Information sharing and feeling of competency at work: a proactive training seeking perspective

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Abstract

Purpose. This study aims to investigate the mediating role of challenging tasks, organizational identification and technological training seeking behavior in the relationship between information sharing as a human resource practice and employees' feelings of competency at work.

Design/methodology/approach. Structural equation modeling was used to analyze data collected from a three-wave online survey conducted in an Italian aerospace manufacturing company (n = 294).

Findings. The results reveal an indirect path between information sharing and feelings of competence, mediated by organizational identification and training seeking behavior. However, no total indirect path was observed between feelings of competency and information sharing through challenging tasks and training seeking.

Originality/value. This research contributes to the understanding of the impact of information sharing on individuals' feelings of competency in the context of organizational change, particularly through the introduction of the concept of proactive training seeking as a novel dimension of proactive behavior.

Keywords: Information sharing, Challenging Tasks, Organizational identification, feeling of competency at work, proactive training seeking

INTRODUCTION

Over the past years, driven by technological and technical aspects, the fourth industrial revolution impacted deeply the aerospace and industrial manufacturing sectors. It creates a more complex, flexible and digital cyberphysical industry (named smart industry or Industry 4.0), implying changes in both the organizational system and the organizational reality (e.g. Landers and Marin, 2021). These changes deeply affect human resources practices (Stone et al., 2015), expectations of actors at the individual, team and organizational levels (Cascio and Montealegre, 2016), well-being (Ackerman and Kanfer, 2020) and competency requirements (Nguyen, 2022). Although these last concepts are potential keys to a successful implementation of Industry 4.0, the effect of human resources on feeling of competency at work (FCW) remains understudied.

Recent studies emphasize the importance of investigating the relationship between human resource practices and FCW (e.g. Chassaing-Monjou et al., 2024). This is crucial as organizations navigate the modern technological environment, which demands a workforce adept at addressing novel challenges while fostering a deep sense of belonging and identification with their organization. These works stress the significance of self-competence awareness and proactive self-learning behavior as crucial factors during organizational changes. Based on existing literature, information sharing is a human resource practice that is closely linked to the development of workplace competencies (Battistelli et al., 2019), awareness of organizational challenges (Ahmed et al., 2020), employees' identification with the organization (Turulja and Delalic, 2021) and self-training (Nguyen et al., 2023).

Information sharing refers to the extent to which a company disseminates information to its employees regarding policies, its relationship with the broader environment and work-related objectives (Battistelli et al., 2019). Challenges are perceived as new responsibilities by employees, necessitating the development of nonroutine behaviors and skills, providing a level of autonomy in task execution and implying a significant degree of responsibility (Preenen et al., 2014). Organizational identification refers to an individual's sense of unity or affiliation with an

organization, defining themselves in relation to it (Mael and Ashforth, 1992). Pursuing self-training involves proactive behaviors aimed at skill development through seeking training with a forward-thinking objective. Investigating the relationships between these key factors that contribute to the emergence of FCW in a highly technological context is crucial. Organizations should prioritize effective practices (i.e. information sharing), to encourage proactive workplace training, to ensure a healthy workforce. This will enable employees to address current and future organizational demands in an era of rapid technological change. Our article aims to investigate the relationship between information sharing and FCW through organizational factors (i.e. challenging tasks and organizational identification) and the use of proactive training behavior (i.e. technological training seeking [TTS]).

Radical changes in organizations require motivated and involved employees (Cangialosi et al., 2022). Employees need a clear and accurate reading of the organization's expectations and goals (Franke and Shah, 2003). Information sharing should allow the workers to be more involved and aware of organizational changes and challenges (Holzwarth et al., 2020; Vera and Crossan, 2005), giving them a feeling of control over their environment (Bindl and Parker, 2011). Individuals who perceive a challenge, identify with their organization and face changes do not remain passive (Sijbom et al., 2020). Information sharing fosters specific desired positive feelings, attitudes and behaviors for individuals, teams and organizations (e.g. Bos-Nehles and Veenendaal, 2019; Joo et al., 2022).

Based on signaling theory (Bergh et al., 2014) and self-determination theory (Stone et al., 2009), employees perceive information sharing as organizational signals (Bowen and Ostroff, 2004) and guidelines (Marescaux et al., 2013) expressed by managers. Employees then interpret the signal as behaviors and attitudes expected and rewarded during changes (Bos-Nehles and Veenendaal, 2019). If employees perceive that the organization values their participation and learning behaviors in this new environment, they will feel responsible and try to help the organization achieve its goals (Parker et al., 2019). Employees perceiving clear signals should seek proactive self-training to be up

to date with the competencies required for their new high-tech organizational reality (Yang et al., 2022) and feel more competent in their work (Dose et al., 2019).

