

Chapter 8

Key Factors of Creativity and the Art of Collaboration in Twenty-First-Century Workspaces



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It is in collaboration that the nature of art is revealed.
Steve Lacy (1934–2004), US-American Saxophonist and
Composer

Abstract According to the Chinese Admiral *Zheng He*, the *Art of Collaboration* is guided by the principle “Know your collaborators, know yourself”. This principle grows in importance when we take the rapid changes in workplaces—the Fourth Industrial Revolution (4IR)—in global and local contexts into account. In this chapter, it is argued that not only intra- and interpersonal knowledge is needed to collaborate. It is contended that the *Art of Collaboration* in the twenty-first century needs a theoretical foundation which takes the strengths as well as the weaknesses of new ways of collaboration into account. These strengths and weaknesses, in addition, must not be limited to cognitive and experienced-based knowledge, but need to be expanded to the exploration of emotions and collaborative behaviour as well. Creativity, therefore, becomes a key factor in the art of collaboration in the Industry 4.0 workspaces. The positive psychology Wave II (PP 2.0) is viewed as providing a valuable foundation to work together creatively, peacefully and effectively across diverse cultural contexts. In this chapter, key factors of creativity and the *Art of Collaboration* will be reflected on cognitive, affective and behavioural levels. Selected examples will be discussed taking present collaborative challenges on global and local levels into account, such as growing intersections of nationality, culture and gender, the transformation of negative experienced emotions and the importance of collaborative behaviour during the breakthrough of the 4IR. Responses towards these challenges will be discussed. Conclusions and recommendations will be presented

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for future discourses on creativity and the *Art of Collaboration* in digital workspaces in the twenty-first century.

Keywords Collaboration · Fourth Industrial Revolution (4IR) · Systemic approach · Creativity · Positive psychology · PP2.0

8.1 Introduction

According to the Chinese Admiral *Zheng He* who lived in China's early Ming Dynasty, the *Art of Collaboration* is guided by the principle “Know your collaborators, know yourself” (Hum, 2011). This principle grows in importance when we take the rapid changes in workplaces—the Fourth Industrial Revolution (4IR)—in global and local contexts into account (Stubbings, 2018). In this chapter, however, it is argued that not only intra- and interpersonal knowledge, as emphasised by Admiral *Zheng He*, is needed to collaborate. Collaboration, as viewed by Steve Lacy, reveals the nature of art when done correctly. Thereby, collaboration is associated with social interaction, leadership principles and management practices and the idea of a revelation of arts which is assumed to be implicit in each and every collaboration (Hum, 2011).

The Fourth Industrial Revolution (4IR) is characterised by numerous, complex and diverse changes in the workplaces (e.g. Morley, 2013; Stubbings, 2018) and questions, including the influence of growing technological processes, automation and artificial intelligence, as well as how and where people will work, the definition of the employee in the automated world and the role of the place of cooperation and social interaction in the workplaces. While there is a strong emphasis in research on exploring the technological progress and its impact on workplaces, it is pointed out here that the situation is more complex. Reflections on the 4IR do not stop when focusing on technologisation and digitalisation: the discourse is complex and needs an in-depth exploration and understanding—less about technological innovation, but rather about how humans in different cultural settings deal with the changes, how they adjust to the changes, how they drive the change and how they shape their socio-cultural interactions within the complex twenty-first-century workspaces. The entire discourse needs deeper reflections on the meaning of work, on existential questions of humankind and its way forward, such as creating meaningful work, dealing with (negative) emotions, such as frustration and aggression, and new visions regarding education, jobs and life (Coates & Morrison, 2016; Johannessen, 2019). These complex discourses and challenges do no longer need linear predications (Stubbings, 2018), but rather complex systemic approaches which prepare humankind and workforces to cope with the complex challenges (Schwab, 2017). That means that discourses on the 4IR need systemic, transdisciplinary discourses and transcultural approaches. They also need positive and constructive ways and positive emotions (Frederickson, 2001) and a focus on international cooperation which promotes a holistic, resilient

view on the rapidly changing world's situation across living contexts (Guerra Guerra, 2019).

With Industry 4.0 come the economic shifts that are redistributing power, wealth, competition and opportunity; the disruptive innovations, radical thinking, new business models and resource scarcity that are impacting every sector, as according to Stubbings (2018) and Schwab (2017). Therefore, leaders need—more than ever before—a clear and meaningful purpose (Mayer, 2011; Wong, 2019), creative leadership and a mandate to attract and retain employees, customers and partners in the decade ahead (Stubbings, 2018). Creativity is deeply connected to issues of the Fourth Industrial Revolution, technology integration, innovation and technological change and provides new contexts and tools for creative output (Palti, 2017). Creative thinking is essential for twenty-first-century success, as societal problems will become more interdependent, global and complex (Henriksen, Mishra, & Fisser, 2016), and leaders are asked to bring up novel, original and compelling ideas (Morley, 2013; Baer & Kaufman, 2006), taking the socio-cultural context (Csikszentmihályi, 2014) and the creative, flexible switch of perspectives (Glăveanu, 2015; Runco, 2015) into account when collaborating in complex workspaces.

