Concept Paper

New Perspectives for Human and Artificial Intelligence Interactions for Leadership e-Recruitment

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Abstract: In order to adapt to the post-pandemic era, e-recruitment systems should change their requirements to search for a more competitive leader profile. These systems currently search for individual skills specific to leaders, taking into consideration whether a leader has the required skills and abilities for a certain job. The aim of this study is to improve e-recruitment searches for capable leaders in this new environment. In this regard, the study proposes to search for combinations of complementary skills. These skills, to be effective, should necessarily support each other in order to create successful management. The author’s proposal is to call this combination of skills: Leadership Complementary Skills (LCS). Understanding that some skills should be complementary in order to be viable, the LCS’ new insight into the hiring process was developed to comply with the aim of a performant organization. The idea was drawn from the author’s half a century of real-world experience and from several discussions with employers, employees, consultants and MBA students, debating cases along working and teaching. Statements are presented regarding proposals of appropriate combinations of skills to be implemented in the software of e-recruitment systems, their influence on employees’ behavior and the possible consequences on organizational outcomes. Consistent with the proposals, the author has also developed the Honeycomb Complementary Skills Model for Leadership as a first step in this endeavor, inviting future researchers to find other LCS to be added to the model and accomplish the actual ideal profile of a leader, opening as such a new field of research.

Keywords: artificial intelligence; new technologies; e-recruitment; leadership; resilience; human resource management; software companies; digitalization

1. Introduction

This scientific paper makes use of existing e-recruitment and leadership concepts and knowledge, the novelty of this paper consisting of a new look on the leadership profiles searched through the e-recruitment systems. This new method of searching should consider a combination of skills that support each other, named Leadership Complementary Skills (LCS) by the author. Just as rational thinking is complementary to intuition [1] in order to ensure strong and reliable judgment, some skills are complementary, especially for leaders, to ensure that their thinking is reliable, sustainable and balanced to overcome difficult business situations in our troubled economic environment. Certain skills alone, if not selected to be complementary, will not help leaders succeed in this difficult environment, because in the long run they may be inefficient, harm the business or not lead the firm to sustainable profitability. Different examples are described in the chapter 4, “Statements” regarding the possibilities of fail to combining these abilities.

Traditional recruitment, due to outdated processes based on passive sourcing (such as posting a job description and waiting for applications, even on modern platforms such as LinkedIn and Indeed) leads today to inappropriate hires, especially for leaders, which naturally do not accord with the long-term view of an organization. As a result, the perception of such processes is negative and change is necessary. The world has
changed drastically due to the pandemic, digitalization and the war in Eastern Europe influencing the global economic situation. Today, the recruitment world is seeing a radical new talent market, especially for leaders and high-level management candidates; however, individual skills are still sought in e-recruitment systems, instead of a combination of skills predetermined to be complementary and adequate for a specific job. From another point of view, the traditional recruitment process focuses on hard skills, but not on behavioral drivers, though it is known today that hard and soft skills should be equally balanced for top management positions. The selection of necessary skills should be specific for a certain position. This process usually fails for leaders due to the lack of accurate competences described in the job description draft, relying more on face-to-face interviews, unconscious bias and references. To improve the e-recruitment process that has inherited the traditional methods of recruitment, the author proposes some LCS that are presented below in a Honeycomb Complementary Skills Model (HCSM). The model represents another novelty regarding a new way of looking at leadership skills through various combinations. The presented LCS are not limited, inviting other researchers to find new ones. In addition, LCS create the necessity for a new type of leader profile [2] able to overcome the difficulties of the post-pandemic era and improve the management sustainability of a company.

2. Human and Artificial Intelligence Interactions

Traditionally, the recruitment process was carried out through newspaper advertisements [3] internal hiring, employee referrals and different agencies. The adoption of new technology, beginning with big data and eventually including machine learning and artificial intelligence, was decisive for digital business. The introduction of information technology improved the functions of recruitment [4]. This paper focuses on the recruitment process for leaders and those in charge of management decisions, focusing on the Artificial Intelligence (AI) area of computer technology in the e-recruitment process.

The concept of electronic recruitment appeared in the 1980s, speeding up the recruitment process by replacing the human element with artificial intelligence. Since then, it has been named e-recruitment [5]. This concept provides fast and adequate information in the process. On one hand, corporate websites such as Indeed, Monster.com and Naukri.com provide links to current positions for commercial jobs, and on the other, social networks such as LinkedIn, Facebook and Twitter represent a social change in e-society: the so-called social recruiting.

