2

The Cognitive Technology Revolution: A New Identity for Workers

Abstract Framing the socio-cultural and economical revolution brought about by cognitive technologies, the chapter aims to discuss the redefinition of workers' identity and the meaning they attach to work. Yet, authoritative studies in the field show that work experience represents a symbolic space for the development of personal and social identity. The emergence of new technology-based working modalities has concretely redesigned the role played by people at work. Moreoever, this change is also framed within the discussion about an unavoidable clash between different generations of workers (namely baby boomers, gen x and millenials) who are animated by different values, different expectations and technological skills. Therefore, the chapter discusses challenges and potentialities associated with this revolution, highlighting how the questions posed by technologies will also impose a redefinition of HRM practices.

Keywords Identity · Meaning of working · Career · Generational clash Technologies

1   Introduction: A New Context of Work

Change is an evidence in the current labor market. Within the last decades, due to both intrinsic and extrinsic factors, many challenges have redesigned the cultural, economical and social scenario of the present working context, posing new questions to both scholars and practitioners.

Capital phenomena have been the radical globalisation of markets and the economical crisis that have pushed organizations to change their management models, to reduce costs and often to downsize in order to stay competitive. On the other hand, in many cases, these events have also pushed workers to experience the negative side of these changes, that have often turned into feelings of job insecurity and precariousness (Sverke and Hellgren 2002; Silla et al. 2005).

Another relevant feature of current labor market is the rapid diffusion of technology, that has profoundly impacted on the concrete organization of work, as for instance through the introduction of smart working modalities, that have consequently blurred the boundaries between working and non working time. Moreover, technology has even contributed to redesign processes and tasks, posing new demands in terms of skills and abilities to workers and often substituing people with machines. However, far from an apocalyptic view of technology, a more valuable approach may be to view machine and human intelligence as complementary (Guszcza et al. 2017). Accordingly, workers plan actions, manage objectives and control performance. Machines can do the routinizable work that is indispensable to prepare the way for insights and decisions in technical and scientific thinking. In this vein, this symbiotic partnership between humans and technologies allow to maximise the efficiency of any performance. Therefore, leading to what some enthusiastically call the "augumented workforce" (Schwartz et al. 2017). Likewise, it is evident that the massive introduction of technology in the workplace brings about many implications both for people and organizations. On the one hand, technology has led to profound restructuring processes in terms of elimination of workforce units. On the other, in many cases, it has produced demotivation and challenging demands to workers who are called to use technology, to get

accustomed to it and/or to accept the substitution of the human contribution (Morris and Venkatesh 2000; Burke and Ng 2006; Orliwoski 2007).

Finally, other crucial factors that have contributed to redesign the labor market phisionomy are connected with the changing identity of the workforce. Women, immigrants, young people at present are significant actors within the labor market. Therefore, their active presence poses different demands in terms of work-life balance, diversity management, generational changes in values and aspirations. Abundant literature has documented the difficulties and biases connected with the cohabitation between men and women (Heilman 2012) and between natives and immigrants in the workplace (Konrad 2006).

However, a growing body of research is currently concentrating on another emergent issue: the clash between young and mature workers (see for instance a special issue on the topic edited by Schalk and colleagues in 2010). Accordingly, it is evident that the average duration of the active working life has recently increased, therefore in many organizational settings mature workers have to live together with younger workers. This fact could be a challenge for the working context as long as these two categories are profoundly different in terms of skills, motivations and expectations. Indeed, differently from mature workers, young workers, the so-called millenials, are often over-educated, highly ambitious, open to teamwork and technology-oriented (Deal et al. 2010; Hershatter and Epstein 2010). Consequently, if not properly managed by the organization, reciprocal age stereotyping could negatively impact on job performance and organizational success (Chiu et al. 2001; Brooke and Taylor 2005; Van Dalen et al. 2009; Ng and Feldman 2012).

Moving from these premises, the present chapter aims at discussing the changes triggered by the economical, cultural and social transformations experienced by the labour market and parallel at focusing on the generational differences featuring the current workforce. Further, the chapter contend that human resource management need to reconsider policies and practices in light of these different individual needs and changed working conditions.

2   A New Workforce

Among the several changes introduced above, the transformation of the workforce consequent to the entry of the Millennial Generation has received increasing attention (Harris-Boundy and Flatt 2010). Under this label are encompassed young workers born between 1979 and 1994 (Smola and Sutton 2002), who are also named Generation Y, NetGen, Nexters, and the Nexus Generation (Barnard et al. 1998; Burke and Ng 2006; Zemke et al. 2000).

Accordingly, scientific literature and public press have devoted much attention to this generation, producing increasing discussion about their features, their attitudes, and the meaning they attach to work.