In our study, FCW is a dimension of employees' psychological well-being (Dagenais-Desmarais and Savoie, 2012). FCW corresponds to the "perception of possessing the necessary aptitudes to do one's job efficiently and have mastery of the tasks to perform" (Dagenais-Desmarais and Savoie, 2012, p. 670). FCW is related to the desire to interact effectively with the environment, to feel that one can use one's abilities (Ackerman and Kanfer, 2020; Dose et al., 2019). Without information shared about the expected company's goals, employees will quickly find themselves overwhelmed, which will impact their FCW and thus their behavioral performance (Van Esch et al., 2018).

Our study investigates information sharing effects on FCW through two pathways (i.e. affective – organizational identification, and task-related – challenging tasks) linked to the self-implementation of proactive behavior toward training (i.e. TTS). Information sharing stands out for its informative and learning nature (Mostafa, 2017). According to signaling theory (Bergh et al., 2014) and self-determination theory (Stone et al., 2009), if individuals understand organizational goals, they should perceive a control and fit to the organizational change, they will feel competent in challenging tasks (Dose et al., 2019) and will identify more with organizational goals (Bos-Nehles and Veenendaal, 2019). Thus, they will consider the different keys that allow them to implement proactive training-seeking behaviors (Parker et al., 2019) and therefore adapt to their environment (Grant and Ashford, 2008) to meet their FCW needs (Stone et al., 2009). Thus, our research does not only bridge a critical gap by linking information sharing to FCW but also offers practical insights for organizations striving to ensure their workforce is competent and proactive in an era marked by persistent technological progress.

More specifically: first, this article opens new perspectives to study the processes underlying the development and acquisition of competencies (Ackerman and Kanfer, 2020) by exploring the relevance of FCW in a change situation toward Industry 4.0. Second, our research

highlights how information sharing and FCW are indirectly linked through a task- related and an affective pathway: challenging tasks and organizational identification. This clarifies the importance of understanding one's environment to proact accordingly to the change process (Dose et al., 2019). Finally, this study contributes to the proactivity literature by adding a new behavior (i.e. TTS) and advances the conceptualization of wise proactivity (Parker et al., 2019) through the study of the relationship between information sharing and FCW with a behavioral proactive approach. The below Figure 1 illustrates theoretical model.

Theoretical background and hypothesis

Human resource practices and feeling of competency

Based on signaling theory (Bergh et al., 2014) and self-determination theory (Stone et al., 2009), employees are expected to acquire, develop and/or improve their competencies by accessing to shared information (Mostafa, 2017). Suitable information sharing practices would influence all three dimensions (i.e. competence, autonomy and relatedness) of workers' autonomous motivation (Stone et al., 2015). If organizations send out signals of investment in their employees' competencies, the latter will be more inclined to develop themselves and benefit the firm's performance (Van Esch et al., 2018). They will also be better able to identify when it is "wise" to implement proactive behaviors to develop themselves (Parker et al., 2019).

Relating to Bos-Nehles and Veenendaal (2019), we argue that individual perceptions of human resource practices focused on developing employees' competencies to cope with a changing technological environment should affect employees' FCW. This individual-level outcome equates to eudemonic well-being at work that depends on the individual's intentional effort to use his/her full potential, while enabling him/her to fulfill organizational responsibilities and expectations (Ryff, 1989). This state results from individuals' need for competency (Dose et al., 2019) and affects one's competency (Deci and Ryan, 2000); that is, the extent to which individuals can perform their job duties competently and successfully through knowledge, skills, abilities and other characteristics (Mansfield, 1996).

FCW should address the motivational and affective aspects that underlie competency growth, enhanced by information sharing (Van Esch et al., 2018). Research shows the importance of building employee competencies, but there is still a limited understanding of how the FCW is fostered. According to the affective and self-determined nature of competencies (e.g. Deci and Ryan, 2000; Mostafa, 2017), information sharing could develop and enhance FCW (Stone et al., 2009, but see Veenendaal and Bondarouk, 2015). As human resource practices are a set of different managerial practices, using them as a whole would result in a loss of information about why individuals act one way rather than another (Veenendaal and Bondarouk, 2015). Among all the human resource practices (Mostafa, 2017; Van Esch et al., 2018), we selected information sharing (Boselie et al., 2001).

Information sharing (i.e. "the extent to which a company distributes information to its employees regarding policies, its relation to the general environment, and work-related goal," Battistelli et al., 2019, p. 365) is commonly studied (e.g. Mostafa, 2017). Information sharing would ensure each other's improvement, reduce rivalry, leading to the enactment of reciprocity (Franke and Shah, 2003) and enhance firm performance in the long run (Van Esch et al., 2018). Knowledge of the organization's strategic goals and perspectives (Vera and Crossan, 2005) should enhance an individual's sense of control and mastery over the environment (Bandura, 1991) and develop behaviors ensuring proper task performance (Bos-Nehles and Veenendaal, 2019). Thus, employees' perception of information sharing related to changes should lead to a higher level of FCW. In this view, our study focuses on information sharing and its effects on employees' attitudes and behaviors enhancing FCW through task-related and affective paths.