An organization’s human resources department is able to use search engines to find job seekers and independently place them to suitable positions. On the other hand, recruitment agencies use cloud SAAS (software as a service) to find potential candidates. In this way, AI has successfully replaced the human element in the recruitment process [6]. As a result, the current workforce will be diminished due to several jobs disappearing from the organizational chart, with an important impact on the profitability increase of an organization.

AI has enabled human resource (HR) databases to become intelligent, able to carry out online monitoring and select the right candidates based on competencies [7,8]. Robotic process automation (RPA) has the ability to mimic the skills of a human, taking over the routine work of some individuals in HR [9,10].

Digitization determines the success of an organization, but the results depend on which technology has been implemented. This depends on the impact of different expert systems implemented; for example, in candidate screening, in the selection process for the right individual, or for performance management assessments [11–13]. Therefore, the author identified the topic of this new perspective on human and artificial intelligence interactions, focusing on leadership e-recruitment.

In an age of chaos (in the mathematical sense) marked by accelerated change and unpredictability [14], businesses are vulnerable to becoming obsolete, and the leaders of the industrial age might fail in today’s world. This is why one of the shifts in leadership styles should be improvisation; according to Ira S. Wolfe; leadership agility and the ability to improvise on
the fly are now fundamental skills [15]. In addition, the CEO of Amazon believes that doing things at high speed is the best defense against the future [16]. However, this agility should be applied intelligently, since Senge’s point is that delays to a process are sometimes necessary, while other delays, such as in “beer game” orders, may be a burden [17].

Today’s transformed workplace characteristics might be summarized as: volatile, uncertain, complex and ambiguous (VUCA) [18]. The author’s view on leadership development is that some leaders are born with the innate capacity to lead, which is obviously demonstrated since childhood, and some are trained by life or in traditional schools. While most leaders try to improve their leading capabilities over time, only some succeed. This learning process began about two centuries ago with traditional management, which was very effective at the time. Today’s work environment requires a set of leadership skills that makes traditional management obsolete [19]. “Since the traditional management approach reached its limits [20], the new kind of work environment requires leaders’ profile to possess a combination of sine qua non (essential) skills sustaining each other in order to be effective”.

To help improve recruitment, the author’s proposal is that essential leadership requirements should evolve from traditional skills to an appropriate combination of skills. The focus should move from hard to soft skills; from considering that a leader should know all the answers [21], to using employees’ knowledge [22] and solutions; and from tough to human behavior [23].

This scientific paper recommends the use of Leadership Complementary Skills (LCS) in the hiring process as an essential requirement idea to denote a new way of looking at existing knowledge and concepts of e-recruitment. Apart from improving the selection methodology regarding the requirements for leaders’ abilities, LCS will also determine the improvement of a company’s outcomes and sustainability.

The author proposes the LCS, using this paper to open a new area of research in the field of the abilities’ combined requirements for the e-recruitment of leaders. The background of “Figure 1” suggests the use of honeycomb cells as a model. Other researchers are invited to fill in other cells with complementary skills and abilities. The cells should be grouped to be complementary in order to create a new leader’s profile depending on the area of activity the e-recruitment system is used for. The study example is, as such: EI + CT: Emotional Intelligence (EI) supported by Critical Thinking (CT); RC + CI: Regular Communicator (RC) supported by Creativity and Improvisation (CI); WRT + R: Wise Risk-Taking (WRT) supported by Resilience (R); and LL + OA: Lifelong Learning (LL) supported by Observation Ability (OA).
3. Discussion

Since digitization has changed the rules of competition [24], an inflection point has occurred in relation to leaders’ profile requirements for abilities to cope with the new post-pandemic world. Just as the Industrial Revolution changed the way companies were managed [25], new leaders should possess complementary skills to succeed. Some leaders have natively different skills that are complementary and others develop skills in business schools and practice, subsequently combining them randomly.

3.1. EI + CT: Emotional Intelligence (EI) Supported by Critical Thinking (CT)

Intelligence is a part of critical thinking. Simon Sinek said that leadership is a commitment to human beings [26], and as a result leaders should understand and manage their own and their employees’ emotions by way of self-reflection, mindfulness and self-review. They have to be able to perceive the difference between their own perception of a situation and the reality itself. Because the reality is far more complicated [15], leaders should improve themselves through reflection to develop better critical thinking skills CT can help leaders to understand what important needs their employees have [27,28] in correlation with the organization’s financial possibilities. In addition, leaders’ self-awareness helps them to achieve humility in their relationships with others [29].
In order to understand employees, to have positive relationships with them and to improve trust, a leader should always have these three questions in mind:

A. Am I in danger of demotivating my employees?
B. Am I doing everything to empower my employees?
C. Am I doing enough to involve my employees in the decision-making process?

