because there has been a shifting in the form of the information form physical (e.g. newspaper, brochure.) into the digital or digitalization process. The information is now reduced to bits stored in a computer and instantly send through the network (Tapscott, 1995). The effects of digitalization and the Internet, have changes in four categories of economic activity: 1) productivity enhancement in traditional industries; 2) restructuring at the industry level, 3) the creation of more efficient markets; 4) the creation of new combinations that give rise to new products and new industries (Carlsson, 2004). Hence the new digital economy was born and growing by the support of the development of information technology.

Digitalization has changed human behaviour and how they interact with each other in society. The latest data shows that 57 percent of the world population is now connected to the internet, with an average of one million new users each day in 2018. These people spend more than six hours per day on the internet, which means they use half of their productive time living in the digital society. These data are the reason why companies are transforming themselves into digital. The Internet has provided infinite possibilities in ways to create business and doing business. As society transforms into digital, so as the way of people doing business. People, especially the millennials, have found a creative way to solve society's problems and make money from that. The easiness to start a business also drives the millennial to build their business startups. This situation is of the main reasons that drive digital startups birth are about third time faster than the non-digital business.

However, the increasing birth rate of these digital startup companies were not followed by their rate of success. The statistic shows that 90 percent of these startups failed. Research also shows that the company survival rate is declining slowly.

Despite the complicated business situation in the digital age famously known with the term of VUCA (volatile, uncertain, complex, and ambiguous), the lack of leadership is pointed out to be the common reason for the failure of startups. To understand the startups in the digital era, researchers mostly see it from the entrepreneurship perspectives (see Baum and Locke, 2004; Koe et al., 2012). While leadership concept as the predictor to corporate performance and success (Rosete and Ciarrochi 2005), does not have the appropriate concern that it should have.

The purpose of this study is to see the mapping of studies about leadership in the digital context from the early year this digital revolution takes place. By doing so, this study will give the academic research a deeper understanding of leadership theory evolution and as a preliminary attempt to see how the digital era affected leadership thought. It also gives further recommendations on topics that should be investigated in order to have a better understanding of leadership for a digital startup.

RESEARCH METHOD

This study is a literature review study on leadership theory and its connection to the digital era. This study will analyze recent leadership studies using bibliometric network analysis with "leadership" and "digital" as a keyword in the literature search engine at Proquest, from early 2000 up until the end of 2018. The time selection period based on the internet bubble in early 2000 before it burst in 2002. The title and abstract from 1084 literature that most correlate with the keyword will serve as primary data in this study. The bibliometric analysis is using the VOS Viewer software version 1.6.9 that commonly used in the field of bibliometric studies. After input the text data file in the software, it produces keywords that have the most occurrence and relevance to the digital leadership keyword. The manual selection also has been made to refine the keyword that has the most relevance to the topic in the author perspective. This method will help in showing: 1) overlay network visualization of the evolution in leadership theory; 2) network visualization to help in clustering each topic within the network; 3) see the density of related topics to the keyword. This analysis result is the keyword that related to digital leadership. Further literature review on each topic was conducted to describe academic literacy development in the selected period.
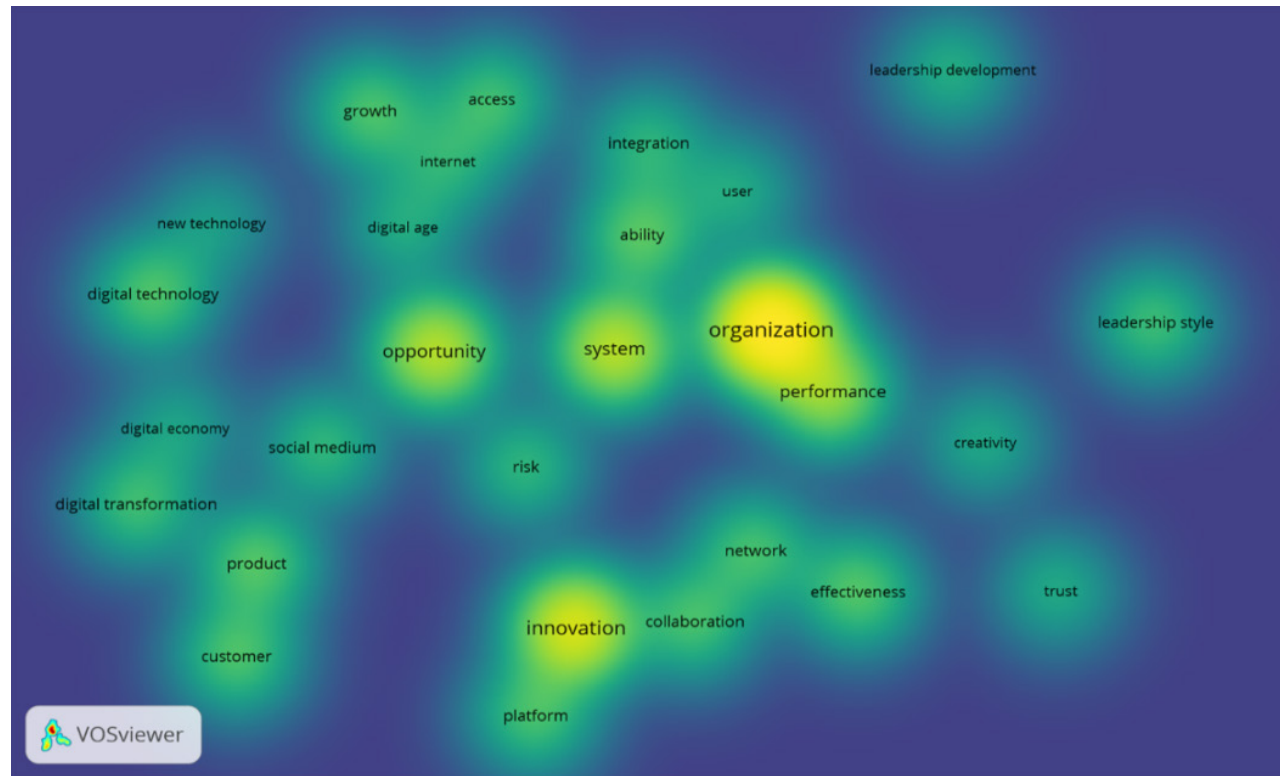
RESULTS AND DISCUSSION

