The Role of Leadership in Industrial Revolution 4.0

by Dominicus Wahyu Pradana

The Role of Leadership in Industrial Revolution 4.0

[1]Daniel Tulasi, [2]Robertus Sigit HL, [3]Dominicus Wahyu Pradana and [4]Lena Ellitan,
[1,2,3,4]Faculty of Business, Widya Mandala Catholic University Surabaya, Indonesia

Abstract: The 4.0 Industrial Revolution that is currently underway will bring many changes to the business sector, including internal companies. Business leaders who do not want to be left behind in the 4.0 industrial revolution era, need to take the following things: (1). Having the basic ability to be a leader (2). Quick decision (3). Choosing and building your own team Being the leader of a company or organization will not be easy. Various challenges must transition. A leader must quickly approve various changes, including business. Leaders and organizations who disagree quickly with traditional thinking will become extinct. Guerrilla companies that are connected, collaborate, continue to learn, open with change, have a passionate and eager team, who have and adapt technology or more advanced ways will become leaders in their industry. Leaders must also struggle, be willing to accept, encourage and motivate teams to provide feedback on their leadership for mutual progress. It would be better if the leader compilation can challenge himself to get out of his comfort zone by coaching and receiving feedback from people outside the organization.

Keywords: *Revolusi Industri 4.0, Leadership.*

I. INTRODUCTION

The industrial revolution was the period between 1750-1850 in which massive changes occurred in agriculture, manufacturing, mining, transportation, and technology and had a profound impact on social, economic and cultural conditions in the world. The Industrial Revolution 4.0 is based on a desire to improve the quality of human life and global income (Muljani & Ellitan, 2019). The sophistication of today's technology has resulted in new products and services that are more efficient and facilitate our personal lives. Ordering motorbike taxis and taxis, ordering train and airplane tickets, shopping, making payments, listening to music, watching movies, or playing games can now be done online. In these developments companies must be able to compete in the innovation of goods and services that they sell to consumers, as well as innovations in the field of technology. Companies must have strategies to be able to deal with the industrial revolution 4.0 so that the product innovation can compete with competitors (Natalia & Ellitan, 2019). And able to win in market competition.

According to Tresya (2014) the Industrial Revolution 4.0 has towards globalization. Technological developments, both inside and outside the factory, have had an impact on the globalization of the manufacturing process industry in which businesses and other organizations develop international influence or begin operating internationally. Increased connectivity means companies must now be competitive on a global scale and cannot rely on their physical location to win business. This means that companies must focus on meeting the changing demands of consumers. Maintaining flexible production and production and incorporating automated technology can reduce production time and enable companies to respond faster, increasing competitive advantage.

According to Susanto (2018) similar to past revolutions, revolutions and slopes are also significant. Basically, if this gravity can be handled successfully, there are inherent opportunities for business in Indonesia. First, Industry Process 4.0 for manufacturing transform. Industry 4.0 is expected to accelerate in the next 2-3 years which will change the manufacturing process on the road. Industry 4.0 will make the supply chain and production process more interconnected, efficient and flexible, enabling mass adjustments and virtual production. Second, Three Types of Kunsi Industry to Industry Implementation 4.0. Industries with a broad range of products (such as food and beverages), commodity producers (metals, agriculture) and precision-driven (pharmaceuticals and electronic components) will most likely invest in Industry 4.0. Third, Current Companies by profit efficiency and the New Revenue Stream. The company is expected to increase spending on Industry 4.0 solutions. Companies are tempted by promising efficiency gains and the possibility to readjust business models and create new revenue streams. Furthermore, platforms will be key in the long run. The Common Industry 4.0 platform will create new revenue streams for platform owners. In the case of Industry 4.0. leadership will play an important role for an organization for long-term survival. This paper will further discuss the role of leadership in the Industrial Revolution 4.0. In detail will be discussed the role of leaders, the role of followers and the role of leadership in industry 4.0.

