

Virtual expatriates and subsidiary employees' engagement: The role of ambidextrous leadership

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ABSTRACT

We analyze the complexity of virtual expatriation and the conflicting requirements it imposes for engaging employees remotely. Virtual expatriates must supervise and control remote employees while also fostering shared values and encouraging their engagement, but without the benefit of co-location, which has traditionally been assumed to be the reason for expatriation. Thus, the expatriate's physical and psychological detachment from the supervised employees challenges the fulfillment of these functions. How can they lead, control, and facilitate engagement virtually? It calls for a leadership style that is more aware of this dilemma and its different manifestations across cultural contexts. We draw on Social Exchange Theory and examine the role of ambidextrous leadership (that combines fostering creativity and experimentation with providing guidance and monitoring) in promoting employee engagement. Moreover, we examine whether cultural intelligence, communication effectiveness, and interaction frequency might reinforce the positive relationship between ambidextrous leadership and employee engagement. Our empirical setting is the shipping and logistics MNC, Maersk, where we collect quantitative and qualitative data from employees whose supervisors are virtual expatriates, as well as from the virtual expatriates themselves. Our findings suggest that virtual expatriates need a more complex leadership style to engage employees from a distance, one that, in a flexible manner, combines opening and closing behaviors. Additionally, our results indicate that such engagement is strengthened among ambidextrous leaders who behave in a culturally intelligent way and who maintain frequent interactions with employees. Communicating effectively is a direct predictor of the employees' engagement, rather than a boundary condition.

1. Introduction

Alternative forms of global staffing have emerged in Multinational Companies (MNCs) with the advent of new digital communication tools, and physical presence for expatriates' leadership has become less of a necessary condition with the rise of virtual expatriation (Collings et al., 2007; Selmer et al., 2022). The possibility of working remotely and utilizing digital communication tools has existed for many years; however, it gained momentum with the COVID-19 pandemic (Lazarova et al., 2023), extending the notion of "expatriation." Traditional expatriation involves staffing managers overseas to monitor and coordinate local subsidiaries' activities (Harzing, 2001; Kraimer et al., 2016). It assumes co-location as the foundation for effective leadership, embeddedness (Stoermer et al., 2021), and knowledge processes

(Bonache & Brewster, 2001; Bresman et al., 1999).

By contrast, the concept of "virtual staffing" (Collings et al., 2007) does not require co-location, as the assignee manages remote activities from the home location (Holtbrügge & Schillo, 2008), thereby breaking with the core assumption of traditional expatriation. We understand "virtual expatriates" as international assignees located in their home country - usually where the Corporate Headquarters (CHQ) or the Regional Headquarters (RHQ) are situated - but with managerial and technical responsibilities at a foreign subsidiary for a minimum duration of one year (Selmer et al., 2022; Wicht & Holtbrügge, 2023). The literature highlights various advantages of virtual expatriation for both individual expatriates and MNCs (Lazarova et al., 2023; Selmer et al., 2022). MNCs benefit from being able to offer alternative expatriation options and more cost-efficient arrangements. Virtual expatriates enjoy

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greater flexibility, as they can remain in their home countries, alleviating pressure on their families' lives and smoothing adaptation and repatriation processes (Lazarova et al., 2023; Wicht & Holtbrügge, 2023). For these reasons, virtual expatriation assignments are expected to increase, as companies will be more prone to combine traditional with virtual expatriation (Lauring et al., 2024; Selmer et al., 2022).