The role of challenging tasks and organizational identification

Challenging tasks are considered as new tasks by employees that require developing nonroutine behaviors and competencies, provide autonomy in the performance of one's duties and involve a high level of responsibility (Preenen et al., 2014). Perceiving one's tasks as challenging is positively related to the need for autonomy and competency (Preenen et al., 2011), the development

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of innovative (Battistelli et al., 2019) and proactive behaviors (Grant and Ashford, 2008), turnover intention (Rawashdeh and Tamimi, 2019) and seeking career advancement (Preenen et al., 2011). Challenging tasks also help mastery-oriented individuals seeking to develop their competencies to enhance their FCW (Preenen et al., 2014, 2019).

The extent to which employees perceive and perform challenging tasks is not only self-initiated (Preenen et al., 2011), but also related to signals sent by managers (Preenen et al., 2014). Robotization and technology development lead to a decrease in routine tasks and an increase in the perception of challenging tasks (Cascio and Montealegre, 2016). The organization must therefore implement information sharing practices that promote learning and information sharing to keep their employees up to date. For instance, information sharing is related to challenging tasks through workplace learning (Battistelli et al., 2019). Furthermore, the perception of challenging tasks influences the use of competencies (Preenen et al., 2019). Given their autonomous and task-oriented nature, challenging tasks would thus characterize the task-related path between information sharing and FCW:

H1: Information sharing is positively related to challenging tasks.

Organizational identification is defined as "the perception of oneness with, or belongingness to, an organization where individuals define themselves in terms of the organization in which they are a member" (Mael and Ashforth, 1992, p. 105). Individuals with high organizational identification follow organizational norms and values and share the organization's goals (Arasanmi and Krishna, 2019). People with strong organizational identification are more active and try to make things happen in their organization (Chen et al., 2019).

Industry 4.0 changes the organization's reality, potentially impacting employees' organizational identification. Employees strongly identifying with their organization would change in the same direction, adopting new values and norms (Mael and Ashforth, 1992). Employees with low levels of organizational identification need to know their organization's goals and expectations to reduce concerns about the future (Vera and Crossan, 2005). The need for employees to develop

FCW becomes essential and activates an emotional need for individuals to correspond to their organization's expectations (Rockmann and Ballinger, 2017). An organization that sends signals through information sharing would need to enhance organizational identification (Chen et al., 2019). Information sharing is related to knowledge sharing (Battistelli et al., 2019), itself related to organizational identification (Abbasi et al., 2020). In this view, information sharing should make employees feel valued (Franke and Shah, 2003), more identified with their organization (Rockmann and Ballinger, 2017) and reduce concerns about their future (Strauss et al., 2012). Organizational identification would be the affective path from information sharing to FCW:

H2. Information sharing is positively related to organizational identification.

The mediating role of technological training seeking

In a changing context, the signals sent by the organization should state the need for a highly skilled, flexible and forward-looking workforce (Ackerman and Kanfer, 2020). The competencies learned to progress in the job would therefore no longer be the same as those initially mastered (Landers and Marin, 2021). It would impact the employees' "future work selves" (i.e. "representations of the self in the future that encapsulate individually significant hopes and aspirations in relation to work," Strauss et al., 2012, p. 581). A gap between present competencies and anticipated demands could be identified, and represent a potential threat to employees' well-being (Ackerman and Kanfer, 2020). Employees would thus implement proactive behaviors to better match the future demands of the 4.0 organization (Bindl and Parker, 2011), including seeking technological training.

The concept of TTS, created for this study, would be useful to better understand the proactive processes that lead individuals to feel competent in their work, and then to develop and master skills. Drawing on research concerning "proactive skill development" (Strauss et al., 2012) and "wise proactivity" (Parker et al., 2019), TTS is a proactive, self- initiated behavior of employees related to the individual propensity to try to train themselves to use and understand technologies. TTS should provide a critical link between the perception of shared information and

FCW. In a changing context, TTS develops salient up- to-date skills for employees' future work selves (Strauss et al., 2012), which could reduce insecurity toward the future (Bindl and Parker, 2011), accumulate resources for future growth (Hobfoll, 1989) and better address challenge in the future (Aspinwall and Taylor, 1997). According to wise proactivity (Parker et al., 2019), signaling (Bergh et al., 2014) and self-determination theories (Stone et al., 2009), TTS would mediate the relationship between information sharing and FCW, through task-related (i.e. challenging assignment) and affective (i.e. organizational identification) paths:

H3a. Information sharing is related to TTS through challenging tasks.

H3b. Information sharing is related to TTS through organizational identification.