II. LEADER AND LEADERSHIP

Leaders have the meaning that is someone who runs a group by influencing other individuals in order to achieve a goal that is determined together. From these explanations there are various definitions of leadership in organizations. Some of these explanations are (Robbin, 2014):

1. Leadership is an attitude possessed by a leader that is used to influence others in the group to achieve mutually agreed goals.

2. Another understanding of leadership is a process where leaders provide influence and examples to each individual they lead with a view to achieving common goals.

3. Leadership in organizations is an entity in the direction of the duties or obligations of members in the organization intended to achieve goals.

Based on various meanings of leadership in organizations and the definition of leader above can be known the difference between the two. The leader refers more to the person or person as an agent of leadership while leadership is the nature of the individual in influencing others to achieve a goal (Krause, 2000). Leadership in a good organization will be able to coordinate and synergize existing resources within the organization. In addition, the right leadership is also able to explore and develop the potential of each other individual. Because according to the explanation of the notion of leadership in organizations, a good leader is not only seen from

how many people follow him. A leader who has good leadership will be able to cadre the next leader.

There is a theory of leadership in organizations that will answer that question. There are at least three theories that explain the background of the existence of a leader. The theory is as follows (kadarusman, 2012): (1). Genetic Theory The birth of a leader based on this theory is based on talent. Talent owned from birth carries the nature of a leader. It can be concluded in this discussion that the nature of leadership comes from inheritance. Furthermore, inheritance is only owned by certain people. (2). Social Theory: Different from previous leadership theories. Social theory suggests that a person has the nature of leadership in managing an organization through a process. The process can be in the form of training, education, or opportunities. (3). Ecological Theory Ecological theory states that leadership in organizations is a combination of talent and self-development. In other words, this theory is a combination of genetic and social theories in expressing the origin of leaders or leadership in organizations.

In the practice or example of leadership in organizations, many types of leaders are found (Robbin, 2014). Here are the leadership qualities in an organization that are important for every leader to have: (1). As Motivator The function of leadership in organizations in addition to aiming at goals is being able to motivate others. The ability to motivate leaders is very necessary because through this ability they can influence and direct others to do something. The role of leadership in this organization is very important. Without a strong motivation it is not possible for people to be moved to do something. (2). Establish good communication with subordinates The leaders of an organization should not only be able to direct or manage their subordinates with the authority they have. But organizational leaders must be able to communicate with subordinates better and more humanely. Although professional demands are encouraged, the ability to communicate so people are willing to work together is no less important. An example of leadership in an organization that promotes communication is when regional leaders will move street vendors from one place to another. Give trust to subordinates. (4). Responsible for what is led by a good leader is a leader who is able to account for what they lead. The mistakes made by subordinates are actually the fault of the leader whether in terms of communication or coordination.

The leadership process is a process to hone a variety of skills as a leader. In an organization, of course, the expertise of a leader will determine success in achieving organizational goals. There are at least four skills that must be mastered by the leader of an organization. The four skills include (Permana et.al., 2017): (1). Conceptual Skills The ability to conceptualize in organizations is needed by leaders. This ability is an expertise in coordinating and integrating all the interests that exist in the organization. Besides this ability requires leaders to be able to see the organization as a whole and understand the relationship between one part with another. This ability is intended so that leaders can more easily obtain, analyze, and interpret information obtained from various sources. (2). Communication Skills: The leadership ability that leaders need to have is communication skills. This leadership ability is needed by leaders to collaborate, understand and motivate others in an organization. Leaders use this ability in organizational leadership to get followership from subordinates and provide direction in achieving organizational goals. (3). Administrative skills, namely the process of running leadership, especially in an organization, administrative

capability is very urgent. This expertise is expertise related to all management activities from planning to supervision. Anyone who is in leadership is very obliged to pay attention to this because it is related to regulations, policies, budget management and matters relating to organizational administration (4). Technical Skills Although operational activities are not too attached to organizational leaders, in the leadership processknowing technical matters is still needed. Organizational leaders need to know technical things such as the use of tools, procedures or methods in certain fields such as accounting, machinery, etc. in order to be able to direct their subordinates appropriately and achieve results effectively.