The Bibliometric Analysis
The bibliometric analysis is a method for capturing text and information from academic journals. The main idea is to explore, organize, and analyze from a large amount of historical data which can be used in the decision-making process. It also can be used to forecast emerging technologies (Rueda et al., 2007). It also serves as the basis of the big data analysis that being used in the digital world today. The result with bibliometric analysis is not only describing the development research of leadership in the digital context, but implicitly also revealed the nature of leadership in the digital age. After the text data was being processed in the VOS Viewer software, the result was divided into

three images: 1) the density visualization; 2) overlay visualization; 3) network visualization. The result from density visualization can be seen in figure 1.

Figure 2 shows that not much research directly correlated between leadership and digital as a keyword. The disperse of the topics and the considerable distance between leadership development and digital transformation were proof of this argument. Most discussion in the digital age is about the organization and how their ability to stay performing in the digital disruption. It explains the bigger circle shown compared to the others and the close distance between these two topics in the figure. However, this topic in the digital context still has an open angle to be discussed. The red colour that marked as the highest density of a topic does not appear in the figure. The next most discussed research topics were about the system, innovation, and

Figure 2. Density Visualization
Source: Processed by the author (2019)

opportunity. The other topics shown in figure 2 have only a slight difference in the weight of the circle. This data suggest that the topics between leadership and digital are still in the early stage of research. Although leadership is a very mature concept, yet its connection to the digital era is wide open for further discussion.

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very mature concept, yet its connection to the digital era is wide open for further discussion.

Figure 3 is the result of overlay visualization about leadership and digital. It describes topics coming along with the keywords and in which period that the topics mainly discussed by the researchers.

From the figure 3, can be concluded that most of the researchers have not discussed how the digital age is transforming the leadership concept. The topics that commonly discuss in 2013 until 2014 were about leadership development and style, effectiveness, organization, access, product, user, and network. While topics regarding innovation, new opportunity, trust, customer changes, integration, and platform, were the main topics in 2014. In 2015 researchers find interest in digital technology, performance, digital transformation, social media, and risk. It also describes that the leadership concept is becoming less discussed regarding digital context. One of the main reasons is that the digital startups--most of them were founded and chaired by the millennials--are more often to be described by the entrepreneurship concept.