Wise proactivity "involves considering, in a balanced way, the task/strategic context, the social and relational context, and one's own self-regulation when generating and striving for proactive goals" (Parker et al., 2019, p. 236). Individuals perceiving, through information sharing, organization's signals on the use of high technology (Van Esch et al., 2018), would feel justified in adopting TTS. If they perceive a challenge and identify with their organization, they should find it beneficial to train in advance for future technologies to meet the expectations of the organization (Grant and Ashford, 2008; Bindl and Parker, 2011), but also their own needs of satisfaction (Stone et al., 2009). Seeking training should reinforce the individuals' sense of competence (Vera and Crossan, 2005), because they would feel to activate behaviors allowing them to fill any future gaps (Strauss et al., 2012):

H4a. Challenging tasks are positively related to FCW through TTS.

H4b. Organizational identification is positively related to FCW through TTS.

Based on the relationships proposed in the literature between proactivity and (1) information sharing (Vera and Crossan, 2005), (2) challenging tasks (Ohly and Fritz, 2010), (3) organizational identification (Chen et al., 2019) and (4) psychological well-being at work (Parker et al., 2019), TTS should mediate the relationship between information sharing and FCW through our proposed affective and task-related path:

H5a. Information sharing is positively related to FCW through the task-related path (i.e. challenging tasks and TTS).

H5a. Information sharing is positively related to FCW through the affective-related path (i.e. organizational identification and TTS).

[Insert figure 1 here]

METHOD

Sample and procedure

The sample (n = 294, 91% male) was collected through a three-wave online survey from an Italian aerospace manufacturing company undergoing a change in managerial policies and practices toward innovation for Industry 4.0. The organization aimed to empower its employees to develop their FCW while valuing the development of their proactivity during and after this change. The age groups corresponded to the company's profile and were as follows: 18–30 years (10%), 31–40 years (33%), 41–50 years (37%) and 51–65 years (20%). Respondents were full-time workers distributed between 30 departments from aeronautic (48%), industrial (29%) and office (23%) lines, with more than six years of tenure (79%). Twenty-four percent had leading responsibilities and held a graduate degree.

The survey was sent to all employees and computer rooms were set up to ensure involvement. An alphanumeric code was required at each measurement time to respect anonymity. From 653 employees (83% of the company) who responded at time 1, only 294 were identifiable at all three times (55% of subject attrition). The three-wave collection aimed to reduce common method variance (Podsakoff et al., 2003) and to test the hypothesized model over time. According to research related to self-efficacy theory (e.g. Brouwers and Tomic, 2000), there was a six-month lag between surveys. However, a twelve-month lag between times 2 and 3 was used because of the economic (Boeing 737 max) and health (COVID-19) crisis. Yet, it can take several weeks for well-being to develop (Sonnentag, 2015).

Measures

We followed a translation/back-translation procedure from English to Italian for scales unavailable in Italian (Schaffer & Riordan, 2003). A five-point Likert-type scale was used for each measure (1 = *not applicable at all*; 5 = *completely applicable*).

Perceptions of information sharing were measured at time 1 using a 5-item scale from Boselie *et al.* (2001). Sample items included "I am well informed on the future plans of the company" and "I am well informed on the service standards of the company" ($\alpha = .92$). This measure was previously used in Italian version (e.g., Battistelli et al., 2019; $\alpha = .92$).

Challenging tasks was assessed at time 1 with a 5-item scale from Preenen *et al.* (2014). Sample items included "on my job I have tasks that are challenging" and "on my job I have tasks that require multiple skills" ($\alpha = .89$). This measure was previously used in the Italian version (e.g., Battistelli et al., 2019; $\alpha = .88$).

Organizational identification was evaluated at time 1 through Mael and Ashforth's (1992) 6-item scale. Sample items included "(organization's name)'s successes are my successes" and "when someone criticizes (organization's name), it feels like a personal insult" ($\alpha = .87$). This measure was previously used in the Italian version (e.g., Manzi *et al.*, 2020; $\alpha = .86$).

Technological training seeking was measured at time 2 with a 3-item scale derived from "future work selves" theory (Strauss et al., 2012) and wise proactivity theory (Parker et al., 2019). This scale was developed based on the 3-item scale "proactive skill development" (Strauss et al., 2012) and was adapted to evaluated employee perception of technological reality. Due the scale's novelty and its size, a parallel analysis was tested at times 1 (Eigenvalue $\lambda_1 = 2.26$, $\lambda_2 = .50$, vs average $\lambda_1 = 1.10$, $\lambda_2 = .90$) and 2 (Eigenvalue $\lambda_1 = 2.19$, $\lambda_2 = .57$ vs average $\lambda_1 = 1.10$, $\lambda_2 = .90$), resulting in a 1-factor solution with a total explained variance of 62% at each time. Moderate was observed between each time of measure ($r = 0.58$) and reliability was acceptable ($\alpha_1 = .83$; $\alpha_2 = .80$).