Some studies have argued that Millennials are self-important, impatient, and disloyal (Hill 2008; Howe and Stauss 2007)—this is the reason why some authors call them also *"Generation Me"* to strike their narcissism, assertiveness and extreme self-confidence (Trzesniewski et al. 2008). Others state that they are ambitious, that they value organizational training and development, that they prefer meaningful work, and seek for personal fulfillment on the jobs (Hauw and Vos 2010; Loughlin and Barling 2001; Rawlins et al. 2008).

Coeherently with these findings, an important stream of research focused on Millennials' work attitude, as long as this focus could be very informative to interpret their organizational behavior and thus to plan adequate human resource management programmes. These studies show that young people belonging to this generation display higher levels of individualism than collectivism (Ng et al. 2010), that they are motivated by significant tasks, and expect accommodations by organizations based upon their experiences, needs, and desires (Hershatter and Epstein 2010; Myers and Sadaghiani 2010; De Hauw and De Vos 2010). Furthermore, Millenials generally report higher levels of overall company satisfaction and satisfaction with job security, recognition, and career advancement than previous generations, namely as compared with X Generation and Baby Boomers, that is workers born between 1965 and 1980 (Kowske et al. 2010). Finally, Millenials are extremely familiar with technology, being the first generation to be born into

a wired world: they generally prefer open and frequent communication, being connected 24-hours-a-day (Deal et al. 2010; Myers and Sadaghiani 2010).

In view of these abundant evidences, the profile of this new workforce, the differences with the older generations, currently considered experts and managers, and the practices and policies adopted by organizations to manage those differences, are strategic factors to determine how an organization will develop and be successful in the near future (Myers and Sadaghiani 2010; Murray 2011; Hillman 2014).

Indeed, it is uncontestable that Baby Boomers, X Generation and Millenials experience work differently as long as they live a different cultural, social and organizational context, resulting in different value systems.

Accordingly, the Baby Boomer generation, that is individuals aged between 50 and 70, grew up in paternalistic environments featured by values of community involvement and the absolute centrality of the company (Howe and Strauss 2000). They believe in a command-and-control management approach and value hard work and tend to be exceptionally attached to their employer. This generation values working individually, views managers as experts and looks to the employers for career planning. BabyBoomers like clear boundaries and have a generally inward-looking perspective. They are more concerned about money and recognition than other generations, they prefer job security and consider career advancement as a gradual progression (Yu and Miller 2005).

Conversely, GenXers, namely workers aged between 35 and 50, tend to emphasize the value of job satisfaction, quality of life, and workplace empowerment (Yu and Miller 2005). This generation experienced a more insecure labor market, characterized by economical turbulence and job precariousness, that is why, with respect to Baby Boomers, GenXers are more individualist (Jurkiewicz and Brown 1998). Loyalty is still a value for them but they are loyal to their profession as opposed to their employer, they seek opportunities to improve their individual work skills instead of advancing their organization (Yu and Miller 2005). The individualistic nature of GenXers results in the preference to work alone and favor the individual over the group and or organization (Howe and Strauss 2000). GenXers expect educational rewards,

job challenges, and rapid promotion, higher salaries and flexible work arrangements (Jennings 2000).

In this perspective, Millenials get this legacy. They seek for challenging work and are self-focussed. However, differently from both previous generations, they typically hold a global perspective on life and seek meaningful roles on teams consisting of highly committed, motivated coworkers (Martin 2005). Millennials care more about creative expression than leadership roles in organizations (Downing 2006).

They effectively work as a members of a team and thrive in a supportive and nurturing environment that promotes teamwork (Hershatter and Epstein 2010). Millennials prioritize the success and welfare of the team above personal attainment (Deal et al. 2010; Gilbert 2011).

They are entrepreneurial thinkers who demand autonomy, responsibility, immediate feedback, expect a frequent sense of accomplishment, and have a high need for organization engagement and support (Martin 2005). Although Millennials have an urgent sense of immediacy, they adapt well to new people, places, and circumstances, thriving in environments with consistent change. As such, Millennials are beneficial to companies undergoing change processes. Moreover, as already stressed, Millennials are considered a digital generation in which technology shapes their way of life (Oblinger 2003). They possess an "information-age mindset" as long as they have developed a symbiotic relationship with technology and use it far more often than those of previous generations, actually becoming an *"App Generation"* (Gardner and Davies 2013). Due to unremitting use of technology, Millennials are often multitasking between mobile devices, engaging in social media, or browsing the Internet. Technology has made an abundance of information readily available, and the Millennial generation has consequently developed the ability to rapidly obtain and filter the material to acquire the desired information (Hershatter and Epstein 2010). And this is a very precious and desirable skill for organizations. They are tech-savvy multi-taskers because that is all they have ever known. They don't view managers as content experts (like their predecessors) because they know where to find multiple versions of the information, they are continuous learners. Instead, they view managers more as coaches and mentors. They are also the most educated generation in history. And thanks to

technology, they are aware of their own vast numbers and their impact on the environment. This generation is socially conscious and expects their employers to act in socially conscious ways.