However, "virtual expatriation" is an *oxymoron*: despite the convenience of such assignments, virtuality poses unique challenges for the expatriate that jeopardize their ability to manage and engage employees remotely (Holtbrügge & Schillo, 2008; Lauring et al., 2024), thereby calling into question prevailing assumptions about global leadership. Virtual expatriates fill specialized positions in which they must supervise and coordinate activities across foreign organizational units and provide information, resources, and support to the employees they supervise, just as traditional co-located expatriates do (Lauring et al., 2024). However, while physically located at the headquarters (CHQ or RHQ), they work with and interact with subordinate employees located in a foreign unit. Hence, the spatial and psychological detachment between expatriates' personal and professional domains introduces tensions that affect their ability to manage and motivate employees remotely (Wicht & Holtbrügge, 2023). First, unlike typical expatriates, virtual expatriates do not benefit from face-to-face interactions with their subordinates, thereby creating greater communication asymmetries (Wicht & Holtbrügge, 2023) that challenge their leadership. Second, virtual expatriates also face cultural distance. They have fewer opportunities to read the context, to be correctly interpreted by employees, and to provide clarifications for potential misunderstandings. Finally, relying on electronic communication, virtual expatriates might focus more on formal communication and less on informal exchanges (Lauring et al., 2024). All these elements add complexity to the leadership role and employees' perceived quality of the social exchange.

Hence, to better understand the boundary condition that virtuality poses for expatriation and how this oxymoron can be managed, we focus on subsidiary employees' engagement. We basically ask how virtual expatriates can engage their employees when they communicate only virtually. Employee engagement is a positive and fulfilling state of mind that reflects an employee's commitment to the company's goals, as well as her availability and motivation to work (Li et al., 2021; Schaufeli et al., 2006). Engaged employees express themselves physically, cognitively, and emotionally in their work roles (Kahn, 1990). Effective leadership is a requirement for fulfilling expatriate roles (Caliguri & Tarique, 2012; Kossek et al., 2017) and a critical predictor of their employees' engagement (Li et al., 2021; Saks, 2019). Drawing on Social Exchange Theory (Cropanzano & Mitchell, 2005), we contend that, for virtual expatriates, stimulating subsidiary employees' engagement requires a leadership style that responds to the unique demands of this hierarchical, remote relationship. A leadership style that, on the one hand, provides employees with clear messages about what they need to do and endorses the physical and emotional dimensions of employee engagement, and that, on the other hand, promotes their collaboration and reciprocity by encouraging their motivation, attention, and commitment to their work roles, that is, their cognitive dimension.

For this reason, we focus on the role of ambidextrous leadership, which, in a flexible way, combines two leadership behaviors—opening and closing leadership—that may relate to employee engagement. We argue that ambidextrous leadership can enhance employees' engagement under physical separation, as it supports their autonomy and boosts their self-efficacy. Additionally, it provides them with information, clear guidance, and adherence to rules, thereby mitigating the ambiguity caused by the lack of co-location. Thus, our first research question is: How does the ambidextrous leadership of a virtual expatriate relate to subsidiary employees' engagement?

Our second research question examines the extent to which the effectiveness of an ambidextrous leadership style is contingent on other factors. Social behavior and relationships can be influenced by various

variables (Cropanzano & Mitchell, 2005; Mitchell et al., 2012) at the individual, relational, and/or structural levels, thereby strengthening or mitigating the perceived quality of the social exchange. Relatedly, the International Human Resource Management (IHRM) literature has identified different predictors of performance in virtual assignments. This literature points to the importance of virtual expatriates' capabilities, as their cultural intelligence (Wicht & Holtbrügge, 2023; Zander et al., 2012), as well as to the effective use of communication means to overcome the different types of distance encountered in virtual assignments (Klitmøller & Lauring, 2013; Richter et al., 2021). Accordingly, we examine if the effectiveness of ambidextrous virtual expatriates can be reinforced by 1) the extent to which they behave in a culturally intelligent manner (Earley & Mosakowski, 2004; Ott & Michailova, 2018); 2) their frequency of interaction with their employees (van Bakel, 2019); and 3) their perceived communication effectiveness (Gudykunst & Nishida, 2001). Understanding these individual, relational, and structural moderators has theoretical and practical implications for both Social Exchange Theory (SET) and the International Human Resource Management (IHRM) literature, as they shed light on the selection, training, and support of virtual expatriates (Holtbrügge & Schillo, 2008).