III. LEADERSHIP AND FOLLOWERSHIP

Leadership is "the process of influencing the activities of a person or group of people to achieve goals in certain situations." From the definition of leadership it can be concluded that the leadership process is a function of leaders, followers and other situational variables, while from the definition of Followership is an attitude or tendency to follow someone other. Followership and leadership are separate matters, but have a reciprocal relationship. without followers, one cannot be a leader; conversely, one cannot be a follower without a leader (Cadetstuff, 2005).

Followership is an attitude or a person's tendency to follow others. Followership is not a passive role. conversely, the most valuable followers are a skilled, independent employee, someone who actively participates in setting the direction of the group, investing their time and energy in group work, thinking critically, and supporting new ideas. There are several types of followership, including:

1. Followership because of instincts, for example children follow their parents, isolated tribal people follow charismatic leaders.
2. Followership because of traditions or customs, for example rural communities are very adhering to the customs inherited from generation to generation
3. Followership because of religion, for example, follows because it obeys religious teachings.
4. Followership because of the ratio, for example, educated people follow leaders who can convince people through rational thought.
5. Followership because of regulations or laws, for example, among modern societies where human relations have been regulated in applicable laws and regulations.

As for some of the reasons that a person follows another person or leader psychologically, including the urge to follow the leader, the special qualities of the leader, namely the qualities and characteristics of leadership that are able to influence the soul of others so that they are attracted to him and the ability of the leader to use leadership techniques and methods. Furthermore, there are some things that can be done to become better followers (Daft, 1999):

1. If you find a problem, tell the group leader or manager directly, even better, include suggestions in the report to solve the problem.
2. Free to invest attention and energy in work.
3. Will support new ideas and new directions suggested by others.
4. If you don't agree, explain why you don't support ideas or suggestions.
5. Listen carefully, and ponder what the leader says.

IV. LEADERSHIP IN THE INDUSTRIAL REVOLUTION 4.0

The industrial revolution continued, starting from industry 1.0 occurred at the end of the 18th century with the discovery of mechanical production using water power and steam. Then continued with industry 2.0 starting at the end of the 19th century and early 20th century which is also called the rapid phase of industrialization, marked by the emergence of power plants and internal combustion engines, this discovery triggered the emergence of telephone sets, cars, airplanes, and others . After that industry 3.0 happened in the early 1970s with the use of electronics and computer and internet-based information technology. Now we have entered the 4.0th Industrial Revolution and this is very different from before, where we will be able to design the world and change the reality around us with changes in atoms and molecules, changes in nanotechnology coupled with everything in the world connected to the Internet (Nagi, et.al., 2018). In this 4.0 industrial revolution everything becomes transparent, and the difference between one product / service and another will be obvious. In every phase of the Industrial Revolution, there is always a new business that becomes a big player and there is always a big old player who is extinct. A company that can adapt by adapting new skills and mentalities quickly, this industrial 4.0 revolution may be your golden opportunity to become a new player that can be calculated. Success and Failure Cycles in business are also faster than ever before.

As a Leader and leader in your business, of course there are key factors that need to be known in order to face challenges by leading your organization. Here are some key factors that need to be owned as a leader in this 4.0 era (Prasetyo and Sutopo, 2018). First, leaders who can unite and give clear direction. Here it is very important for a leader to be able to communicate, make the team feel safe, make an engagement and become a unidirectional community. Has a blueprint that is understood, understood and believed by all members of the organization. The leader must be able to create trust in the team. A strong leader, has a vision that is not just a vision for the company, but also greater than that, which has influence for the entire team, the surrounding environment, even the world. Furthermore, a leader who has speed in making decisions. In this 4.0 era, things change quickly. The era where leaders are only in the office with computers and working with data after it has been collected is felt slow. The leader must go down and see.