Differently from previous generations who take an individualistic approach to life and work, Millennials prefer collaboration, team-based work projects and an unstructured flow of information at all levels. They have an outward -looking perspective and interact with an extensive network of communities beyond their employer, which may be interpreted by other generations as a lack of dedication or loyalty. While Baby Boomers and GenXers want job security and structure, Millennials seek employability and flexibility. Millennials want to continually add to their skills in meaningful ways. For them, work is not merely a way to get an income, it is rather an opportunity to enrich and fulfil personal goals.

However, what makes Millennials unique -their tech-savvy, multi-tasking, collaborative approach to life—may cause some challenges in the workplace. First of all, a clash with previous generations of workers who are still employed in the same organization and that maybe by adopting different interpretative repertoires of work experience will not so easily understand the wind of change brought about by the younger colleagues.

3   A New Meaning of Work

An evident conclusion of the discussion drawn in the previous section is that the labor market is certainly changing together with the features of the workforce actively involved in it.

The main consequence of such radical change is a redefinition of the meaning attached to work experience, meant as a set of "shared interpretations of what people want and expect from work" (Ruiz-Quintanilla and Claes 2001, p. 335) that are predictive for both individuals' actions and group processes. According to this view, indebted to the authoritative study of the Meaning of Working Team (1987), people not only develop work meanings because of their experiences with work, but also use work meanings as a filter in their interaction with

social structures and organizations. Therefore, from a subjective point of view, the Meaning of Working is a personal 'work ethic' (England and Whitely 1990), determined by the choices and experiences of individuals as well as the organizational and environmental context in which they work and live. In this vein, a generational difference in the meaning of working is to be expected. And indeed there is, as well documented by the literature (Macky et al. 2008; Twenge 2010; Twenge et al. 2010; Parry and Urwin 2011; Cogin 2012).

Accordingly, the meaning of working is a multicomposite construct encompassing Work Centrality, Work Goals, Societal Norms about Work, Work Role Identification, and Working Outcomes. Following the heuristic model developed by the Team these are the core variable of the meaning of working that are heavily influenced by some antecedents (e.g. one's personal and family situation, one's present job and career history, and one's macro socio-economic environment) and in turn are responsible in producing some consequences (e.g. subjective expectations about future working situations and objective outcomes of working).

Recent studies (Twenge 2010) confirm a different configuration of the meaning attached to work, showing that Millenials attribute a less central role to work in their lives, value leisure more, and express a weaker work ethic than Boomers and GenXers (Levenson 2010). However, Millennials prefer opting to work in positions that are not well-paid or career-oriented but rather are enjoyable, satisfying, and integrate work-life balance (Chalofsky and Cavallaro 2013). Millennials seek work that is meaningful and solidifies their self-efficacy. In absence of these conditions, they value extrinsic work values of work (e.g., salary, job promotion) more than intrinsic ones and consider work more as an entitlement rather than as an obligation. Millenials are consistently higher in individualistic traits, thus confirming a popular conception that consider them more self-centered than previous generations.

Therefore, in view of these relevant differences, the entering of Millenials is not merely a social phenomenon, that contributes to refresh the workforce. This fact is fundamentally changing organizations and the way business will be conducted in the near future. Consequently, these findings should be carefully considered as long as

HR practices and policies designed to attract, develop and retain this vast cohort must change to reflect this generation's meaning of working.

4   A New Career Identity

The generational change in the meaning of working has coincided with a consequent transformation of the traditional organizational career model into a "new career" model characterized by increased individual agency, flexibility of career paths and greater mobility across career boundaries both with reference to jobs and organizations (Briscoe and Finkelstein 2009).

The traditional view of career conceives the latter as a linear upward progression from job to job within a single organization with increasing status, wider responsibility and higher pay (Baruch 2004). This "corporate" view, featuring research on career for most of the twentieth century (Baruch and Bozionelos 2011), has established a psychological contract that considers the employer as the provider of stability and opportunities in exchange for the individual's effort and long-term commitment (Capelli 1999). Consequently, work processes are organized according to a strict division of labor, and career paths are designed to reward employee loyalty with upward mobility in terms of income and status (Chudzikowski 2012).

In recent decades, the factors echoed earlier, namely globalization, technological advances, increased workforce diversity, emphasis on knowledge work, outsourcing and the contingent workforce, have contributed to transform this traditional career pattern (Burke and Ng 2006; Sullivan and Baruch 2009).

Organizations have become flatter and more flexible and consequently individuals have been pushed to engage in mobile careers (Baruch and Bozionelos 2011).