Our empirical setting is the Danish multinational corporation Maersk, where we collected quantitative and qualitative data from virtual expatriates and the employees they supervised. We tested the proposed relationships in a multilevel model using a sample of 104 employees managed by 22 virtual expatriates. Responses from virtual expatriates were used to validate employees' self-reported assessments. In addition, we conducted thirteen in-depth interviews with employees and virtual expatriates to gain a deeper understanding of the mechanisms underlying our findings.

We contribute to the current SET and IHRM literature by identifying the challenge that virtual expatriates experience when engaging employees and by providing insights into the benefits of a leadership style that promotes the cognitive, physical, and emotional dimensions of employee engagement. Moreover, we contribute with a more nuanced understanding of how virtual expatriates' culturally intelligent behavior and frequent communication can reinforce the positive impact of ambidextrous leadership, with both theoretical and managerial implications.

2. Theoretical framework

2.1. Subsidiary employee engagement and expatriate leadership

Employee engagement refers to the extent to which employees feel passionate about their jobs, are committed to the company's goals, and exert discretionary effort in their work (Joplin et al., 2021; Li et al., 2021). It is a positive state of mind, where "engaged employees have a sense of energetic and effective connection with their work activities, and they see themselves as able to deal well with the demands of their jobs" (Schaufeli et al., 2006, p.702). It can be broken into three work-related dimensions. The first is the cognitive dimension, which refers to how meaningful the job is to the employee. When employees feel cognitively engaged, they tend to commit intellectually, with higher levels of focus and attention (Kahn, 1990; Schaufeli et al., 2006). The second dimension is physical, referring to the employee's ability to work vigorously and put in the necessary effort to complete the task (Joplin et al., 2021; Schaufeli et al., 2006). The third dimension is emotional and indicates the extent to which the employee feels safe, secure, and supported at work (Joplin et al., 2021), allowing them to express themselves freely (Kahn, 1990).

Social Exchange Theory (SET) is a fundamental conceptual approach to understanding the role of leadership in work-related social interactions (Cropanzano & Mitchell, 2005) and in employee engagement (Saks, 2019). According to SET, the relationship between the leader and the subordinate is seen as interdependent and contingent on each other's

actions. Both exchange resources of different kinds, such as information, money, goods, or services, leading to a reciprocal relationship. Reciprocity emerges as a key norm within SET, grounded in a feeling of obligation to correspond to the counterpart's actions, and in that sense, contingent upon them (Cropanzano & Mitchell, 2005). High-quality exchanges between leaders and employees are characterized by perceived support, mutual trust, and open-ended commitment, resulting from this reciprocal dynamic (Lavelle et al., 2007), and they are likely to motivate employees to align with the organization and engage in favorable behaviors.

In a seminal review, Bird and Mendenhall (2016) highlight the fragmented nature of the global leadership field and identify the expatriate research, intercultural communication, and global management streams as tributaries that have expanded our knowledge of leadership in the global arena. Relatedly, the International Human Resource Management (IHRM) literature has made a significant contribution to understanding the need for expatriate managers to expand their leadership competencies by developing working and social relationships with subordinates (Bird & Mendenhall, 2016; Collings et al., 2007). One of the leadership styles that has received the most attention in the expatriate literature is "transformational leadership" (Ramsey et al., 2017), which is based on Bass's (1999) work on the full range of leadership, encompassing transformational and transactional leadership as distinct types. The transformational leadership style implies that the leader is "moving the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration" (Bass, 1999, p. 11). The transactional leadership style relates to behavioral control, as it embodies behaviors such as clarifying what needs to be done and linking rewards to it, as well as active management by exception (Jansen et al., 2009), though it can also include a more passive form of management by exception (Bass, 1999). The expatriate literature has linked transformational leadership style to innovation (Elenkov & Manev, 2009), as well as expatriate adjustment and performance (Lee et al., 2013; van Woerkom & de Reuver, 2009). Although Bass (1999, p. 11) highlights that the full-range leadership "implies that every leader displays a frequency of both the transactional and transformational factors, but each leader's profile involves more of one and less of the other", its application in the expatriate literature has been skewed towards the transformational style.

