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Dilemmas and Challenges of Reverse Intergenerational Knowledge Transfer among Enterprise Employees in the Context of Digital-Intelligent Transformation

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Abstract: *With the upcoming of simultaneous digital-intelligent transformation and the aging of the workforce, the reverse intergenerational knowledge transfer has been one of the strategies of the firms in order to increase the digital competencies of the senior staff and to realize the digital-intelligent advancement of the organization. In contrast to the conventional studies of the intergenerational knowledge exchange, which focus on the forward transfer of the knowledge from the older worker to the younger worker, there is a lack of systematic inquiry of the operation difficulty and the practical barrier of the reverse transfer in the digital-intelligent setting. In this study, by using the Job Demands-Resources Model, we review the literatures of the reverse intergenerational knowledge transfer in the digitally intelligent organization. We look at the practical difficulties from four perspectives, the knowledge sender, the knowledge receiver, the organization's institutional environment and the digital-intelligent technological media. The problem is considered in the present paper from point of view of the psychological cognition of the individual, of the mechanism of intergenerational inter-action, of the lack of the organization incentive, and of the lack of the technical adaptability. Therefore, it can be useful for the companies that would like to improve the mechanisms of the reverse intergenerational knowledge transfer of the employees.*

Keywords: *digital-intelligent transformation, reverse intergenerational knowledge transfer, knowledge management, job demands-resources model*

1. Introduction

The pervasive integration of digital technologies in all the segments of the real economy has made the corporate digital and intelligent transform a must for industrial development [1]. Particularly, the deployment of artificial intelligence, and in particular the industrial robots, significantly reduces the demand in the labor market [2]. At the same time, when the work force ages, the big cohort of senior staff members having so much practical knowledge of business, still have active roles in front of the line of the corporate activities. A strategy based on the direct substitution of the existing personnel is very costly and not feasible. Although older workers have so much tacit knowledge regarding the running of the business, they often show the deficiency of their using of the digital tool. On the contrary, the younger employees, who are the digital natives, show much more competence in the running of the digital platform and intelligent business system, but they have no hand in the professional experience. Given the above circumstances, the reverse intergenerational knowledge transfer, that is to say, the process in which the younger staff members disseminate. If the digital intelligence competencies and the competencies of the proficiency for the use of the digital tools can be imparted to the senior employees in the corporations, it is possible to produce the mix of strengths of two different cohorts of generation. In this way it is possible to alleviate the structural of labor market differences that arise as a result of the digital and intelligent transformation processes that the enterprises are doing [3].

In the literature of the organizational management scholarship, the studies about intergenerational knowledge exchange have usually highlighted the unidirectional transmission from older to younger generations. The conventional model usually called “seniors mentoring juniors” is that the experienced staff give professional knowledge and implicit norms of the organization to the new in-coming [4].

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Nowadays, with the widespread use of digital and intelligent technologies, the intergenerational balance of the knowledge power has been changed. Since the younger workers have distinct competitive edges in the digital competencies, the importance of the reverse knowledge flow (juniors teach seniors) has become clear. Although the reverse transfer is more important, it does not happen automatically; As Burmeister et al. [4] have correctly observed, this is a phenomenon which is at play of a jigsaw of elements, from individual personality traits and intergenerational relations, up to organization structures and digital platform of ecosystems. Some corporations have introduced in this regard, for instance, interventions of the kind of reverse mentoring programs and cross generational peer collaboration, but without success. The main problem is a sort of low willingness of some of the younger staff to share their expertise, the lack of motivation for learning of some of the senior, and the lack of adequate support of the institutions. Therefore, with these efforts these initiatives do not build up strong and lasting structures of reverse knowledge exchange.