As a consequence, the traditional psychological contract that has guaranteed long-term employment in exchange for loyalty and engagement has ben replaced by a new deal: experience and competencies in exchange for employability occasion and short-term engagement (Baruch 2004; Capelli 1999; Moses 1997). Careers have become

boundaryless (Arthur and Rousseau 1996) both in terms of mindset and physical mobility across organizations or professions (Sullivan and Arthur 2006). This requires extremely flexible competencies, a sense of adaptability, a personal identification with meaningful work, an orientation to action learning, the development of strong social networks and individual responsibility for career management (Sullivan 1999).

An evident implication of the new career perspective is that modern careers engender much more mobility than was those of the past (Chudzikowski 2012). Accordingly, it is not only a physical mobility, rather it encompasses job changes (i.e. changes of work responsibilities, hierarchical level or title within an organization), organization changes (i.e. changes in one's employer) and occupation changes (i.e. changes that require fundamentally new skills, routines, work environments, training, education or vocational preparation) (Feldman and Ng 2007). Job mobility can be further characterized in terms of "status" changes, being upward, downward or lateral in terms of status, esteem, responsibilities, and financial rewards (Feldman and Ng 2007). In view of this, high career mobility has become the "new normal" (Inkson et al. 2012). However, whether it is desirable (Chudzikowki 2012) or it is 'bounded' by the occupational contraints and by the current job opportunites (King et al. 2005) is still a matter of debate (Inkson et al. 2012; Sullivan and Baruch 2009).

Certainly, these reflections could be considered a further factor striking intergenerational differences, as long as the meaning attached to career is strictly linked to the different career and life stages experienced when these changes took place (Howe and Strauss 2007).

Therefore, again, recalling the generational difference between Baby Boomers, GenXers and Millenials some evident differences could be observed even with respect to career management.

Baby Boomers have entered the workforce in the post-war period, benefitting from an era of prolonged economic growth. Therefore, they have enjoyed several opportunities for promotion and have mostly experienced long-term employment within single organizations (Kupperschmidt 2000; Lancaster and Stillman 2003). Yet, they have experienced a general pattern of lower mobility and upward movement in terms of status and responsibility relative to subsequent generations (Lyons et al. 2012).

Differently, in the early 1980s, when the first of the GenXers have entered the labor force, unemployment rates were almost double with respect to those faced by young Boomers two decades earlier. They have entered the labor force at the advent of the "post-corporate-career," and therefore focussed more on their employability than on advancing within corporate hierarchies (Lancaster and Stillman 2003; Moses 1997).

Because of these features, this generation has been featured as "job-hoppers", as long as they change jobs and employers frequently in order to gain new skills to pursue opportunities and to develop skills (Kupperschmidt 2000; Lancaster and Stillman 2003; Lyons et al. 2012).

Since the late-1990s and the 2000s, when Millenials have first started to enter the labor market the situation changed again. Actually, this generation has found a highly competitive labor market, with an increasing proportion of overeducated and overskilled workers. They are highly mobile, expect great change and variety in their job assignments (Lancaster and Stillman 2003), and are impatient in terms of career advancement (Ng et al. 2010). They are also said to emphasize work-life balance and make career decisions that favor lifestyle and leisure over upward career progression (Ng et al. 2010; Twenge et al. 2010; Lyons et al. 2012, 2015; Becton et al. 2014).

5   Conclusion

The emphasis on the changing identity of the labor market and on the features of the workforce currently living in it has led us to share the need the reconsider management models and HR practices as well.

In view of the different value systems and of the different working approach of this cross-generational workforce managers should carefully decide how to manage the cohabitation and to exploit skills and knowledge of both generations in line with the organizational goals.

A first suggestion coming from the analysis of the literature could be that of exploiting the relational dimension inbuilt in many working practices to foster collaboration and skill transfer. For instance, as long as Millenials are open to communication and request constant feed back and Boomers and GenXers are mature and expert workers who are

still willing to transfer knowleged, mentoring programmes could allow to concile these views. Recent investigations show that 'reverse mentoring', meant as a form of 'social exchange' of skills and expertise between younger and older workers, could be precious in keeping Millennials engaged in their work and at the same time in motivating mature workers who are generally resist to the concurrent advent of Millenials (Chadhuri and Ghosh 2012).

Furthermore, organizations could exploit the natural vocation Millenials have for collaboration by empowering for example communities of practice inside the organizational context. Although largely spontaneous, if properly sustained by the organization and attuned with the organizational culture, communities could be a precious space to manage human capital, to create engagement and to empower motivations of all members (Manuti et al. 2017).

Finally, the challenge for managers and leaders is not only to understand the differences between the generations but also to embrace their different perspectives and find ways to bring out the best in everyone.

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