Collaboration is defined here in terms of two meanings (Oxford, 2018): 1. the action of working with someone to produce or create something; and 2. the traitorous cooperation with an enemy. This definition includes, on the one hand, the positive aspect of collaboration to create something together and with a common effort and, on the other hand, it refers to the challenging aspects which might need to be transformed, namely the challenge of the cooperation with “the other”, “the potential enemy”.

The term collaboration has therefore a dualistic meaning which includes the light and the shadow sides of human interaction (Dalcher, 2018). The shadow is thereby viewed as the unconscious aspect of the personality which the conscious ego does not identify in itself. Further, the shadow is often associated with negatively judged aspects, such as anxieties, fears, low self-esteem and false beliefs and perceptions (Jung, 2014). This shadow side is not limited to individuals, but it is also vivid in organisations (Dalcher, 2018) and contains all the important activities and aspects that might be unconscious or which might not be identified, discussed or managed within an organisation. The shadow system within organisations might pull the organisation towards chaos, enables diversity of thought and harbours creativity residing in the organisation (Stacey, 2007). The interplay of light and shadow aspects leads to creativity within organisations and engaging the shadow opens up new creative opportunities to overcome dysfunctional cultures, bureaucracies, small powerbases and rigid procedures (Dalcher, 2018). Culture is thereby understood in this chapter as the “the coordination of meaning and action within a bounded group” (Bennett, 2017).

It is argued here that not only intra- and interpersonal knowledge is needed, as described by *Zheng He*, to integrate shadow and light in individuals and Industry 4.0 organisations to collaborate successfully, but that cognitive knowledge needs to be expanded by emotional and behavioural aspects and positive, systemic approaches. That means that the key factors of the *Art of Collaboration*—particularly in a fast-growing and interconnected world—needs to take cognitive, but also affective and

behavioural aspects from positive psychology perspectives and systemic approaches into account. This is specifically the case, when we aim at using the growing intersections of diverse workspaces (including nationality, culture and gender) in a creative manner to collaborate successfully. The *Art of Collaboration* needs to transform negative shadow aspects and emotions, not only in face-to-face and direct communication interactions, but also in global, virtual workspace interactions which are shaped by new technologies and complex challenges. In the Fourth Industrial Revolution in which workplaces, means, ways and boundaries of collaboration change dramatically (Stubbings, 2018), the conscious awareness and self-reflection regarding collaborative behaviour are of critical importance. However, this unconscious aspect of (future-orientated) collaboration stays often unexplored under the surface of the organisation.

It is contended that the *Art of Collaboration* in the twenty-first century needs expanded perspectives including light and shadow aspects on individual and organisational levels, systemic approaches (Mayer & Viviers, 2016) and a theoretical foundation which takes the strengths as well as the weaknesses of collaboration into account. This means that collaboration should be built on a positive psychology perspective that is not primarily focused on the positive aspects only, as in positive psychology PP1.0, but that promotes a balanced view and takes strengths (light) and weaknesses (shadow) into account, as in the new wave of positive psychology PP2.0 (Compton & Hoffman, 2019; Ivztan, Lomas, Hefferon, & Worth, 2016; Wong, 2017).

8.2 Chapter Objective

In this chapter, key factors of creativity and the *Art of Collaboration* will be reflected on cognitive, affective and behavioural levels. Selected examples will be discussed taking present collaborative challenges on global and local levels into account, such as growing intersections of nationality, culture and gender, the transformation of negative experienced emotions and the importance of collaborative behaviour during the breakthrough of the 4IR. Responses towards these challenges will be discussed. Conclusions and recommendations will be presented for future discourses on creativity and the *Art of Collaboration* in digital workspaces in the twenty-first century.