Feeling of competency at work was assessed at time 3 using a 5-item scale from Dagenais-Desmarais and Savoie, (2012). Sample items included "I feel confident at work" and "I know my

value as a worker" (α = .86).

Control variables were collected at each measure-time. We aimed to control for job tenure, department, sector lines, age, and managerial status (i.e., leading vs nonleading responsibilities) as these variables have been shown to be related to wellbeing (Sonnentag, 2015). However, variance (ANOVA) and multiple regression analyses were performed and did not reveal a significant relationship (p < .05). Therefore, control variables were not included in the following analyses.

Results

First, ANOVA and post-hoc analysis (i.e., Tukey) was carried out to test if mean differences among all the variables depend on sector lines. This preliminary analysis aimed to ensure that employees' sectoral lines did not bias the generalization of future results. Only challenging tasks was significant, $F(2, 290) = 4.18$, p = .015, $n^2{}_p$ = .028, with a difference between Industrial and Staff line (p = .019), inducing few chances of non-random sampling. Second, to reduce the potential common method bias (Podsakoff et al., 2003) induced by the collection of variables at time 1 (i.e., information sharing, challenging tasks, and organizational identification), we performed post-analysis using the unmeasured latent method factor approach. Accordingly, a common method factor was added to our hypothesized 5-factor model. The model provided lower fit (i.e., TLI and BIC) than the hypothesized model ($\chi^2(231) = 419.942$, p < .001, RMSEA = .05, CFI = .95, TLI = .94, SRMR = .06, BIC = 13613.968). Moreover, in that model, path coefficients, although somewhat lower in magnitude, remained significant. Method bias is unlikely to be a threat in our study.

Confirmatory factor analyses (CFA) and exploratory structural equation modeling (ESEM) were performed to assess the independence of model variables using maximum likelihood with robust standard errors (MLR) through *Mplus 8.7* (Muthén & Muthén, 2017). The decision to use CFA ($\chi^2(242) = 416.625$, p < .001, RMSEA = .05, CFI = .95, TLI = .95, SRMR = .04, BIC = 13626.190) and ESEM solutions ($\chi^2(147) = 296.896$, p < .001, RMSEA = .05, CFI = .96, TLI = .93, SRMR = .01, BIC = 13975.142) was based on studies showing that ESEM provides unbiased

estimates of the factor correlations (Asparouhov et al., 2015; Chénard Poirier et al., 2017). According to the acceptable observed fit indices, results supported the hypothesized 5-factor structure and the validity of all measures. Table 1 reports descriptive statistics, reliabilities, and correlations among the variables. The internal consistency of our variables showed good reliabilities ($\alpha \geq .80$; $\omega \geq .81$; CR $\geq .82$; AVE $\geq .54$) and correlations among factors were acceptable ($r \leq .34$).

[Insert Table 1]

[Insert Table 2]

The hypothesized structural equation model (HM) was tested, applying Shrout and Bolger's (2002) recommendations for mediation, through *Mplus 8.5* using MLR estimator. The model fitted the data adequately ($\chi^2(247) = 429.13$, p < .001, RMSEA = .05, CFI = .95, TLI = .95, SRMR = .06, BIC = 13613.968). Yet, Alternative models were tested (Table 2). Alternative model (AM1), which added direct paths from information sharing to TTS ($\beta = .10$, *ns*) and FCW ($\beta = .00$, *ns*), and from challenging tasks ($\beta = .07$, *ns*) and organizational identification ($\beta = .04$, *ns*) to FCW, did not improved the model ($\Delta_{\chi}^2(4) = 3.12$, *ns*). Alternative model (AM2) reversed the time 1 variable, thereby testing whether information sharing mediated the relationship between challenging tasks, organizational identification and TTS did not improve model fit neither ($\Delta_{\chi}^2(2) = 12.38$, *p* < .01; ΔTLI = .01; ΔBIC = 17.59). Moreover, Challenging tasks was unrelated to information sharing ($\beta = .09$, *ns*). Alternative model (AM3) proposed to test information sharing, challenging tasks, and organizational identification as direct antecedent to TTS. While displaying good fit indices ($\chi2(247) = 429.13$, p < .001, RMSEA = .05, CFI = .95, TLI = .95, SRMR = .06, BIC = 13613.968), this model did not improve over HM ($\Delta_{\chi}^2(2) = 8.76$, *ns*) and yielded less optimal relationship between variables such as information sharing to TTS ($\beta = .08$, *ns*). The more parsimonious model, namely HM, was thus retained.