The term "startup" used for business is misunderstood by seeing success as an entrepreneurial action. While
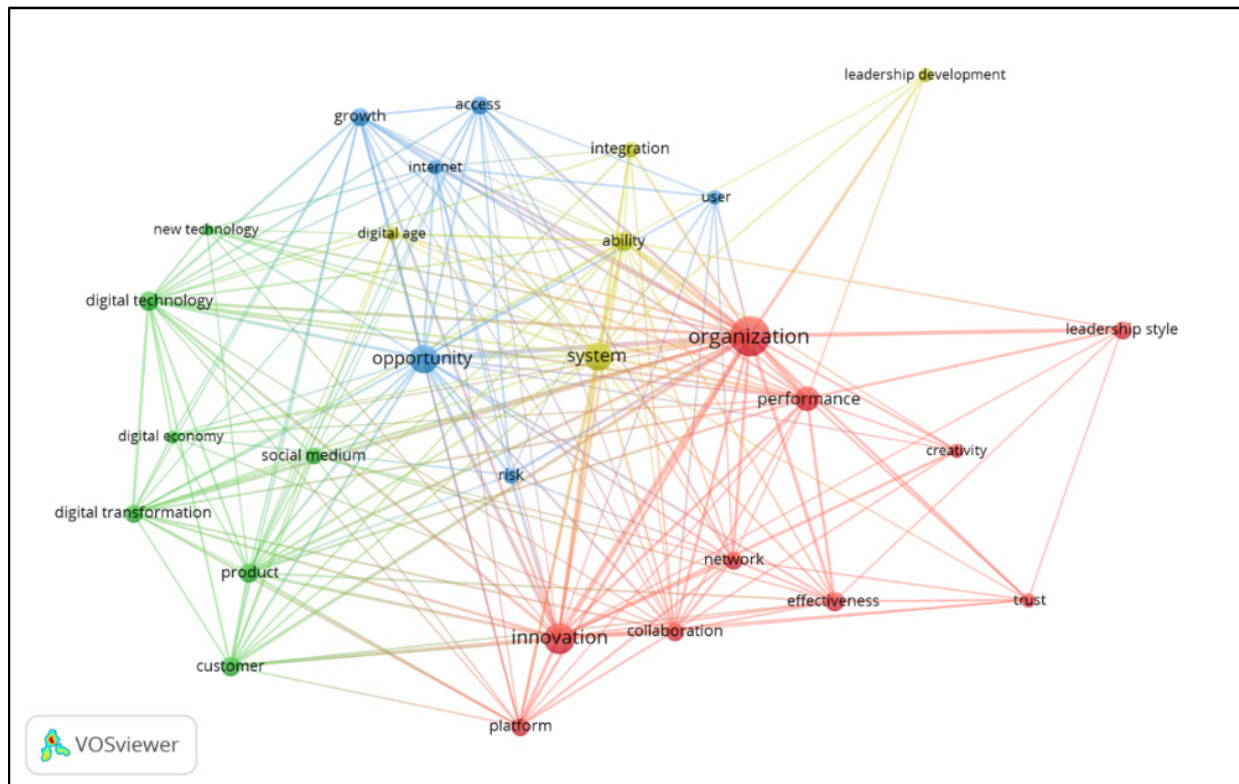
leadership is has a strong correlation in driving business success (Rosette and Ciarrochi, 2005). As if leadership has become a sacred concept that can only be used by the long-lasting companies. This because there are no scientific
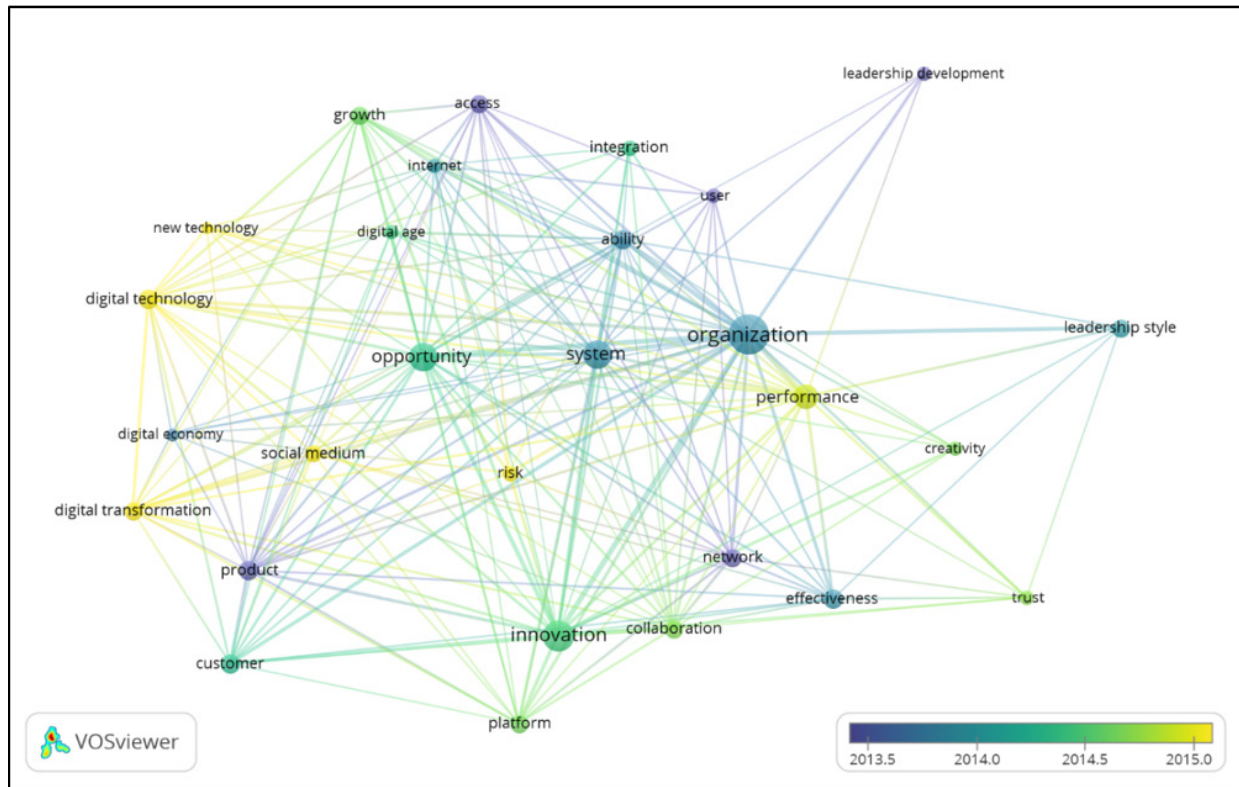
Figure 3. Overlay Visualization
Source: Processed by the author (2019)

Figure 4. Network Visualization
Source: Processed by the author (2019)

limitations of when digital startups to be considered no longer a startup. Even when their business has become the most prominent transportation provider in Indonesia, Gojek still held the startup title. This success is not merely because of the entrepreneurial actions of the founders but also because of their leadership.