Employees should be involved in the process of finding solutions [30] in order to explore all the possible answers to every conceivable leadership problem. Through this approach, leaders can place themselves in a better position, obtaining the best decision that is “blessed” by employees.

The opposite approach for a leader, overworking their employees [31], may impact the employees’ long-term commitment to the organization, leading to resignation due to toxic management. Demotivating employees and overworking them are the roots of the “silent quitting” [32] phenomenon that is increasing today. Such leaders are poor self-leaders, also overworking themselves and burning out the entire human capital of the organization. In the short run, this kind of leader, referred to as task-oriented [33], might be considered highly efficient, working hard in terms of execution and planning, but they are unable to drive the organization forward due to their narrow-minded vision [34], which is a recipe for disaster in the long run. The focus on employees’ needs is critical even when their leader is chasing results. Every business leader aspires to deliver, but for many the result is intangible. About a quarter of companies do not grow at all, and between 2010 and 2019, only one in eight achieved more than 10% revenue growth annually, as statistics reveal based on McKinsey’s analysis of data [35].

3.2. RC + CI: Regular Communicator (RC) Supported by Creativity and Improvisation (CI)

The modern era of work requires regular and fair lines of communication between leaders and employees [36], creating a successful human connection. There has been a paradigm shift in leaders’ communication style from cold and impersonal to honest [37], vulnerable and able to admit that they do not have all the answers. This approach can create an aura of authenticity and humanity for leaders [38]. Creativity supported by communication style should also be a new selection factor for leaders in the post-pandemic era. This factor is of paramount importance in the process of solving problems, as the post-pandemic work era is pushing us towards working together and being creative in order to find optimal solutions [39]. In this regard, leaders need to combine flexible thinking and creativity with forward planning, following an adaptable decision-making process and maintaining an agile approach [40] whatever circumstances the organization faces. In this regard, the Forbes Coaches Council concluded in 2018 that agile leaders can encourage innovation and experimentation and create a culture of creativity [35].

Restoring leaders’ authenticity [38] is a key priority in the near future. Showing vulnerability and opening up about your feelings and concerns to employees [34] in the process of communication could be a means of obtaining an aura of humanity and becoming an example of honesty and trust. In the era of remote work, the inflection point in communication is represented by the necessary ability to maintain fair lines of connection [39], not only with the group of employees as a whole but also with every team member, fostering the feeling that all are equally involved in the organization’s mission [41]. Today, more than ever, due to the dynamics of business, people are more important than the material assets that conveyed value half a century ago. Intellectual property, codes and brand values are tied to people, giving them more power in the business equation. Growth leaders place more and more importance on communication, and they have growth stories to tell all the time; 80% communicate growth successes often, both internally and externally [41].

An important facet of communication skills is listening [42]. In the communication process, good leaders should try to understand instead of letting their brain carry on the conversation internally, preparing to respond immediately because they are only relying on what is spoken. These leaders will miss the profound sense of the message because they do not capture the tone and the body language. Tim Sanders says in this regard that: “Great
listening is like being a human satellite dish where we receive information and decode it. We take in sights, body language, and other signals to ensure connection” [43]. Today, more than ever, all leaders must listen until the end of a conversation because, on one hand, they may miss the accompanying body language if working remotely, and on the other hand, they can validate their interest in what their employees are saying. Therefore, to be a great leader, one should listen more and react less [44]. A leader’s listening ability complements their creative and improvisational capabilities. These capabilities are developed in childhood but may gradually fall into disuse; by re-activating these capabilities, a leader can create the right combination of listening, creativity and improvisation, restoring their authenticity.

3.3. WRT + R: Wise Risk-Taking (WRT) Supported by Resilience (R)

Risk-taking, in the modern era of remote working, has become a pivotal skill that should be supported by resilience. Venturing into the unknown, as encountered by even the most effective leaders, requires risk-taking that sometimes leads to setbacks. However, risk-taking experiences are beneficial for leaders; on one hand, because they open opportunities for profit, and on the other, as Julie Browne said: People who’ve had the rug pulled out from under them and are putting themselves back together with missing parts find that a byproduct of that process is discovering who they really are [45].