8.3 The Context of the Discourse

When focusing on the *Art of Collaboration* and its key factors, the context, in which this discourse is taken into account, is influential. On the surface level of organisations, both organisations and their employees usually strive for healthy, non-toxic work environments (Mayer & Viviers, 2016; Rothmann & Cilliers, 2007) and mutual cooperation which enhance a sense of well-being and a willingness to share infor-

mation (Chung, Cooke, Fry, & Hung, 2015). Thereby, the focus on stress reduction, individual growth and organisational effectiveness (Biron & Karanika-Murray, 2014; Biron, Karanika-Murray, & Cooper, 2012) has become of major importance in workplaces in the twenty-first century. This is particularly important in the 4IR workplaces, since they experience new complex challenges (Dean & Spoehr, 2018) and a high demand of diversity, and flexibility which can be tackled when well-being and health in terms of a sense of coherence and a high degree of employees' comprehensibility, manageability and meaningfulness (Mayer, 2011) is given within the organisation. Transcultural systemic approaches can then support and foster individual and organisational development towards a greater good (Mayer, 2011). One core question which arises within the discourse of the *Art of Collaboration* is how we define ourselves and how we relate to each other (Schwab, 2017), thereby looking at the individual and systemic changes within the organisations rather from an exponential than a linear pace, tackling the management of new digital technologies (Oeij, Rus, & Pot, 2017), rising inequalities regarding low-skill, low-pay and high-skill, high-pay employees, as well as hybrid conflict potentials which arise in states and organisations, combining traditional and post-modern aspects in organisations and societies (Schwab, 2017).

Schwab (2017) has pointed out that the newly arising systemic challenges in organisations in the 4IR need to be addressed through quintessential human capacities such as compassion and cooperation. Mayer, Surtee, and May (2015) emphasise that time to pause, reflect and engage in meaningful conversation is of major importance for leaders in contemporary organisations. This need will most probably grow in importance within the next decades when workplaces become more digital, technology driven and virtual. Thereby, the value of self-organised cooperation with others through mediated contact with technological devices will heighten and the control over data, lifespan, health, cognition and capabilities, moral and ethical boundaries, and new relationship networks will need to be reorganised (Lee, Bagheri, & Kao, 2015). However, this will not only need to be done with rational and linear thinking patterns (Mayer & Viviers, 2016), but also with an inner attitude of meaningfulness, thoughtfulness, mindfulness and spirituality (Mayer & Walach, 2018) to maintain positive relationships and attitudes.

The new *Art of Collaboration* will need to be based on integrating cognitive, affective and behavioural aspects in collaboration which facilitate resourcefulness (Rosenbaum, 1990). They will have to impact on different systemic levels, such as the individual, the group, the organisation and the society. Thereby, a perspective needs to be emphasised that fosters collaboration and sustainability and should be based on an inner attitude of optimal functioning from a positive (organisational) psychology perspective (Kauffman & Scoular, 2004).

In the following, the *Art of Collaboration* for twenty-first-century workplaces will be reflected and discussed on an intra-, inter- and systemic level to prepare the discourse of the underlying theoretical psychology framework.

8.4 The Creative *Art of Collaboration*

In the following, the three levels of intra-, inter- and systemic connections with regard to the *Art of Collaboration* will be discussed, and their strengths and weaknesses addressed. Thereby, it is assumed that the art of collaboration needs a structured as well as a creative approach which is defined as the ability to formulate and solve problems so as to produce solutions that are relatively novel and of good quality (Sternberg & Lubart, 1995). For creativity to thrive and expand in employees and organisations, it needs a creative environment which is supportive of creative thoughts and extraordinary ideas and solutions, while tolerating ambiguity and task-focused motivation while applying multiple perspectives (Sternberg, 2005). Creativity thereby becomes a skill which is needed to generate ideas and products which are (a) relatively novel, (b) high in quality and (c) appropriate to the task at hand. These ideas will usually find currency among followers and thereby influence the system it is expressed and applied in.

Sternberg (2000, 2005) considers certain creative skills and attitudes as important in leading employees and organisations, such as

- (a) *problem solving*: through new and extraordinary definitions of the challenge and thereby new judgements;
- (b) *problem analysis*: through evaluating whether their solution to the problem is the best one possible;
- (c) *selling solutions*: through realising that one has to decide to sell their ideas and actively facilitate creative thinking; *willingness to take sensible risks*—through recognising to take sensible risks which can lead to success and failure; *willingness to surmount obstacles* and confront anyone who opts to defy the crowd;
- (d) *self-efficacy*: believing into the ability to do the job at hand; *willingness to tolerate ambiguity*—recognising that there may be long periods of uncertainty during which the outcome is not clear;
- (e) *willingness to find extrinsic rewards*: for actions which are intrinsically motivated; and
- (f) *continuing to grow intellectually*: being able to transform leadership patterns accumulate experience and expertise.

The *Art of Collaboration*, particularly with regard to 4IR, needs to take these creative skills and attitudes into account.