[Insert Table 3]

Information sharing was positively related to challenging tasks ($\beta = .19$, *p* < .01) and to organizational identification ($\beta = .36$, *p* < .01), lending support to Hypothesis 1 and 2. In turn, TTS

was related to challenging tasks ($\beta = .27$, $p < .01$), organizational identification ($\beta = .24$, $p < .01$), and FCW ($\beta = .29$, $p < .01$). Furthermore, as shown in Table 3, the indirect effects of challenging tasks (estimate = .08, 95%CI [.2, .14]) and organizational identification (estimate = .07, 95%CI [0.1, 0.13]) on FCW through TTS were positive. Hypothesis 3a and 3b were thus supported. Finally, an indirect path was observed between FCW to information sharing through organizational identification (estimate = .02, 95%CI [.1, .5]). Also, no indirect path was observed between FCW to information sharing through challenging tasks (estimate = .01, $p = .10$, 95%CI [-.00, .03]). The indirect effect of information sharing on TTS through challenging tasks was neither significant (estimate = .05, $p = 0.05$, 95%CI [-.00, .10]).

DISCUSSION

The purpose of this study was to explore the relationship between perceived information sharing and FCW through the mediating role of TTS using task-related (i.e. challenging tasks) and affective (i.e. organizational identification) pathways during organizational change. As expected, full mediation between information sharing and TTS was observed. However, only the affective pathway showed a mediating relationship between information sharing and FCW through TTS. The tendential results showed that challenging tasks did not mediate the relationship between information sharing and TTS. However, TTS mediated the relationship between challenging tasks and FCW. Yet, no indirect relationship between information sharing and FCW was observed through the task-related pathway. These findings partially align with research on addressing technological factors in human resource practices (Stone et al., 2015) and their relationship with wise proactivity (Parker et al., 2019), and on the need to consider employees' future work selves (Strauss et al., 2012) to better address well-being at work (Dose et al., 2019).

Theoretical and practical implications

Our research advances the literature on Industry 4.0. The research was conducted in a leading multinational company that continuously seeks to link innovation and employee well- being. This research shows that information sharing in a situation of change toward smart industry plays an

essential role in developing a better understanding of the stakes of the ongoing change and in strengthening the emotional attachment to the company (Battistelli et al., 2019). Moreover, the results show that informed employees, having access to information on the future of their organization, will tend not to remain passive and will develop proactive behaviors oriented toward self-development (Grant and Ashford, 2008). Our research proposes a new proactive behavior, namely, TTS. A link between proactivity and information sharing was shown. The results strengthen the literature on proactivity by including a new consequence to the use of proactive behaviors (i.e. FCW), which deserves further studies. It underscores the importance of proactive behaviors, facilitated by information sharing, in fostering employees' sense of competency and well-being in the dynamic landscape of Industry 4.0.These results corroborate current research on proactivity, which states that individuals will develop proactive behaviors if they perceive an environment conducive to their development (Bindl and Parker, 2011; Strauss et al., 2012). Although challenging tasks did not directly affect the relationship between information sharing and TTS. The absence of an indirect connection between sharing information and TTS through challenge tasks can also be explained by the perceived cognitive skill requirements of individuals. The perception of cognitive skill requirements gains importance by influencing the structure of employees' tasks and may encourage the adoption of TTS behaviors (Chassaing-Monjou et al., 2024). The study also shows that TTS was affected by challenging tasks, which in turn affected FCW. This suggests that while the nature of tasks may not directly influence proactive behavior, employees' engagement in TTS can be influenced by the level of challenge they perceive as required during the organizational change. This integration of challenging tasks underscores their indirect impact on employees' sense of competency and well-being through their engagement in proactive learning activities.

Furthermore, in a managerial context favoring the completion of work tasks and the development of an affective bond, our research shows that proactive actors can develop FCW, which is essential when considering the cost of proactivity (Parker et al., 2019). The results indicate that organizational identification plays a mediating role in the relationship between information sharing

and FCW through TTS, which facilitates employees' engagement in proactive behaviors and subsequent development of FCW. Therefore, fostering a strong sense of organizational identification is necessary. This highlights the importance of employees' emotional attachment to the organization in driving proactive behaviors aimed at self- development and enhancing their sense of competency. The significant and positive relation between information sharing and FCW through the affective pathway corroborates the relevance of the role of social and relational considerations in the emergence of proactivity (Parker et al., 2019).

Regarding practical implications, FCW and TTS can be enhanced by strengthening the perceptions of information sharing. Employees who feel competent in their jobs will be more likely to invest themselves and participate in the innovation and change processes (Deci and Ryan, 2000; Stone et al., 2009). Managers must therefore promote information sharing practices that make work meaningful for employees. The use of human resources practices, such as information sharing, would play an essential role in the development of individuals and their competencies (Ackerman and Kanfer, 2020). Results suggest the importance for individuals to perceive an environment conducive to the use of proactive behaviors to develop their sense of competence. Individuals must have access to a learning-oriented environment (Odoardi et al., 2022), and be able to use their new knowledge (Abbasi et al., 2020). Managers must rethink training management. They need to adapt to Industry 4.0 by developing a proactive dynamic in expanding the range of training that employees have access to and will need to access in the future. Regarding the studied company, our findings assisted the organization in establishing transparent practices and procedures that address the increasing demand for skills resulting from digitalization-induced changes. This helps workers understand the importance to be actor of the organizational change through available training to maintain health and deal with their new reality.