From network visualization analysis in figure 4, it shows that the topics can be clustered into four big groups. Each group indicates the relevance to each other and the weight of the circle represents the primary issue that people discuss regarding "leadership" and "digital" keyword. The distance of each circle indicates the relation of each topic to another. The closer means it becomes more related to each other. The line between each keyword means the correlation between keywords. The four clusters are: 1) digital transformation; 2) internet; 3) system; 4) organization.

Cluster 1, Digital Transformation. The green colour was showing this cluster. It discusses new and digital technology, customer, product, social media, and the digital economy. Although, few types of research directly correlated leadership with digital transformation. One of them authored by Sainger (2018) that noted the digital transformation is fundamentally about changes that require leadership in the process. Because leadership is all about changes rather than stability, he also noted that the top management initiates these changes, and it becomes crucial to convince of the need for these changes.

In this cluster, each topic is nearly the same weight with a very slight difference. It means researchers on average occurrence discuss each topic. There are no dominant topics that drawn interest and stir the main discussion. The distance indicates that whenever one topic was on discussion, the other topic most likely is being mentioned. For example, if research about digital transformation, most likely, it also mentions social media (Fitzgerald et al., 2014; Kilgour et al., 2015). So as the digital economy that driven by the rapid development of digital technology. Labaya and Remes (2015) had mentioned specific technology development that supports the digital economy: the mobile internet, cloud technology, AI (Artificial Intelligence), big data, and IoT (Internet of Things). They also estimated that these five technology advancements would give economy impact worth over 30 trillion USD in 2025. These five technologies will change the product used in daily life. All products will be connected to the internet and had inspired Japan to launch the society 5.0 concept.

Digital transformation also changes customer behaviour and expectations in using digitalized products. Sanjay (2017) redefined the customer expectations in the digital world with: 1) seamless, where customer expect less effort in enjoying a product; 2) stimulating, useful and interesting products; 3) sensitive, happy if their interest can be fulfilled with a product; 4) synchronized, cross-related platforms; 5) smart, the product is always smarter than the customer. These five customer expectations have driven the product development of digital products.

Cluster 2, Internet. The blue colour mark is showing this group of topics. Including in this cluster are internet, risk, growth, access, and user. The rapid technology development using the internet as a basis has made the internet is essential in human life. This cluster discusses how the internet can create opportunity and growth for an organization (e.g. see: Day and Bens, 2005; Sotgiu and Ancarani, 2004; Reichheld and Schefter, 2000). Day and Bens (2005) study the use of the internet in telecommunication industries and suggest that the internet is not only giving benefits to the company, but also the market. The internet is now not only a tool but life itself. With 3,5 billion users all over the world, researches have been done to make everything attached to the internet. Hence the term of the internet of things was born. With this idea, the physical and virtual world will become one and will provide products and services with real-time and specific information. Such as a typical smart diaper that can measure from hydration level into any infectious bacteria of the user.

However, the internet also embedded with some potential risks that revealed along with the growth of internet usage worldwide. These risks vary from fraud by individuals or even the new type of crime that Organized by Groups (Lavorgna, 2015). A group of researchers in health also mentioned that the internet had increased suicidal behaviour (Robert et al., 2015). Another problem that drawn attention is internet addiction behaviour and mostly happens among adolescents (Zhou et al., 2018). Serious mental and health problems may occur because of the excessive use of the internet, such as anxiety, depression, dry eyes, severe pain (mostly in the neck, head, and wrist), sleep disturbance, and alike. Recent studies also founded that internet addiction can stimulate psychopathology behaviour (Kumar and Mondal, 2018).

However, even though with several serious risks mentioned above, the world still believes that the internet brings a lot more opportunity to offer than the risk. The bigger circle in figure 4 show this for the opportunity, which can be inferred to the highest number of the study conducted by the researcher. A right attitude in using the internet will help in gaining optimum results from the usage of the internet.