8.4.1 *Intra- and Interpersonal Connection*

The *Art of Collaboration* in a changing, highly complex world requires besides creativity resourceful and mindful individuals (Rosenbaum, 1990; Mayer & Viviers, 2016) who are able to connect their intra-individual complexities on cognitive, affective and behaviour levels in an authentic way.

According to Mayer and Viviers (2016), the individual needs to connect on the cognitive level for fostering knowledge, awareness, reflexivity and mindfulness. The fostering of these cognitive qualities will lead to an increased comprehensibility of the complex systemic aspects and interplays. To anchor the cognitive aspects within the self and to cooperate in both, effective and empathetic, mindful and spiritual ways, self-empathy and emotional intelligence (Goldman, 1995) are needed on an affective level. Through a high amount of emotional intelligence, the individuals will be able to connect to their own emotions intensely and increase productivity, build positive relationships to the self and others and gain emotional commitment from human capital (Mayer & Viviers, 2016).

On the interpersonal and organisational levels, the resilience, organisational culture and flexibility will be strengthened (Jonck & Swanepoel, 2015). This will stimulate a culture of trust, the development of synergies and creative acts and actions, as well as innovative responses to complex demands (Lazovic, 2012). All of these aspects are strongly interconnected and contribute to effective leadership (Chaudhry & Saif, 2012). Further, the cognitive and affective aspects of leadership relate to action and communication on the behavioural level, and it has been pointed out previously that—to support continuous empathetic communication in the workplace—emotional intelligence, communication and action need training (Grant, 2007). This training becomes even more important when communicating digitally and technologically. Particularly affective, approachable interrelationships based on emotional awareness, empathy, humanness and spirituality (Mayer & Walach, 2018), are needed to overcome the challenges of virtual, digital, technologically driven long-distance communication. Therefore, a behavioural culture of sharing and connection, communicative abilities and techniques, negotiation, conflict management and interventions are needed (Von Schlippe & Schweitzer, 2010) to develop and continuously drive sustainable, interpersonal long-term interaction in the twenty-first-century workplaces which are founded in diversity and technology. This, however, needs a high degree of awareness, mindfulness, openness and competence of employees and organisations to succeed.

8.4.2 Systemic Connection

The intra- and interpersonal communication in the twenty-first-century workplaces needs to be expanded by a systemic and socio-cultural integrative knowledge which includes cognitive, affective and behavioural aspects and the different systems' layers. According to Ludewig (2005), personal, social, and organisational realities and problems need to be viewed as “one system”. This knowledge and ability of individuals and organisations—to see the different elements and parts of a system as integrated, complex system dynamics—needs to be developed through exploring the socio-cultural dimensions of communication as an open, changeable process (Luhmann, 2001). In this context, networks need to be recognised and transformed from decentralised to distributed networks (Lee et al., 2015), taking as many inter-

linked elements of the system into consideration. For successful collaboration, distributed networks are accepted as a central characteristic in which, for example, decisions are not only made and information shared throughout the control nodes in the system, but are rather shared across multiple nodes and use complete system knowledge. The decentralised system is then a subset of a distributed system in which the system's knowledge is shared equally across the systems' levels.

8.5 New Theoretical Perspectives on the *Art of Collaboration* in the Twenty-First Century

Having shown that the *Art of Collaboration* needs to take all three connections equally into account, there is a need for theoretically expanded frameworks of collaboration (Mayer, Boness, Louw, & Louw, 2016). This theoretical foundation needs to be integrative, positive and systemic to provide a basis for the aim of collaborating sustainably, peacefully, effectively and creatively across diverse cultural, organisational and contextual systems. Therefore, it is suggested to take the framework of positive psychology Wave I (PP1.0) and positive psychology Wave II (PP2.0) into account (Wong, 2015).

8.5.1 Positive Psychology Wave I

The PP1.0 aims at optimal functioning of the human being (Linley, Joseph, Harrington, & Wood, 2006) and particularly promotes the perspective to focus on positive aspects on individual and organisational levels (Gruman, Lumley, & González-Morales, 2018). It is primarily based on three pillars of PP, namely positive emotions, character traits, character traits and enabling institutions (Seligman, Steen, Park, & Peterson, 2005). The PP1.0 framework was further on expanded to positive relationships by Fincham and Beach (2010). Important in PP1.0 is that the focus is exclusively on the positive aspects which impact on life, work and organisations. Research has highlighted that the focus on positive aspects initiates change in awareness, personal development, positivity of perspective (Idan, Braun-Lewensohn, & Sagy, 2013) and further on increases mental health and well-being across cultural divides (Mayer, 2011). The same research has also shown that a positive framework in organisational contexts and increased subjective health and well-being leads to expanded intercultural competences which contribute to a larger variety of interpretations and actions and thereby to the *Art of Collaboration*. This is particularly true for diverse, global and twenty-first-century workplaces which are driven by technological change, high-speed communication and complexities of diverse global networks. Applying a PP1.0 framework in communication leads to an increase in positive attitude, openness and

positive change (Idan et al., 2013) which contributes additionally to well-being and success within the organisation (Mayer, 2011; Vanderheiden & Mayer, 2017).