Leaders need to evaluate and control the team together, feedback needs to be done constantly and integrated not only internally but also connected with external parties such as clients and suppliers. The leader must also be brave, willing to accept, encourage and motivate the team to provide feedback on their leadership for mutual progress. It would be better when the Leader can also challenge himself to get out of his comfort zone by coaching and receiving feedback from people outside the organization. Third, choosing and developing talent. The generation where loyal and loyal workers work at one company has begun to be replaced by a generation that is easily bored and mobile. The generation who prefers to work freely, becomes their own entrepreneur and is not bound by one company. Given the high turnover of employees, what we can do as a leader is not only to be able to choose the right talent, but also to develop talent quickly so that they can be more loyal and also productive longer in your company, because there are many ways to You can choose between Group Interviews and Face Reader.

Leaders and Organizations that do not adapt quickly to traditional thinking will become extinct. Guerrilla companies that are connected, collaborate, who continue to learn, are open to change, have a passionate team and an advanced spirit, who own and adapt technology or more advanced ways will become leaders in their industry. Some of the skills that are important for a leader in Industry 4.0 include complex problem solving, critical thinking, creativity, people management, and coordination with others. Then, there is also emotional intelligence, judgment and decision, service orientation, negotiation, and cognitive flexibility. "In the industrial revolution 4.0, all of those things will be related, it needs a big system change. Must be changed systemically, not individually (Morrar et al., 2017). This is the biggest challenge. In order to appear as a leader, a person must be able to learn to listen and open his mind to the conditions around him. That requires reason and feeling. In addition, the willingness to get out of your comfort zone is also one of the keys to making changes.

CONCLUSION

At present we have entered the fourth industrial revolution. This industrial revolution is very different from before, now we will be able to design the world and change the reality around us with changes in atoms and molecules, changes in nanotechnology, coupled with everything in the world connected to the Internet. In this 4.0 industrial revolution everything becomes transparent and the difference between one product and another will be obvious and only the best will survive.

The increasingly fierce world competition accompanied by world developments in the field of Science and Technology (IPTEK) which is increasingly advanced, inevitably requires us to adapt in accordance with its demands. We are forced by time to live according to the pattern created (Thoha, 2010). If the organization can adapt by adapting new skills and mentalities quickly, the industrial revolution 4.0 can be a golden opportunity for you to become a new player that can be calculated. The cycle of success and failure in business is also faster than ever before.

The 4.0 Industrial Revolution that is currently underway will bring many changes to the business sector, including internal companies. Because, all will be completely IT-based so that it will also have an impact on changes in leadership style that is suitable for a team and company. For this reason, leaders are needed who are able to make important policies to compete with the times. Business leaders who do not want to be left behind in the 4.0 industrial revolution era, need to follow things below: (1). Having the basic ability to be a leader It is important for a business leader to be able to communicate well with the team. The leader must convey the goals, vision and mission going forward to the team in a way that is easy to understand, and ensures the team can follow it all. A leader must be able to build trust in the team. The leader must be able to ensure that the team can reach all targets with the strategy you have set. (2). Quick decision: The Industrial Revolution Era 4.0 is closely related to technology and digitalization. Everything now moves very fast. There are no more leaders waiting for reports from subordinates and analyzing a condition after a week. At present, leaders need to move quickly, even if necessary go straight to the field. This needs to be done so that leaders can make decisions quickly. (3). Choose and build your own team: In the midst of the change of mass from humans to machines, it really happened in the era of the industrial revolution 4.0. Almost all jobs can

be taken over by machines so that the human resources that need to be employed begin to decrease. This certainly has an impact on forming a team in a company.