At the same time, leaders should be aware that reckless risk-taking [46] will lead to low potential reward. High risk might lead to bankruptcy [47] for the organization. In the new, uncertain, high-risk work context, leaders’ resilience should help them to avoid failures and disappointments. However, in every failure, a resilient leader should see an opportunity [48] to draw the necessary strength from within to overcome the obstacles and to function under longstanding pressure.

Deepak Chopra says in The Gift of Resilience [49] that resilience is a spiritual quality. In addition to this, the author’s observations revealed other qualities: self-trust in the individuals’ potential for progress, desire to win in any circumstances, energy focused on developing inner evolution and creativity, potential to recover and learn and, last but not least, an overall positive attitude toward life. In an actual blitz change environment, wise risk-taking supported by resilience (WRT + R) is considered by the author as the sine qua non requirement for a leader. In this way, the best form of management in crisis situations should be similar to sailing on the high seas [50]: keep managing “the boat” while planning for the future. Today, an additional challenge for leaders is the hybrid work arrangement [51]. Leaders may feel alone at work [29] because no other employee sees the same things that they do, which in turn encourages them to communicate more regularly and try to collaborate efficiently using new technology. As a result, the team becomes more and more important and the leader takes care of it, similar to Lilach Asher-Topilski when leading the Israel Discount Bank: My team was a tight fist, and now one would get between the fingers—not the board, not competitors, not anyone [52].

3.4. LL + OA: Lifelong Learning (LL) Supported by Observation Ability (OA)

Lifelong learning combined with observation ability should be a special requirement for the best leaders throughout the hiring process. Observation ability is a fundamental skill [53] which includes three essential actions, named the three Ls by the author: Look, Listen and Learn. In the process of observation, leaders’ attention should focus on understanding the intent of their employees’ words [54]. In actuality, the recommendation is that the three L actions should be used in all life situations. Leaders should have the ability to bring people together [55] and learn from their expertise. For an inexperienced leader, the author’s recommendation is to use the three Ls for inspiration, observing other leaders’ behavior, actions and reactions, but not for mimicking them. In addition, leaders should make the effort to create a habit of lifelong learning [56] that, combined with observation ability, will help them to achieve success through a combination of practice and theory. Some examples of lifelong learning as a habit include: vocational courses, teaching yourself a new language, on-the-job training for a new skillset and playing a new game or sport.
The judgements and decisions made after using the three L actions also helps leaders to stay focused on their mission and vision, ignoring micromanagement and guiding them to the necessary strategy adjustments and business adaptations required in this fast-changing economic environment.

4. Statements

It is not sufficient to excel at only one skill if it is not supported by another skill which complements it. A better leader in today’s dynamic context needs a combination of skills, because a single skill without a backup skill will hinder the leader from achieving better performance for their organization. For example, a leader with a focus only on their employees’ needs, lacking critical thinking, will lose sight of the ultimate goal of the organization, failing to achieve an alignment with the economic environment and the organization’s strategy.

In the new context of existing knowledge and concepts regarding the hiring process of leaders, the author proposes a new way of looking at the desirable combination of skills: Leadership Complementary Skills (LCS).

The author’s statements regarding LCS are as follows:

Statement 1. A leader with a high level of EI and low level of CT will have, as a result, a low level of organizational performance.

A leader hired only because of a high level of EI and who cares only for the needs of their employees will, in time, cause the organization’s performance to suffer. This situation occurs despite the fact that the employees’ relationship with the leader is more than satisfactory, especially concerning commitment and loyalty. The leader’s CT should provide the clarity to understand that the organization’s goals should prevail.

The opposite situation, hiring a leader with high level of CT and low level of EI, will also result in low organization performance. A low level of EI, and, as a corollary, a low level of empathy, will result in a poor relationship with personnel, leading to a negative impact on the organization’s performance.

Therefore, when hiring a leader, only a combination of high levels of EI and CT should be considered as a desired requirement.

Statement 2. A leader’s communication style, without a regular approach to communication with their employees and lacking creativity and improvisational talent, will result in a low level of organizational performance.

A leader hired only because they are a good communicator, but not a regular communicator, and lacking creativity and improvisation talent, may falter in a VUCA environment or in a difficult situation, for example, a strike, a financial crisis, etc., which might result in losing the trust of their employees. This could sabotage the organization’s productivity, culture, engagement and retention.

The opposite situation in the hiring process of a leader, in which the leader is only hired for being creative and having a talent for improvisation, is not enough. This situation will lead to losing meaning in communication, with disastrous effects on the organization’s performance.

Therefore, when hiring a leader, the required combination of skills is regular communication supported by creativity and improvisation.