During the past years, however, researchers, e.g. Compton and Hoffman (2019), Wong, Ivtzan and Lomas (2017), Ivtzan et al. (2016), Mayer & Vanderheiden (2019) and Wong (2011, 2017) have expanded the PP1.0 framework into the second wave of PP2.0.

8.5.2 Positive Psychology Wave II

The PP2.0, in contrast to PP1.0, does not only focus on the positive aspects, but assumes that to collaborate effectively and healthily, positive and negative aspects need to be taken into account, explored, understood and accepted. Only then, the negative aspects can be transformed into the positive realm (Wong, 2011). Ivtzan and Lomas (2017) refer to the values of PP1.0 and highlight values, such as virtue, meaning, resilience and well-being as core values of PP2.0.

PP2.0 aims not only at improving life and work for individuals and teams in the momentum, but in terms of a long-term perspective across the lifespan (Mayer, Vanderheiden & Oosthuizen, 2019; Vanderheiden & Mayer, 2019). Further, it takes an existential slant into consideration and expands this train of thought and framework in general for humankind (Wong, Ivtzan, & Lomas, 2017; Lomas, 2016, Wong, 2017). Wong (2017) emphasises the importance of meaning and meaningfulness in PP2.0. Meaning will play an extraordinary role in the integrated and complex collaboration in the 4IR due to the fact that work context and impact on the broader society and even the global society can no longer be separated (Wong et al., 2017). Negative aspects in collaboration need to be acknowledged before the positive can flourish. Then positive and negative aspects can be integrated (Wong, 2011). With integrated intra-, interpersonal and systemic levels and a focus on meaning and virtue, 4IR workplaces and collaborations will contribute outstandingly to: (a) the personal development, (b) the identity management of the individual and the system, and the fostering of resilience, well-being and a sustainable global future.

8.6 Collaborating Positively and Constructively in Growing Intersections of Nationality, Culture and Gender

Based on the provided framework and PP2.0 collaborations, individuals and systems need to take the growing intersections of national, cultural and gender diversity into account. In the following, two examples will be given to show how the *Art of Collaboration* can be practised in workplaces which are strongly influenced by the 4IR.

8.6.1 *The Art of Collaboration in Chinese—African Collaboration*

This example is based on research on Chinese-African collaborative interactions in African countries (Mayer, Boness, & Louw, 2017a) in which intercultural collaboration is prevalent in the international collaborations of Chinese and African employees (Hinds, Liu, & Lyon, 2011). In this context, collaboration needs a highly dynamic, systemic and contextualised view and the exploration of culturally and gender-based perceptions (Hinds et al., 2011). The perceptions vary in the different departments of the organisation and in collaboration with the headquarters in China and the subsidiaries in different African countries. Chinese-African collaboration brings challenges based on lack of intercultural competences (George, Khayesi, & Haas, 2016; Mayer et al., 2017a, 2017b), as well as based on the imbalances—experienced by the employees' national, language, gender and cultural background—regarding technological knowledge, educational levels and system dynamics. These are all culturally biased and the speed with which decisions are made, and progress is driven is extraordinary.

Research within the company at hand has shown that an increase in collaboration between the Chinese-based headquarter and within the intercultural teams in African countries is needed in terms of strategy, structure and decision-making, management styles, employment, qualification and training, knowledge-sharing, motivation and incentives, working conditions and atmosphere, environment community, government and trade unions (Mayer et al., 2017a). One major challenge which traverses all the other challenges in collaboration is the fact that the African employees are not trained to deal with the technological developments within the organisation. One Chinese employee comments:

We have an open e-learning platform which carries all types of knowledge and information you want which is related to your work. There is all the information from different countries and project experience or specific technology training material. Everything. We share it in one database and one platform. Any staff can use their ID and just log in the office platform.

Chinese employees foster an individualised perspective of technological knowledge-sharing and collaboration, combined with knowledge and information-based relationship-building which mainly takes place on e-platforms, in organisational chat rooms and Intranet forums. The focus of communication is mainly on close global collaboration via technological advancements with rather a global collaborative perspective than a local one.