The leadership style has also been an important antecedent of the effectiveness of geographically dispersed teams, also known as global virtual teams (Klitmøller & Lauring, 2013), in which members are not co-located and must collaborate across distances (Zander et al., 2012). Similarly, people-oriented leadership styles, such as transformational leadership, are relevant antecedents of performance in global virtual teams (Zander et al., 2012). For example, to promote virtual collaboration, Hill and Bartol (2016) recommend an empowering leadership approach that involves sharing power with team members and fostering a supportive environment. Empowering leadership responds to the specificities, where members' dispersion means each may face unique challenges related to local circumstances and may require autonomy to regulate their behavior (Hill & Bartol, 2016).

While virtual expatriation shares commonalities with traditional expatriation and global virtual teams, it also exhibits distinct features in the social exchange that have implications for leadership effectiveness. Treating this phenomenon as if it can be managed solely through conventional leadership risks overlooking such distinctiveness. First, virtual expatriation involves a hierarchical relationship with supervisory responsibility, whereas global virtual teams typically share a common goal and responsibility. Second, traditional expatriates are co-located with their subordinate employees, unlike virtual expatriates, making a people-oriented leadership style more suitable. Virtual expatriation, however, is an even more complex arrangement for leading, because the expatriate is the only one not collocated (Wicht & Holtbrügge, 2023), thereby increasing information asymmetries that make coordination

and monitoring difficult. Third, employees depend on the virtual expatriate for information, support, and guidance, which establishes an evident interdependent relationship.

2.2. Virtual expatriates' ambidextrous leadership and employees' engagement

The basic tenet of traditional expatriation is founded on the benefit of physical proximity to the supervised employees. Through it, traditional expatriates are expected to fulfill various roles within the MNC, including supervising, coordinating, and controlling host-country activities and local employees (Edström & Galbraith, 1977). Harzing's (2001) classic study on expatriates identifies three roles that, directly or indirectly, affect subsidiary employees: the surveillance of the subsidiary (bears), the socialization of the employees (bumblebees), and the weaving of an informal communication network (spiders). Such bridging roles also need to be performed by virtual expatriates. In a recent review of control and coordination within MNCs, Zeng et al. (2023) note that expatriation addresses both coordination and control needs. On the coordination side, expatriates foster the sharing of values and the creation of inter-unit common ground; they develop social capital across units and increase the local embeddedness. On the control side, expatriates serve to retain central control, reduce information asymmetries, and align decisions within the hierarchy. Similarly, virtual expatriates must balance the supervisory function with the encouragement of employees' motivation and engagement (Lazarova et al., 2023). Thus, the basic dilemma for virtual expatriates is how to perform this dual function without being physically present with the employees. Ambidextrous leadership (Rosing et al., 2011) refers to the combination of two leadership behaviors: opening and closing. Opening leadership behavior involves actions that increase variance in employees' behavior, such as encouraging them to explore alternative solutions, motivating them to take risks, and allowing room for independent thinking and learning. Conversely, closing leadership behavior aims to reduce variance in employees' behavior by establishing routines, promoting rule obedience, monitoring goal attainment, and sanctioning errors (Rosing et al., 2011; Zacher et al., 2014).

Through the SET lens, when virtual expatriates combine both leadership behaviors, they provide informational and socio-emotional resources that increase the quality of the exchange. On the one hand, opening behavior will encourage subsidiary employees' motivation by inspiring them to take risks and experiment when performing their tasks (Berraies & Zine El Abidine, 2019; Zacher et al., 2014), thus promoting their feelings of autonomy and self-efficacy, which increases the meaningfulness of jobs (Gagné & Deci, 2005) and stimulate the cognitive dimension of engagement (Joplin et al., 2021). On the other hand, the physical and emotional dimensions of engagement can be promoted by the closing behavior. First, establishing explicit norms, deadlines, or procedures in advance and specifying the reward system can mitigate ambiguities that might otherwise arise in a virtual setting (Hu et al., 2020). Thus, the employee can assess what effort is expected of her at work. Second, by establishing clear procedures, rewards, and penalties, employees encounter fewer ambiguities and feel safer (Joplin et al., 2021). A sole focus on opening leadership behaviors might be counterproductive because it emphasizes the cognitive dimension of engagement while increasing ambiguity about employees' task execution, thereby disincentivizing their safety-related feelings. In contrast, a sole focus on closing leadership behaviors reduces the cognitive dimension of engagement by curtailing their initiative, autonomy, and motivation.