Being the leader of a company or organization will not be easy. Various challenges must be faced. Moreover, a leader must quickly adapt to various changes, including the business climate (Anis, et.al. 2018). Leaders and organizations that do not adapt quickly to traditional thinking will become extinct. Guerrilla companies that are connected, collaborate, who continue to learn, are open to change, have a passionate team and an advanced spirit, who own and adapt technology or more advanced ways will become leaders in their industry. The leader must also be brave, willing to accept, encourage and motivate the team to provide feedback on their leadership for mutual progress. It would be better if the leader can also challenge himself to get out of his comfort zone by coaching and receiving feedback from people outside the organization.

References

[1] Anis, B.J., Christiananta, B. & Ellitan, L. 2018. The effect of Entrepreneurship orientation, information technology, strategic planning to competitive advantages with the business performance as intervelling variable, International Journal of Advances. Research, 6(1), 230-242.

[2] Cadetstuff,"Leadership vs followership". http://www.cadetstuff.org/archives/ p000196.html. Retrieved April 6, 2005.

[3] Daft, R. L. "Leadership: Theory and practice".TX: The Dryden Press, Harcourt Brace & Company, Texas, 1999

[4] Kadarusman, D. 2012. Natural Intelligence Leadership: Cara Pandang Baru Terhadap Kecerdasa dan Karakter Kepemimpinan. Jakarta: Raih Asa Sukses.

[5] Krause, D. G. 2000. The Way of The Leader. Diterjemahkan oleh PT Gramedia Dengan Judul Kiat Sang Pemimpin. Jakarta: PT Gramedia Pustaka Utama

[6] Morrar, R., Arman, H., and Mousa, S, (2017): The Fourth Industrial Revolution (Industry 4.0): A Social Innovation Perspective. *Technology Innovation Management Review*, 7(11), 12-20.

[7] Muljani, N & Ellitan, L., 2019. Developing Competitiveness in Industrial Revolution 4.0., ternational Journal of Trend in Research and Development, Volume 6(5), p. 1-3.

[8] Nagy, J., Oláh, J., Erdei, E., Máté, D. and Popp, J., (2018): The Role and Impact of Industry 4.0 and the Internet of Things on the Business Strategy of the Value Chain—The Case of Hungary. *Sustainability*, 10, 1-25. www.mdpi.com/journal/sustainability

[9] Natalia, I and Ellitan, L., (2019) *Srategies to Achieve Competitive Advantage in Industrial Revolution 4.0*. International Journal of Research Culture Society, 3 (6). pp. 10-16.

[10] Prasetyo, H., and Sutopo, W., (2018):Industri 4.0: Telaahklasifikasi aspek dan arah perkembangan riset. Jurnal Teknik Industri, 13(1), 17-26.

[11] Robbins, S. P. 2014. Perilaku Organisasi. Edisi ke 12. Jakarta: Salemba Empat.

[12] Susanto, M. (2018) tantangan dan peluan industry 4.0 https://www.zenius.net/blog/21104/revolusi-industri-4-0

[13] Tresya, V (2014) Dampak revolusi industry 4.0 https://www.maxmanroe.com/revolusi-industri-4-0.html

[14] Thoha, M. 2010. Kepemimpinan dalam Manajemen. Jakarta: PT. RajaGrafindo Persada.

The Role of Leadership in Industrial Revolution 4.0

11% SIMILARITY INDEX

7% INTERNET SOURCES

1% PUBLICATIONS

11% STUDENT PAPERS

1	Submitted to University of Arizona Student Paper	3%
2	www.automation.com Internet Source	2%
3	Submitted to Cornell University Student Paper	1%
4	www.coursehero.com Internet Source	1%
5	Submitted to King's Own Institute Student Paper	1%
6	Submitted to Mindanao State University - IIT Student Paper	1%
7	unido.org Internet Source	1%
8	www.euromonitor.com Internet Source	1%
9	manufacturingexcellencelse.marcusevans.com Internet Source	1%