The African employees highlight that there are certain technological tools in use within the organisation. However, they do not have access to these tools. Systems are not integrative, but prioritising Chinese employees throughout all challenging areas of collaboration. Trainings for African employees are not offered, and self-learning pro-activity is expected. For the African employees, however, the relationship-based perspective on collaboration and local knowledge-sharing is more important than the global networking and the face-to-face communication is key to success in their point of view. They believe that the *Art of Collaboration* lies in the interpersonal

knowledge-sharing and face-to-face communication which includes aspects of guidance by the superior rather than self-initiative. This is different from the Chinese employee perspectives.

8.6.2 *The Improved Art of Collaboration*

Based on the research of perceptions of collaboration, improving the *Art of Collaboration* in this organisational setting includes the acknowledgement of negative emotions and perceptions towards “the other” and the will to transform these emotions. Further, positive relationships can be expanded by firstly analysing the challenges and by, secondly, enhancing the collaboration towards optimal functioning of the human being (Linley et al., 2006). Further, the employees need to focus on the positive aspects with regard to the intra-, inter- and systemic (organisational) level (Gruman et al., 2018). Shadow work, as well as a PP2.0 perspectives will be supportive in transforming the collaboration and contributing to see it as an art.

On the intra-personal level, positive relationships can be enhanced by overcoming language barriers, communication on e- and face-to-face levels, discourses on values, virtues and meaning of work. Emotions which relate to mutual existent negative perceptions need to be recognised, explored and finally transformed to contribute to the *Art of Collaboration*. Particularly in complex systems, this needs a strong ability to reflect on cognitive and emotional levels, as described in the concept of emotional intelligence by Goleman (1998).

The organisation can support the fostering of the collaboration while aiming at contextualising the organisations’ tasks and aims with regard to seeing “the bigger picture”. Further, the interplay of diversity criteria and their positive impact in the organisation need to be recognised. Since the negative impact of diversity in the organisation is constantly (re-)narrated in interpersonal interactions, the narration paradigm within the organisation needs to change towards the positive and therefore towards the greater good of the employees, thereby impacting positively on emotions, individuals and positive relationships, organisational culture and the enabling of institutions (Fincham & Beach, 2010; Seligman et al., 2005). Only then, the systemic perspective can change and the organisational culture can turn into of PP2.0 culture which will provide a great base for dealing with 4IR issues.

The following second example will provide a different perspective into the *Art of Collaboration*.

8.6.3 Collaborating to Transform Negative Emotions in 4IR Workplaces: The Example of Shame

Negative experienced emotions in the workplace can impact negatively within organisational systems, on the employees, the success and on the effectivity. Shame has often been highlighted as a negative emotion (Hilgers, 2013), and it has been described as hindering effective work collaboration and diminishing the quality of work. Vanderheiden and Mayer (2017), as well as Mayer and Vanderheiden (2019), have emphasised, based on a PP1.0 and PP2.0 perspective, that shame can be transformed through different techniques and methods. Mayer (2017) has presented how shadow work, for example, can help transforming shame into a resource of mental health and well-being (Mayer, 2017). When shame is experienced as a resource, it can improve collaboration, flourishing and flow (Seligman & Csikszentmihalyi, 2000). Then, shame can turn into a transformed experience which leads to increased self-sufficiency, the ability to adapt, general coping and optimised personal potential. If this is the case for employees, the organisation will gain in terms of positive climate and culture. This might become extremely important in 4IR workplaces which are digitalised, technologised and automated and which therefore need strong and resourceful competences of employees to deal with negative emotions—not only on a face-to-face level, but also through mediated communication. Negative emotions then are transformed into resourceful emotions which can lead the individuals into personal growth and strengths.

When negative emotions in organisations thrive, as, for example, toxic shame, the emotions need to be transformed actively, for example, into healthy shame. Through this transformational process, failure, mistakes and errors can be recognised and communication can be developed. To transform toxic shame a certain process may be applied:

1. Create awareness of the feeling (of shame)
2. Explore the feeling (of shame) within self and others
3. Acknowledge and analyse the feeling on all levels of self, organisation, society
4. Acknowledge and analyse the feeling on cognitive, affective and behavioural levels (source)
5. Work through the shadow of shame (negative implications on self and others)
6. Transform the shadow parts through focus on PP1.0 and PP2.0 aspects
7. Define meaning (of shame) contextualised from relevant perspectives
8. Define the learning from the situation, the feeling and the experience
9. Develop a strategy to deal with the experience
10. Develop solutions for similar future situations
11. Define the greater good of the shameful situation and its transformation for the organisation
12. Define the systemic impact on societal levels and its meaning not only on an intra- and interpersonal level of collaboration, but also on a systemic organisational and societal level and even for humankind.