In SET terms, the ambidextrous leadership represents favorable treatment and investments in the relationship by the leader. As a result, employees develop perceptions of obligation, trust, and indebtedness toward the leader and the organization, which is reciprocated by showing higher levels of work engagement. This reciprocal dynamic underpins the evolution of the social exchange relationship. Therefore, we hypothesize:

H1. Virtual expatriates' ambidextrous leadership relates positively to subsidiary employee engagement

SET emphasizes that employees' engagement responds not only to what leaders do, but to how they perceive and interpret those actions as supportive, fair, or respectful (Saks, 2019). It can be hard for employees to decode and interpret complex signals from a remote leader, as the social exchange is affected by other variables that affect the individuals or the context of the relationship -its relational or structural patterns- (Cropanzano & Mitchell, 2005; Mitchell et al., 2012). Thus, our second research question is to what extent the positive relationship between ambidextrous leadership and employee engagement can be moderated by other variables that shape the quality of social exchange. In line with SET and drawing on previously identified factors in the IHRM literature, we focus on three types of moderators that affect employees' perceptions of ambidextrous leadership, their engagement, and their social exchange relationships. The three types are: 1) An individual-level moderator: Cultural intelligence; 2) A relational-level moderator: Communication effectiveness; and 3) A structural-level moderator: Frequency of interaction. We are not proposing that these are the only moderators, but rather that these are representative moderators of the social exchange.

2.3. Mitigation of distance in virtual expatriation

Virtual expatriates depend on virtual communication means to exercise their leadership. Despite technological advancements enabling synchronous communication across platforms, virtual communication is typically more formal than face-to-face interaction and more focused on work-related issues, resulting in fewer opportunities to exchange informal information (Lauring et al., 2024). Wicht and Holtbrügge's (2023) study of virtual expatriates finds that they have a lower ability to bridge emotional and temporal distances compared to traditional expatriates. The authors highlight the disadvantages of not being in the same location as employees, such as the lack of informal, spontaneous communication, the likelihood of being left out or overlooked when employees discuss important topics, and the absence of nonverbal cues and other elements that support richer face-to-face communication.

Ambidextrous virtual expatriates face a dual challenge in their social interactions with employees: they must both overcome cultural differences that may lead to differing interpretations and communicate and interact effectively to bridge the physical separation. Following SET and previous research on global virtual teams (Klitmøller & Lauring, 2013; Presbitero, 2021) and expatriation (Elenkov & Manev, 2009; Stoermer et al., 2021; Vlačić et al., 2019) that have demonstrated the direct positive effect of the following variables, we focus on the effects that cultural intelligence (Earley & Mosakowski, 2004), communication effectiveness (Gudykunst & Nishida, 2001), and frequency of interaction (van Bakel, 2019) have on the hypothesized positive relationship between ambidextrous leadership and employee engagement.

The expatriates' cultural intelligence (CQ) is a multidimensional capability that allows them to function effectively with individuals from diverse cultures and adapt to various environments (Earley & Mosakowski, 2004; Ott & Michailova, 2018). It contains cognitive, meta-cognitive, motivational, and behavioral components, each of which refers to different "loci" of intelligence within the individual (Ang et al., 2007, p. 337). The first three dimensions are "mental" because they reside in individuals' minds; however, the behavioral dimension of cultural intelligence refers to the manifestations of people's behavior. Behavioral cultural intelligence is reflected in the appropriate verbal and non-verbal actions of expatriates when interacting with people from different cultures (Ang et al., 2007). Employees will infer the cultural intelligence of virtual expatriates by observing their behavior -words, tone, gestures, and so on- rather than their mental capabilities. Hence, we focus on the behavioral dimension of cultural intelligence to understand why it can amplify the effect of ambidextrous leadership on employee engagement.