Cluster 3, System. The yellow colour shows this cluster. Interestingly the result shows not only the common topics that include in this group such as digital age, integrated, and ability, but also leadership development. This result indicated that leadership development system is also being discussed, especially regarding the digital capability (e.g.: Hearsum, 2015), decision making system with AI (artificial intelligence) (Robinson et.al., 2005; Vamplew et.al., 2018), and leadership model (Almalki et al., 2015). Hearsum (2015) defined ten capabilities for digital leadership: adaptability, collaborative, innovative, user-centred, self and other awareness, systemic intelligence, protects voices from below, understands the difference between digital technology and digital culture, technology, and pace awareness. Some leadership functions have been replaced by a system developed at an enormous speed because of the rapid development of digital technology. Robinson et al. (2005) research in artificial intelligence, can provide a system in decision making that gives more accurate and objective results compared to a human. Vamplew et al., (2018) added that in order to gain the benefits from AI, it is crucial to constrain their actions with the variety of ethical, legal, and safety-based framework in its development.

Almalki and his colleagues have studied the leadership capabilities development by using simulator enterprise systems where it displays various business cases. Through this

experiential learning method, they believed it is more effective than the traditional leadership development method.
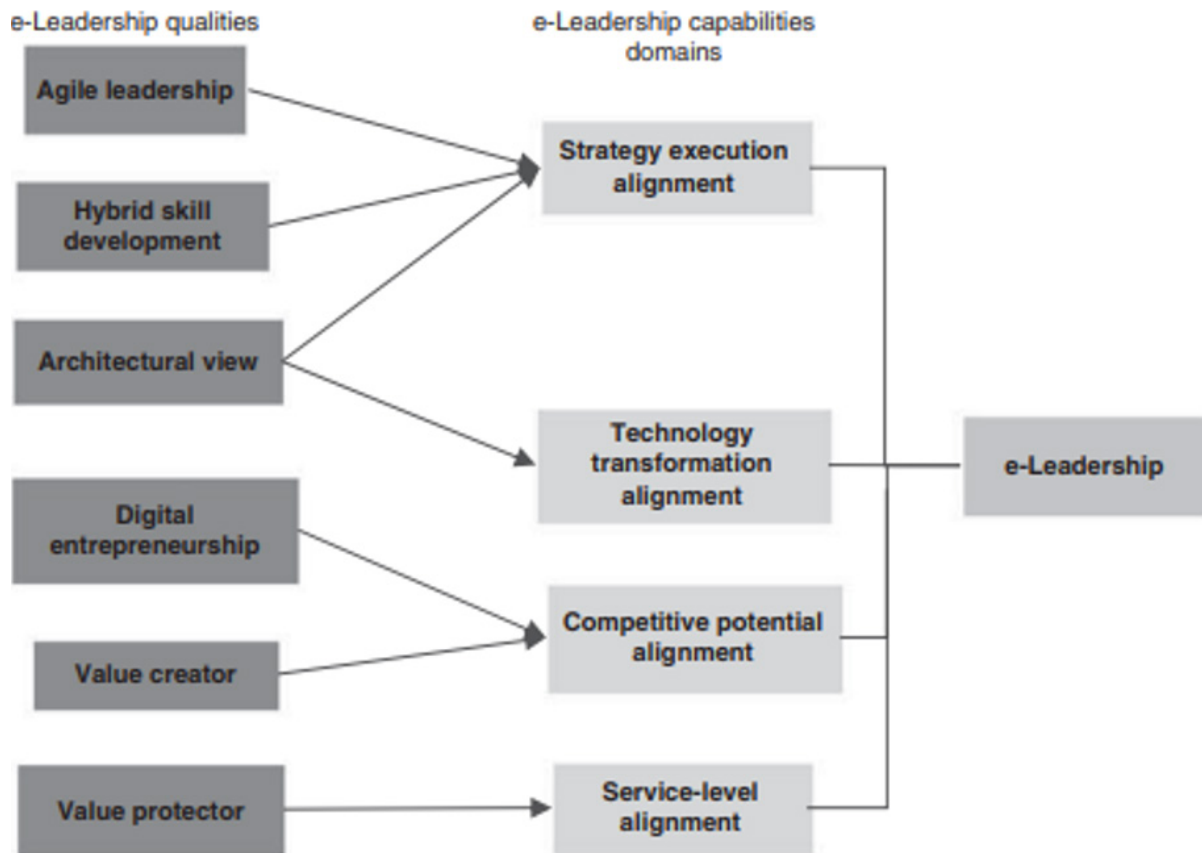

Figure 5. E-Leadership Qualities in Strategy Alignment Model (Li, et al., 2016)
Source: Processed by the author (2019)

digital era. Li et al. (2016) research on SME (Small and Medium Enterprise) found that SME leaders are having a critical challenge aligning their business strategy with digital technology development. So in their study, they developed an e-leadership model with four leadership capabilities, as shown in figure 5 below.

According to Hasselbring (2000), integration of systems gets impacts by three factors: autonomy, heterogeneity, and distribution. System integration with the digital approach is happening on all over research subjects on product and service development. Even in Namibia, they are developing an integrated system to provide HIS (Health Information System) to increase to effectiveness of health services (Dlodlo and Hamunyela, 2017).