Transforming shame to enable positive and constructive workplaces (Mayer & Tonelli, 2017) can be managed through individual transformation and supported through coaching, mentoring, and organisational programmes and structures to develop employees and organisational systems (Mayer, 2017).

Transforming negative emotions in organisations becomes primarily important in 4IR workplaces (Grandey, Diefendorff, & Rupp, 2013; Lerner, Li, Valdesolo, & Kassam, 2015) to influence work relationships, work culture, quality of work and creativity and meaningfulness. Positive experienced emotions contribute to meaningfulness (Wong, 2019) and are of importance to create future workplaces which focus on sustainability and the *Art of Collaboration*. To transform from negative to positive experienced emotions, creativity and creative skills, such as problem analysis, problem solving, selling solutions, willingness to taking sensible risks, willingness to surmount obstacles, self-efficacy, willingness to tolerate ambiguity and finding extrinsic rewards—while creating the motivation to continuing to grow intellectually (Sternberg, 2000, 2005)—can support individuals in organisations to develop further and use the positive potential to expand the *Art of Collaboration*.

The creative act of acknowledgement, analysis and transformation should most possibly be framed within the PP2.0 framework. This framework can provide guidance to acknowledge the negative and the shadow and transform it towards the positive and the light. To collaborate artistically and creatively, the influences on different levels (intra-personal, interpersonal and systemically) need to become accessible, explored and finally transformed. This is particularly important in 4IR workplaces which uses mediated communication through advanced technology. In this 4IR communication space, emotions might not be as easily coded and decoded as in complex face-to-face interactions.

8.7 Key Insights and Synopsis

The *Art of Collaboration* in 4IR needs new approaches and will have to take complex changes on different levels into account. For these changes to be transformed successfully into meaning, it needs creative solutions and a positive focus, attitude and practical approach to contribute to mental health and well-being in 4IR contexts. The following figure (Fig. 8.1) provides an overview of the different interplaying aspects of the Art of Collaboration argued for in the chapter.

The positive psychology perspective is contributive to create sustainable and collaborative workplaces, particularly when not only working towards positive functioning (PP1.0), but also by working through the positive and the negative aspects associated (PP2.0).

Creativity is one of the key factors in managing 4IR workplaces and PP1.0 and PP2.0 can build a valuable (theoretical and practical) frame and foundation based on which work and organisations can be constructed creatively, peacefully, effectively and sustainably. Thereby, the systemic perspective needs to be taken into account to counteract the complexity of contemporary 4IR interactions.

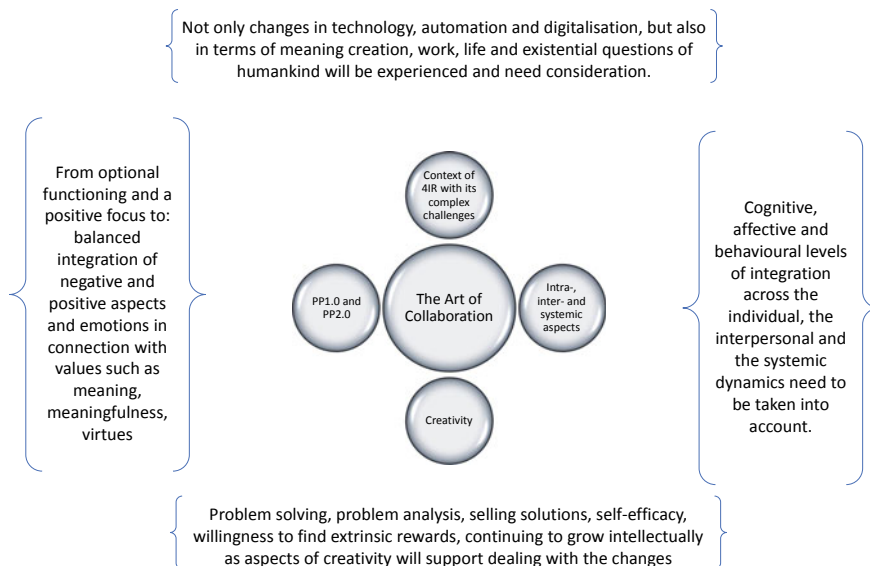


Fig. 8.1 Art of Collaboration in 4IR—author’s own construction

On the cognitive level, employees and organisations need to transform their view from knowledge to mindful meta-reflections and positive perceptions. On the affective level, an increased focus on feelings and emotions is needed to connect to the self and others and transform negative experienced emotions. Finally, on the behavioural level, improved behavioural skills and e-mediated intercultural valid communication skills and actions are needed to promote PP1.0 and PP2.0 on a practical and applied level. These levels need to be adjusted systemically when moving into the 4IR workplace.