Statement 3. A leader that is a risk-taker but does not have a wise risk-taking approach supported by resilience will be associated with danger to the organization and inability to recover from a loss, and as a result will not be seen as hirable.

A leader hired only because they are open to risk-taking without possessing a wise risk-taking approach and lacking resilience in a VUCA environment or in difficult situations will be seen as a dangerous leader that might jeopardize the existence of the organization.
The opposite situation, hiring a leader with a wise risk-taking approach but lacking resilience, will be unable to recover from failure, which is a very probable outcome in the actual environment, and as a result the performance of the organization will suffer.

Therefore, when hiring a leader, only wise risk-taking individuals with a proven resilience skill should be selected.

Statement 4. A leader with a high level of commitment to lifelong learning who lacks observation ability (3L) and, as a corollary, the capability to combine theory with practice, will not be recommended for a business leader position and remain a theoretician.

A leader hired only because they show a high level of commitment to lifelong learning and lacking observation ability will not be able to adapt the organization to the business reality, failing to be performant. This situation can be summarized by a famous quote from Benjamin Brewster: In theory, theory and practice are the same. In practice, they are not [57].

The opposite situation, hiring a leader only because they have a highly developed observation ability but lacking the commitment to lifelong learning, will lead to uncertainty in their actions. The result of continuous uncertainty in the VUCA environment will cause performance to suffer and, in the long term, jeopardize the existence of the entire business.

Therefore, when hiring a leader, the best candidate should have a high level of commitment to lifelong learning combined with a developed observation ability (three Ls).

Statement 5. A leader with a high level of Emotional Intelligence combined with high Critical Thinking, a high level of Regular Communication combined with high Creativity and Improvisation, a high level of Wise Risk-Taking and high Resilience and a high level of Lifelong Learning and high Observation Ability (three Ls) will be associated with positive outcomes for the organization. These four levels of Leadership Complementary Skills create the optimal model for the new leader profile to search for in the existing VUCA economic environment.

These skills determine the new way of looking at a leader’s existing knowledge and employment concepts, namely: Leadership Complementary Skills (LCS).

Overall, this basic four-level HCSM of LCS provides an example of a strong leader associated with the most efficient organizations in a VUCA economic environment which can be used in the hiring process.

5. Conclusions

Today, it is understood that leadership has been challenged by the global pandemic and that organizations have accomplished what was previously considered to be impossible. This new era has obligated leaders to make ingenious shifts in the way they lead in order to comply with the necessities of organizations and society. The author suggests an alignment with today’s boldest and most progressive leaders and proposes the Leadership Complementary Skills (LCS) to not only assist the e-recruitment process of leaders but also to aid the necessary attitudes for leadership requirements in the long-term view. In this regard, understanding the necessity for some skills to be complementary in order to be viable, the LCS’ new insight into the hiring process was developed to comply with the aim of a performant organization.

Consistent with this proposal the author has developed the Honeycomb Complementary Skills Model for Leadership as a first step in this endeavor, inviting future researchers to find other LCS to be added to the actual model to create the ideal profile of a leader. This study is limited only to the described LCS and the HCSM. The probability of building a profile for the new leader is very high when taking the support of artificial intelligence into consideration. E-recruitment systems will therefore be improved and can assist human resources departments and benefit organizations as a whole.

6. Future Directions

This scientific paper opens a new field of research for finding other essential Leadership Complementary Skills, necessary not only for the recruiting process but also for the new
aspects of the competitive leadership environment. The *Honeycomb Complementary Skills Model for Leadership* was conceived to receive other combinations of complementary skills important for a successful leader’s profile in the existing complex and interconnected economic environment. Additionally, new insights may lead to new research papers on LCS from future researchers. The suggested questions are as follows: *What will the changes for the new leadership requirements be in the following years? Are the actual leaders mature enough to cope with the new local and global environment?*

From the author’s perspective, the ideal new leader should not only guide or inspire a group of people but also possess the qualities of a manager and vice versa. In other words, the new leader should be both leader and manager. In this way, they will be capable of managing leadership and management processes in today’s highly competitive and volatile environment. Ideally, future directions in finding new LCS and improvement of the HCSM should follow this method of research development in leadership skills.

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**Informed Consent Statement:** The students were informed at various times and during the pandemic that I would like to write a study on leadership skills and requirements, and as a result consent was obtained.

**Data Availability Statement:** No data were created.

**Conflicts of Interest:** Along the years, I declare that there were no conflict of interest of any kind with the subjects of my study.

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