Cluster 4, Organization. This cluster contains the most number of topics compared to the other groups. Including in this group are innovation, platform, collaboration, effectiveness, creativity, network, trust, performance and leadership style. The digital age that took the stage in academic discussion nowadays, most of the content discusses its effect on the organization. The discussion covers some issues: performance (Hinton and Barnes, 2009), the importance of innovation in organization performance (Choi et al., 2013; Yu and Lee, 2016), creativity as the basis to innovation (de Sousa et al., 2012), and redefining leadership style (Elkhouly et al., 2014).

Hinton and Barnes (2009) are developing a model to

Digital ability is now one of the topics that intensely discuss by the researcher to optimize the potential benefit of the measure performance for e-business by comparing 12 best practice digital organization. This study measures performance from website performance, business process, and customer. Organization performance and sometimes its valuation, become intensely discussed because there was a debate on what are the factors to be considered in the valuation of a digital startup company. Fantastic valuation on digital business with the term unicorn , cannot be measured with a traditional business valuation method that only focused on historical financial performance. Currently, in Indonesia, there are four startups consider being a unicorn class: Gojek, Tokopedia, Bukalapak, and Traveloka. The startup valuation is said to be more of an art than science. Kohn (2018) mentioned the determinant of a startup valuation: 1) Startup characteristics; 2) Venture capital type; 3) External environment. The exponential rise in startup valuation had driven investors to search for a pre-revenue investment. Joseph (2014) noted that this investment was mostly taken by angel investors who had the same method in determining startups with the venture capitalist.

Figure 4 shows that innovation is the second biggest dot in the group, which means that Innovation in the organization also serves as the main discussion in this group. Innovation has proven to have a significant influence on organization performance. Choi et al. (2013) study to business conglomerate in South Korea, found that innovation support in the organization has a significant influence on

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financial performance and also as a mediating role for an organization's ethical climate. Yu and Lee (2016) added in their study that bigger firms are better to have a research collaboration with research institutions in order to escalate innovations. This study also found that older firms have a better benefit in research collaborations than younger firms. Innovation is often linked to creativity, which de Sousa et al. (2012) described it as an individual process before collectively become an innovation in organizations. This study also notes the importance of collaboration as the representative of the future of development.

Figure 4 also shows that most of the innovations in the digital age are in the form of a platform, judging by the close distance between the two topics. This digital platform mostly on a web-based platform or in mobile digital applications. There is also a positive and significant relationship between collaborative innovation with innovation performance. The collaboration recently becomes more manageable by using a digital platform, a paradigm shift from a producer of innovations into user and open, collaborative innovations. Luu and Hippel (2011) argue that when it is technologically feasible, open-source innovation is more desirable. The desirability is due to the free dissemination of innovation designs associated with the open model. However, in this open platform, a new issue about a lack of trust has emerged.

Elkhouly (2014), in his study, see from the perspective of the impact of e-leadership on leadership style. Digital technologies have changed the way people communicate with each other and so as leaders with their subordinates. This study founded that virtual leadership has changed the leadership style in the Egyptian government sector. There is also a strong linkage between leadership and trust. The unethical behaviour of the leader will make him lost the trust of his followers (Luu, 2012). Leaders behaviours and communication style shape and sustain trust (Bennis, 2002). Leadership style not only affecting trust (Kovac and Jesenko, 2010), but also the innovation performance of an organization (Xie et al., 2018) as shown in figure 4. Xie also examined the importance of trust as an intermediary role to promote a friendly atmosphere to achieve innovation. Xie founded that transformational leadership style tends to build trust and individual identification in the team. Trust and individual identity will help the innovation atmosphere. This result also supported by Li and Zheng (2014) that noted in order to foster creativity and technological innovations, an organization should create an innovation-friendly atmosphere.

Implications of research development

Digital transformation is happening in every business at an incredible speed due to the rapid development of digital technology. Some organizations have succeeded in transforming, but others fail. Leadership is considered to be the most crucial factor in organizational success, but research shows that current researches on leadership do not directly correlate to the digital term. This situation is causing plenty of gaps to be filled in order to understand the success of a digital startup by leadership as the central paradigm. From this study, further research on how leadership implemented in a digital startup business is expected.

CONCLUSION

This study has mapped out the existing literature using bibliometric network analysis that can show that the development of literature on digital leadership themes. This study shows that research on digital and leadership term are not directly correlated. The low density in the figure also shows that there is still a lot more for discussions on both terms. According to the time frame analysis, more recent studies are about digital and leaves leadership behind. From the network analysis, It also shows that current research topics on both terms can be clustered into four major groups: digital transformation, internet, system, and organization. While the organization is the most discussed between both terms..

REFERENCES

Almalki, Hamed, Luis Rabelo, John Pastrana, Mario Marin, Sayli Bhide. 2015. IIE Annual Conference. *Proceedings, Norcross*. pp. 2292-2301.

Andreas, Köhn. 2018. The determinants of startup valuation in the venture capital context: a systematic review and avenues for future research. *Manag Rev Q*. Vol. 68, pp. 3-36

Avolio, B. J. 2007. Promoting more integrative strategies for leadership theory-building. *American Psychologist*. Vol. 62, pp. 25.