Limitations and future orientations

One limitation of this research concerns the collection of data at multiple time points, which should have reduced the potential effects of common method variance (Podsakoff et al., 2003).

However, the lag used (e.g. six months for T2 and one year for T3) could explain the lack of an indirect link between information sharing and FCW through the task-related pathway. With the evolution of the organization, information sharing and challenging tasks at T1 are potentially no longer relevant a year and a half later. Future research would benefit from investigating the role played by time in such patterns using longitudinal analysis (Parker et al., 2019). Another limitation concerns our expectations related to the fact that individuals should develop TTS through future work selves (Strauss et al., 2012), this latter was not measured in our study. Furthermore, we measured FCW, but not the competency itself. Future research should study the relationships between individuals' strategic skills (e.g. future orientation, planning and anticipation), future work selves, and TTS enactment and their effects on FCW development through competency acquisition. Another limitation concerns the generalizability of our results. Our work provides significant results for the society studied. However, its generalizability is limited due to the technological specificity of the studied aerospace and aeronautics sector. Future studies should evaluate how the sectoral and technological context (Murray et al., 2021) is related to the emergence of TTS and FCW. Finally, future research should determine the nature of organizational openness to proactivity and investigate what combination of multiple human resources practices is most likely to improve proactive behaviors and FCW (e.g. using fuzzy-set analysis).

CONCLUSION

Our model provides empirical evidence on signal theory (Bandura, 1991), wise proactivity theory (Grant and Ashford, 2008) and self-determination theory, as well as their mechanisms in the context of 4.0 organizations. The findings indicate an indirect relationship between information sharing and perceived competence, which is influenced by organizational identification and the pursuit of training opportunities. However, our research did not observe a direct relationship between feelings of competency and information sharing through challenging tasks and training seeking. The study contributes to the understanding of the impact of information sharing on individuals' feelings of competency in the context of organizational change. The introduction of the concept of proactive

training seeking as a novel dimension of proactive behavior is particularly noteworthy. Nevertheless, we have provided valuable insights regarding perceptions of information sharing that support employees' FCW and how they might be improved by developing TTS during the organizational transition.

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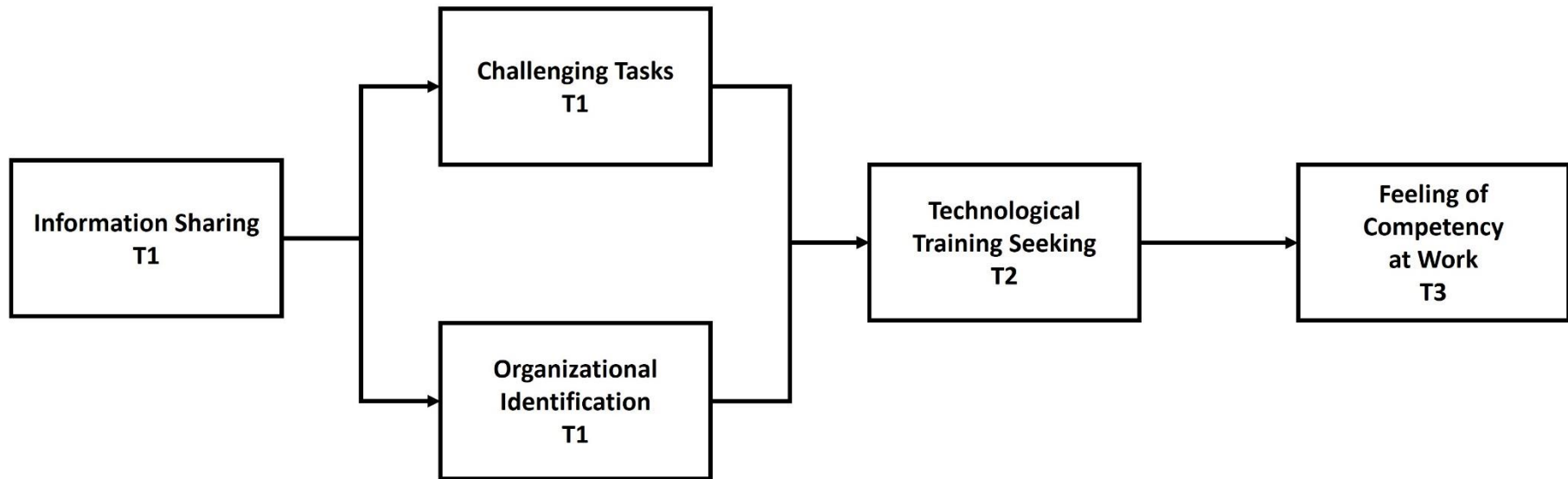
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FIGURE & TABLE