Therefore, in this line with the Job Demands-Resources Model, this paper will look at the progresses of the research about reverse intergenerational knowledge transfer in the field of digital intelligence. It will look at practical problems in four perspectives: the senders of knowledge, the receivers, the organization and the technologies, in order to explain the different problems of barriers. This analysis gives some practical insight to the companies that want to improve the mechanisms of reverse intergenerational knowledge exchange between their workers.

2. Concept Definition and Theoretical Foundation

2.1 Reverse Intergenerational Knowledge Transfer

Intergenerational knowledge transfer refers to the mutual sharing and spreading of knowledges, competencies and experience among the workforce members of different age cohorts. According to the directionality of the information flow, scholars split this concept into two types, i.e., forward and reverse intergenerational knowledge transfer [5]. In the former situation, the veteran staff members are the sources of the knowledge for the younger (newly hired) personnel, who have accumulated some practical knowledges and implicit norms of the organization. In the latter situation, the junior employees are the sources of the knowledge for the senior ones, who have the digital-intelligent capabilities, such as skills to operate the digital tools and use of the intelligent systems in the corporate environment [4]. In the domestic example of the so called “digital feedback”, the motivations of the intergenerational knowledge transfer is mostly intimate family relations [6]. However, in the professional context, the reverse intergenerational knowledge transfer is work related organizational behavior is based on the institutional resources, the motivational schemes and the specific context of the work task. The impact of such behavior is at the root of what concern both the individual performance at job and the success of the digital intelligent transformation of an organization. Under the right conditions, reverse intergenerational knowledge transfer is a way of getting mutual gains: the senior staff gain digital competencies and diminish the risk of their exclusion from the digital environment; the younger workers get more of an acknowledgement in the organization and a higher status; for the enterprise, he gets the human capital of the two age groups and therefore ease the shortage of the talents related to the digital intelligent evolution.

2.2 Job Demands-Resources Model

The determinants of worker well-being and professional output as given by the Job Demands-Resources Model are divided in two main domains: job demands and job resources. The first ones are those working conditions that require the expenditure of mental and physical effort (e.g. heavy workload, conflicting role expectations, emotional labor). The job resources are those occupational elements that help to achieve goals, reduce the drain on personal energy and stimulate the motivation (e.g. social support, decision making latitude, financial rewards, feedback on performance) [7]. These two categories correspond respectively to two different psychological mechanisms: the health impairment process and the motivational process. If the job demands are high or long, they cause the exhaustion of resources and consequently the burnout. The job resources are instead a motivational one, which provokes a strong work engagement and improves the overall job performance [8].

If reverse knowledge sharing is felt as another workload by the staff members without adequate resource compensation the reverse knowledge sharing tends to cause emotional burnout and inhibit the behaviors of the reverse intergenerational knowledge transfer. But the provision of enough organizational resources, i.e., incentive mechanism, the platform of intergenerational talking, the support training

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program for the retired workers, can induce the willingness of the young employees to share the knowledge and at the same time raise the learning engagement of their old counterparts. If the digital intelligence brings new forms of knowledge content, it would be either aggravate the work related stress for the employees or it is a good resource that can be used to stimulate the flow of knowledge. Therefore, in this study, this paper uses Job Demands-Resources Model as the theoretical model to study the problem and dilemma of the corporate employees in the context of the reverse intergenerational knowledge transfer in the context of the digitally intelligent environment.