Baldwin, Carliss and Eric von Hippel. 2011. *Organization Science, Linthicum*. Vol. 22, Iss. 6, (Nov/Dec 2011). pp. 1399-1417.

Baum J. R., Locke E. A. 2004. The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology*. Vol. 89, No. 4, pp. 587-598.

Bennis, W. 1989. *On Becoming a Leader*. Addison-Wesley Publishing Company, Reading, MA

Blake, R. R. and J. S. Mouton. 1964. *The managerial grid*. Houston TX: Gulf.

Bradford, S. 2012. Crowdfunding and the federal securities laws. *Columbia Business Law Review*.

Burns, J. M. 1978. *Leadership*. New York: Harper and Row.

Carlsson, B. 2004. The Digital Economy: what is new and what is not?. *Structural Change and Economic Dynamics*. Vol. 15, pp. 245-264

Day, G. S. and Bens, K. J. Capitalizing on the internet opportunity. 2005. *The Journal of Business and Industrial Marketing*. Vol, 20, No. 4/5, pp. 160

De Sousa, F. C., Pellissier, R. and Monteiro, I. P. (2012). Creativity, Innovation And Collaborative Organizations. *International Journal of Organizational Innovation (Online)*. Vol. 5, No. 1, pp. 26-64.

Digital Technologies and the Global Economy's Productivity Imperative (*)

Dlodlo, Nomusa and Suama Hamunyela. 2017. Electronic *Journal of Information Systems Evaluation*, Reading. Vol. 20, No. 2, pp. 61-75.

ElKhouly, Sayed ElSayed, Mohamed Mahmoud; Seif ElDin, Etisalat Misr, Hosny Farouk Hosny. 2014. What Are the Essential Competencies of a Strategic Leader to Lead the Change within a Telecommunication Mobile Operator in Egypt? *Competition Forum, Indiana*. Vol. 12, No. 1, pp. 161-175.

Fitzgerald, M., N. Kruschwitz, D. Bonnet M. Welch. 2014. Embracing Digital Technology: A New Strategic Imperative. *MIT Sloan Management Review, Cambridge.* Vol. 55, No. 2, pp. 1-12.

Hasselbring, W. 2000. Information System Integration, *Communications of the ACM.* Vol. 43, No. 6, pp. 33-38.

Hearsum, Steve. 2015. *How to develop digital leadership capability Strategic HR Review.* Vol. 14, No. 5. ABI/ INFORM Collection pp. 208

Hinton, M. and D. Barnes. 2009. "Discovering effective performance measurement for e-business". *International Journal of Productivity and Performance Management.* Vol. 58, No. 4, pp. 329-345. DOI:10.1108/17410400910951008

Internet addiction, problematic internet use, nonproblematic internet use among Chinese adolescents: Individual, parental, peer, and sociodemographic correlates.

Jones, B. F. and B. A. Olken. 2005. Do Leaders Matter? National Leadership and Growth since World War II. National Bureau of Economic Research.

Joseph, K. 2014. Exploring Exclusion in Innovation Systems: Case of Plantation Agriculture in India. *Innovation and Development.* Vol. 4, No. 1, pp. 73-90. http://dx.doi.org/10.1080/2157930X.2014.890352

Kent, T. W., C. A. Blair, H. F. Rudd, and U. Schuele. 2006. Gender differences and transformational leadership behavior: do both german men and women lead in the same way? *International Journal of Leadership Studies.* Vol. 6.

Kerr, Steven and J. A. Jermier, 1978. Substitutes for leadership: Their meaning and measurement. *organizational behavior and human performance.* Vol. 22, pp. 375-403

Kilgour, Mark, Sheila L Sasser, Roy Larke. 2015. Corporate Communications. Vol. 20, No. 3, pp. 326-343. DOI:10.1108/CCIJ-07-2014-0046

Koe, W. L. , Sa'ari J. R., Majid I. A., Ismail K. 2012. Determinants of Entrepreneurial Intention Among Millennial Generation. *Procedia - Social and Behavioral Sciences.* Vol. 40, pp. 197-208

Kovac, J. and M. Jesenko. 2010. The connection between trust and leadership styles in Slovene organizations. *Journal of East European Management Studies, Baden-Baden.* Vol. 15, No. 1, pp. 9-33

Kumar, M and A. Mondal. A study on Internet addiction and its relation to psychopathology and self-esteem among college students. *Industrial Psychiatry Journal, Mumbai.* Vol. 27, Iss. 1, pp. 61-66.

Labaye, Eric, Remes, Jaana. 2015.*Communications and Strategies. Montpellier.* Iss. 100, pp. 47-64, pp. 210-211.