Collaboration in times of complex challenges, changes and growing technological processes, automation and artificial intelligence needs a new focus on how to create socio-cultural interaction which are no longer based on linear thinking, but rather on systemic approaches: to know the self and the other is no longer sufficient to drive 4IR workplaces to success. Rather systemic approaches are needed which take the shadow and the light aspects in individuals and organisations on cognitive, affective and behavioural levels into account and thereby enable creativity and creative opportunities across intersectionalities (e.g. cultures, national belonging, language and gender).

While enabling creative processes, the meaning of work and collaboration becomes a key issue in the workplace of the 4IR and needs to be dealt with artistically. Creativity and meaning become key concepts to use the diverse potential of employees in globalised and technologised organisations. This will increase socio-cultural awareness and mindfulness, and explore socio-cultural synergy effects and use them creatively for the greater good of the individual, the organisation and the society.

It is concluded that workplaces in the 4IR need to create meaningful and sustainable virtual and digitalised work spaces, provide individuals and organisations with courage to bridge the virtual gap, support them to develop new, flexible and complex structures and systems which are based on the needs of the employees. This should be fostered while focusing on positive systemic aspects of individuals and organisational systems to develop an *Art of Collaboration* which is based on increased awareness, mindfulness and trust and anchored in meaningfulness.

8.8 Recommendations for Future Research and Practice

Based on the above, multidisciplinary and transcultural research on the *Art of Collaboration* is needed in future to explore the impact of the 4IR and its speedily changing complexities in the workplaces. Therefore, the different levels (cognitive, affective and behavioural levels) need to be taken into account. Further, the different systemic perspectives on intra-, inter-, organisational and societal levels need to be researched in detail and how they interact within the context of the 4IR changes.

In future research, courage and creativity are needed to explore new complex, systemic aspects beyond the mainstream management and organisational research topics, using new methodological s and creating new theoretical approaches and perspectives which match the changes. Research from a PP1.0 and PP2.0 research paradigm can support the exploration of positive and creative key factors to define the new *Art of Collaboration*, including topics such as: the creation of meaning in 4IR workspaces, spirituality and meaning and its impact on changing complex systems on different systemic levels, the influence of emotions in global networks and virtual communication and collaboration, systems psychodynamic approaches and the impact of the unconscious in the virtual, technological advanced workspaces and key factors in the *Art of Collaboration*.

On a practical note, leaders, employees and organisations should become aware and conscious regarding the complex changes which the 4IR brings along. Awareness should be created in the 4IR—not only regarding technologisation, digitalisation and virtual communication and collaboration, but regarding key factors relating to the ability to create new employee–organisation relationships and organisational cultures which are anchored in sustainability, creativity, meaning-creation and peacefulness.

Leaders and organisations need to support the transformation into the 4IR additionally through support programmes which aim at developing new strategies of the *Art of Collaboration*. These programmes, training and coaching approaches need to foster employees to develop creativity, meaning and positive psychology approaches for 4IR collaborations.

8.9 Recommendations for the Discipline of Industrial and Organisational Psychology

Finally, it is important to develop the discipline of Industrial and Organisational Psychology forward, in such a way that a stronger awareness and mindfulness in the field towards the *Art of Collaboration* in the 4IR is created.

Industrial and Organisational Psychologists need to make the 4IR workplace their area of expertise with all the key factors which are needed to research, consult and develop employees and organisations in this transformational situation and to provide informed guidance and decisions.

Additionally, Industrial and Organisational Psychologists should develop training programmes for employees and organisations which are based on the PP1.0 and PP2.0 frameworks to deal with the challenges of the *Art of Collaboration* not only creatively and informed on cognitive, affective and behavioural levels, but also from a positive frame of reference. Industrial and Organisational Psychologists can then, further on, develop research-based and applied models for organisations to provide guidance and fill the space of the 4IR with creativity and meaning to create a sustainable and peaceful global future. They can thereby define the field as an area of expertise for themselves.

Professionals working in higher education and training contexts should further consider to adjust the curricula towards the development of more complex systemic thinking patterns, creativity and knowledge of PP1.0 and PP2.0, as well as systems psychodynamics to provide theoretical approaches to increase the understanding of speedily changing systems and the influences of the 4IR changes within organisations.

8.10 Conclusion

The aim of this chapter was to explore key factors in the *Art of Collaboration* in the twenty-first-century workplaces. Based on the principle of Admiral *Zheng He* “Know your collaborators, know yourself”, it was argued that not only intra- and interpersonal knowledge is needed to collaborate, but a rather expanded and positive view—particularly within the 4IR workplaces.

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