3. Real-World Dilemmas of Reverse Intergenerational Knowledge Transfer in Digital-Intelligent Settings

3.1 Dilemmas at the Knowledge-Sending Subject Level

Young staff members as sources of digital-intelligent expertise are in the first place those that start the reverse knowledge transfer. The success of the process depends on how ready they are to share, how much they believe in themselves, and how they weight the costs and benefits of it. In the vast majority of the corporate world, young staff very often lack the inner-motivation to do the reverse knowledge diffusion spontaneously [4]. First, constraints due to socially constructed role norms. Organizations are usually pervaded by stereotypical views about the age: it is expected that, for instance, younger workers should work on the absorption of the knowledge and that the older ones should be the providers of such a knowledge [4]. Therefore, when younger people try to teach senior colleagues in new digital tools, they are at risk of being seen as arrogant, or going beyond the limits of their professional roles. The fear of potentially hurting the interpersonal dynamics of the work place is a strong discouragement to voluntarily give their knowledge. Secondly, the additional energy cost of knowledge dissemination. The process of explaining and presenting the operations of protocols of reverse knowledge transfer, the young staff have to spend time and energy that is not their main job. Unfortunately, there are few organizations that give performance related vouchers, increase of wages or any official recognition for the extra role activities. As the Job Demands-Resources Model argues, such actions become only job demands, no resources giving and resource exhaustion without proper compensation, which thus makes psychological burnout and decreases the tendency to share information [7]. Thirdly, the interpersonal gap and trust obstacles between generations. Inequalities in values and different communication style generates the psychological separation for some younger and senior. Without solid interpersonal bases, the readiness of young workers to transmit knowledge are inhibited [5].

3.2 Dilemmas at the Knowledge-Receiving Subject Level

For senior staff member as recipients of the digital-intelligent knowledge, the effectiveness of the reverse intergenerational knowledge transfer is dampened by three factors: his/her cognitive status, his/her perceived digital self-efficacy, and intrinsic motivation to learn. The first major barrier is from the physiological facts of the cognitive aging. When they get older, the working memory capacity usually decreases and the speed of information processing is also decelerated. Therefore, when facing the digital platforms that are frequently and rapidly updated, the older workers have the very big cognitive burden in their efforts to be familiar with the emerging technologies [9]. The complexity in many digital tasks can generate a feeling of friction, which decreases their subjective desire of engaging in a continuing learning activities. Secondly, the combination of reduced digital self-efficacy and the psychological threat to the identity is a barrier. Some senior staff see the acquisition of new skills in digital intelligence as an indication of their personal unfitness, hence, it evokes feelings of threat to their identity and many of them also feel the threat and anxiety related to their aging. Therefore, they would not like to ask help to the younger colleagues in something related to the digital intelligence [10]. In fact, even if the junior employees do not ask for anything and explain something, the older worker usually tends to react by avoiding or by openly rejecting [10]. Thirdly, there is a difference in motivation based on the future time perspective on one's career. Since many older employees are approaching retirement, they subjectively see their future professional time line as limited. They believe that if they spent a lot of effort to learn how to operate new digital-intelligent technologies, it will yield very little future benefits. So, they suffer from the lack of the motivation which is needed to engage in reverse knowledge acquisition [4].

3.3 Dilemmas at the Organizational Level

In the architecture of reverse intergenerational knowledge transfer, the role of the organization is

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fundamental. Nevertheless, most of the business entities have not yet created the institutions that are compatible with the dynamics of the reverse knowledge circulation typical of the digital-intelligence age. First of all, the existing formal structures do not acknowledge or certify the professional value related to such kind of knowledge exchanges. Inside most of the companies, the mechanisms of performance evaluation and the defined job role do not put the reverse intergenerational sharing in scope. The programs of reverse mentoring and cross-generational partnerships work just as sporadic, advocacy driven initiatives and not as professional duties. These activities rely only on the voluntary take in charge of the staff members, without any kind of mandatory institutional supervision and with no structured positive reinforcement. Secondly, organizational investment is usually not enough because of the wrong perceptions about costs. Companies tend to put too much focus on hard infrastructure related to the digital intelligence, e.g. different technologies, products and platforms, and not on the development of the soft institutional arenas required for enabling knowledge exchange across generations [11]. Moreover, the reverse intergenerational knowledge transfer is usually seen just as voluntary employee behavior, which does not motivate the firm to spend financial resources and human capital to set up some structure of the intergenerational interaction. Thirdly, there is no good mediation for the conflicts between generations, and no good culture of culture. Enterprises fail to cultivate inclusive intergenerational learning cultures, and age related stereotypes persist. In particular, it is not the organization that provides the training in the skills of cross generations communication to the younger workers, and it is not the organization that provides the specific help in the use of the digital for the learning of the older ones. And, in case that there is a conflict between different age, there is no organization that intervene or make the mediation.