Lavorgna, A. Organised crime goes online: realities and challenges. 2015. *Journal of Money Laundering Control.* Vol. 18, No. 2, pp. 153-168. DOI 10.1108/ JMLC-10-2014-0035

Li, W., K. Liu, M. Belitski, A. Ghobadian, N. O'regan. 2016. "e-Leadership through strategic alignment: an empirical study of small- and medium-sized enterprises in the digital age". *Journal of Information Technology, suppl. Special Issue: Exploring Enterprise Social Systems and London.* Vol. 31, No. 2, pp. 185-206. DOI:10.1057/jit.2016.10

Li, X. and Y. Zheng. 2014. The influential factors of employees' innovative behavior and the management

advice. *Journal of Service Science and Management,* Vol. 7, pp. 446-450.

Luu, Trong Tuan. 2012. *Social Responsibility Journal, Bingley.* Vol. 8, No. 1, pp. 133-148. DOI:10.1108/17471111211196629

Maxwell, J. C. 1998. *The 21 Irrefutable Laws of Leadership.* US: Thomas Nelson

Maxwell, J. C. 2011. *The 5 levels of Leadership.* US: Center Street

McGregor, D. 1960. *The human side of enterprise.* New York (US): McGraw-Hill.

Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation

Reichheld, F. and P. Schefter. 2000. "E-loyalty", *Harvard Business Review,* July/August, pp. 105-13.

Robert, A., J. Suelves, A. Maria, A. Manuel, Sivakamy. 2015. Internet use and suicidal behaviors: internet as a threat or opportunity?. *Telemedicine journal and e-health : the official journal of the American Telemedicine Association.* Vol. 21, No. 4.

Robinson, S. 2005. Discrete-event simulation: from the pioneers to the present, what next?. *Journal of the Operational Research Society.* https://doi.org/10.1057/ palgrave.jors.2601864

Rosete, D. and J. Ciarrochi. 2005. Emotional intelligence and its relationship to workplace performance outcomes of leadership effectiveness. *Leadership and Organization Development Journal.* Vol. 26, No. 5, pp. 388-399.

Rueda, G, P. Gerdsri, D. F. Kocaoglu. 2007. Bibliometrics and Social Network Analysis of the Nanotechnology Field. *PICMET Proceedings.*

Sainger, G. 2018. Leadership in Digital Age: A Study on the Role of Leader in this Era of Digital Transformation. *International Journal on Leadership, New Delhi.* Vol. 6, No. 1, pp. 1-6.

Sanjay, S. 2017. Digital Disruption is Redefining the Customer Experience: The Digital Transformation Approach of the Communications Service Providers. *Telecom Business Review, New Delhi.* Vol. 10, No. 1, pp. 41-52

Sotgiu, F. and F. Ancarani. 2004. Exploiting the opportunities of Internet and multi-channel pricing: an exploratory research. *The Journal of Product and Brand Management.* Vol. 13, No. 2/3, pp. 125

Stogdill, R. M. 1974. *Handbook of leadership: A survey of theory and research.* New York: Free Press.

Tapscott, D. 1995. *The Digital Economy: Dawn of a New Era.* McGraw-Hill, New York

The Status of Integration of Health Information Systems in Namibia

Toffler, A. 1980. *The third wave.* (US). Bantam books

Vamplew, Peter, Richard Dazeley, Cameron Foale, Sally Firmin, Jane Mummery. 2018. *Ethics and Information Technology; Dordrecht.* Vol. 20, No. 1, pp. 27-40. DOI:10.1007/s10676-017-9440-6

Van Seters, D. A. and R. H. G. Field. 1990. The Evolution of Leadership Theory. *Journal of Organizational Change Management.* Vol. 3, No. 3, pp. 29-45

Virtual Leadership Development Simulation Using the 4-D System

Vugt, M. V. and A. Ajuha. 2011. Naturally Selected:

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Bisnis & Birokrasi: Jurnal Ilmu Administrasi dan Organisasi

Volume 26, Number 2

The Evolutionary Science of Leadership. New York: HarperCollins.

Xie, Yongping; Wei Xue, Ling Li, Anmin Wang, Yong Chen, et al. 2018. *Technological Forecasting and Social Change, New York*. Vol. 135.

Yammarino, F. J. and F. Andsereau. 2011. Multi-level issues in evolutionary theory, organization science, and leadership. *The Leadership Quarterly*. Vol. 22, pp. 1042-1057.

Yu, Gun Jea and Joonkyum Lee. When should a firm collaborate with research organizations for innovation performance? The moderating role of innovation orientation, size, and age. *Journal of Technology Transfer; Indianapolis*. Vol. 42, No. 6, pp. 1451-1465. DOI:10.1007/s10961-016-9469-4

Yukl, G. 2008. How leaders influence organizational effectiveness, *The Leadership Quarterly*. Vol. 19, No. 6, pp. 708-722.

Zhou, Nan, Hongjian Cao, Xiaomin Li, Jintao Zhang; Yuanwei Yao, et al. 2018. Psychology of addictive behaviors: *journal of the Society of Psychologists in Addictive Behaviors*. Vol. 32, No. 3, pp. 365-372. DOI:10.1037/adb0000358