Figure 1

Theoretical model

Table 1

Means, Standard Deviations, Reliabilities, and Correlations for the Study Variables

	M	*SD*	*α*	AVE	CR	1	2	3	4	5	6	7	8	9
1. Age	–	–	–	–	–	–								
2. Gender	–	–	–	–	–	-.04	–							
3. Tenure	–	–	–	–	–	.59**	-.04	–						
4. Sector line	–	–	–	–	–	.03	.20**	-.12*	–					
5. Information sharing	3.44	.88	.93	.74	.93	.10	-.09	.02	-.05	(.93)				
6. Challenging tasks	3.59	.67	.84	.54	.85	-.02	-.07	.06	.01	.21**	(.85)			
7. Organizational identification	3.91	.68	.88	.58	.89	.13*	-.02	.09	.06	.34**	.28**	(.88)		
8. Technological training seeking	3.84	.74	.80	.62	.82	-.12**	-.07	-.17**	.11*	.19**	.30**	.27**	(.81)	
9. Feeling of competency at work	4.15	.66	.94	.79	.94	-.00	.02	.10	-.07	.08	.18**	.14*	.26**	(.94)

Note. N = 294. Internal consistency reliabilities, as reported in parentheses, are evaluated through the McDonald's Omega (ϖ) coefficient.
AVE = Average variances extracted; CR = composite reliabilities; *p* < .05, **p* < .01.

Table 2

Fit Indices for Confirmatory Factor Analysis and Structural Models

Model	Model description	χ^2	*df*	RMSEA ($\leq$ .08)[a]	RMSEA 90% CI	CFI ($\geq$.9)[a]	TLI ($\geq$ .9)[a]	SRMR ($\leq$ .08)[a]	BIC	$\Delta \chi^2$ (Δdf)
HM	Hypothesized structural model.	429.13	247	.05	.04 .05	.95	.95	.06	13613.96	HM *vs*
AM1	Alternative model with direct path from IS, CT, & OI to TTS & FC.	426.93	243	.05	.04 .05	.95	.94	.06	13632.45	χ^2(4) = 3.12
AM2	Alternative model with CT & OI as antecedents and IS as mediator between them and TTS & FC.	444.08	245	.05	.04 .06	.95	.94	.08	13631.55	χ^2(2) = 12.38**
AM3	Alternative model with CT, OI, & IS as antecedent to TTS & FC.	417.79	245	.05	.04 .06	.95	.95	.05	13614.10	χ^2(4) = 8.76

Note: N = 294. RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR: standardized root mean square residual; BIC = Bayesian information criterion; HM = hypothesized model; AM = alternative model; IS = information sharing; challenging tasks; OI = organizational identification; TTS = Technological training seeking; FC = feeling of competency. [a] cut-off value. **p* < .01.

Table 3

Bootstrapping Analyses for the Mediation Model, Direct path, Indirect Path Estimates, and

summary of hypotheses

Effect	Estimates	Standard errors	95% confidence interval		Hypothesis
			Low	High	
Estimates for path model					
Information sharing → Challenging tasks	.19**	.06	.32	.32	1
Information sharing → Organizational identification	.36**	.06	.24	.49	2
Challenging tasks → TTS	.27**	.08	.11	.43	
Organizational identification → TTS	.24**	.07	.10	.39	
TTS → FCW	.29**	.06	.16	.42	
Estimates for indirect task-related path					
Information sharing → Challenging tasks → TTS	.05^T	.02	-.00	.10	3a
Challenging tasks → TTS → FCW	.08*	.03	.02	.14	4a
Information sharing → Challenging tasks → TTS → FCW	.01	.01	-.00	.03	5a
Estimates for indirect affective-related path					
Information sharing → Organizational identification → TTS	.09*	.02	.02	.16	3b
Organizational identification → TTS → FCW	.07*	.03	.01	.13	4b
Information sharing → Organizational identification → TTS → FCW	.02*	.01	.01	.05	5b
R square					
Challenging tasks	.03	.02	-	-	
Organizational identification	.13**	.04	-	-	
TTS	.14**	.05	-	-	
FCW	.08*	.04	-	-	

Note. $N = 294$. TTS = technological training seeking; FCW = feeling of competency at work. *$p <$ .05, **$p <$ .01. $^T p <$ .10

APPENDIX 1

Technological training seeking items with EFA estimates scores :

"When new technologies are introduced at (organization's name), I seek training in their use (Estimate t1 = .87; Estimate t2 = .80)",

"I continuously seek to develop my skills to use technology in my workplace (Estimate t1 = .89; Estimate t2 = .92)",

"I find it necessary to master technologies present in (organization's name), even if they are not directly useful to my work (Estimate t1 = .63; Estimate t2 = .60)".