3.4 Dilemmas of Digital-Intelligent Media

Digital-intelligent technology plays a double role, because at the same time it is the basic material for the reverse knowledge transfer and it is the thing which the information flows. Unfortunately, the actual corporate digital platform is not enough flexible for the particular contexts of the intergenerational knowledge transfer, that create new problems. From one point of view, there are more and more digital business platforms in the corporations that put the accent on the operation but not on the necessary age-inclusive redesign of what should be done for the senior staff. And the more complex it is, the harder the learning will be for the older user. From the other point of view, the virtual communication tools are not a good substitute of the in person, hands on, demonstrations. Much of the intelligent digital knowledge is based on context, practical and tacit knowledge. If you rely only on online documentation or IM, you have a lot of knowledge degradation. If the companies do not have in addition some kind of off-line peer-mentoring practices, the effectiveness of the reverse intergenerational knowledge transfer is decreasing if one has a dependency only in the web repository [12]. And many know knowledge management infrastructures in the corporations only store the business records, without any dedicated feature for two way cross generation exchange. There is no closed loop of interactive knowledge sharing, Q&A and feedback.

4. Multilayered Challenges for Reverse Intergenerational Knowledge Transfer in Digital-Intelligent Settings

Given the current, and growing, of digital and intelligent transformation, reverse intergenerational knowledge transfer is a strategy that organizations can adopt to exploit as much as possible the human capital potential of their multigenerational working force. However, this process has many issues coming from the side of the young knowledge provider, the senior knowledge recipient, the institutional framework and the digital-intelligent platforms. Some particular difficulties are the lack of right cost compensation and problems of role perception for younger staff; cognitive limits, threats to the professional identity and low learning motivation for older staff; the lack of some organizational incentive mechanisms and of a culture for supporting intergenerational learning.

The other big barrier is the fact that the digital platforms used to facilitate sharing in between generations are not designed in an adequate way. All these different barriers are creating a hindrance to the process of reverse knowledge transfer between generations. For these problems, the organization should not expect that the work of the staff is done on a voluntary basis. If one applies the Job Demands-Resources Model, since there are two ways, the way of resource depletion and the way of the activation of the motivation, the companies should reduce the burden of the things that are energy-draining for all the involved people. They should also increase the job related resources by means of the institution support, incentives and better platform features. The aim of that is to stimulate the good dynamics that is making the reverse intergenerational knowledge transfer.

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5. Conclusion

Given the current, and growing, of digital and intelligent transformation, reverse intergenerational knowledge transfer is a strategy that organizations can adopt to exploit as much as possible the human capital potential of their multigenerational working force. However, this process has many issues coming from the side of the young knowledge provider, the senior knowledge recipient, the institutional framework and the digital-intelligent platforms. Some particular difficulties are the lack of right cost compensation and problems of role perception for younger staff; cognitive limits, threats to the professional identity and low learning motivation for older staff; the lack of some organizational incentive mechanisms and of a culture for supporting intergenerational learning. The other big barrier is the fact that the digital platforms used to facilitate sharing in between generations are not designed in an adequate way. All these different barriers are creating a hindrance to the process of reverse knowledge transfer between generations. For these problems, the organization should not expect that the work of the staff is done on a voluntary basis. If one applies the Job Demands-Resources Model, since there are two ways, the way of resource depletion and the way of the activation of the motivation, the companies should reduce the burden of the things that are energy-draining for all the involved people. They should also increase the job related resources by means of the institution support, incentives and better platform features. The aim of that is to stimulate the good dynamics that is making the reverse intergenerational knowledge transfer.

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