Vlačić et al. (2019) identify how expatriates' cultural intelligence enables different knowledge-sharing processes, and Stoermer et al. (2021) demonstrate a similar effect of expatriates' cultural intelligence on their knowledge sharing and organizational local embeddedness. In the context of global virtual teams, both Presbitero (2021) and Richter et al. (2021) demonstrate the positive impact of cultural intelligence on social integration processes and performance.

It is recognized that issues such as delegation, empowerment, control, and supervision are perceived differently across various cultures. This also implies that the expectations and acceptance of open and closed leadership behavior differ across cultures and must be adapted to the cultural context. The dimensions of CQ aid the ambidextrous expatriate in assessing employees' cultural context (Ang et al., 2007), thereby facilitating the determination of when to adopt opening versus closing behaviors and the balance between them. Specifically, the behavioral dimension enables ambidextrous expatriates to display a flexible and personalized range of behaviors, thereby fostering positive impressions and helping fulfill their employees' expectations (Ang et al., 2007; Vlačić et al., 2019). The relationship between leaders and employees is contingent on each other's actions and expectations (Cropanzano & Mitchell, 2005). Thus, ambidextrous leaders who behave in the right and expected manner within a specific cultural context enhance the quality of social exchange by showing understanding and respect for their counterparts.

Therefore, we posit that behavioral CQ reinforces the positive relationship between the virtual expatriate's ambidextrous leadership and employee engagement. Compared to an equally ambidextrous leader who is perceived as lacking this capability, the more culturally intelligent will be better suited to make the most of a cultural balance between open and closed leadership, and will be perceived as a more valuable exchange and reciprocated with higher employee engagement. Thus, we hypothesize that:

H2. Virtual expatriates' cultural intelligence moderates the relationship between ambidextrous leadership and subsidiary employee engagement, such that the relationship is stronger at high levels of cultural intelligence behavior

For ambidextrous virtual expatriates, effectively communicating both open and closed leadership to their employees means minimizing misunderstandings in message exchanges and counteracting the pernicious effects of remoteness on the relationship. The receivers of the message are best suited to assess effective communication (Gudykunst & Nishida, 2001), as they must interpret it. In SET, clarity and reliability of communication are essential for building trust and stable exchange relationships (Cropanzano & Mitchell, 2005; Saks, 2019).

Virtual expatriates have fewer opportunities to communicate informally, as face-to-face contact is limited (Holtbrügge & Schillo, 2008), which may lead to ambiguities and misunderstandings. Moreover, the type of media influences how the message is understood and interpreted. Richer media communication (e.g., video conference) is more suitable for conveying complex messages and reducing equivocality, as it allows for the expression and interpretation of both verbal and non-verbal cues (Klitmøller & Lauring, 2013; Wicht & Holtbrügge, 2023). On the other hand, lean media (such as written messages) may be very efficient in conveying non-equivocal information. However, they can lead to misinterpretation when used for complex messages (Daft et al., 1987). Thus, virtual expatriates who communicate effectively are expected to be technology-savvy and apply new communication technologies to optimize communication effectiveness (Wicht & Holtbrügge, 2023).

Virtual expatriates' ability to communicate effectively could also moderate the positive relationship between their ambidextrous leadership and employee engagement, as it reduces equivocality and increases alignment between the virtual expatriate's behavior and employees' understanding and sense-making of it. Such an alignment will increase employees' trust in expatriate leadership, reinforcing positive effects on employees' meaningfulness and safety. Typically, an open leadership

style requires a different type of communication than a closed leadership style. Since employees cannot directly observe the expatriate's behavior, ambidextrous leaders who communicate ineffectively might confuse employees during transitions between opening and closing leadership styles, or vice versa. Ineffective communication by ambidextrous leaders may lead to mixed signals and reduced support, thereby lowering the quality of the social exchange. It can increase employees' distrust and uncertainty (Gudykunst et al., 2001), thereby reducing the potential benefits of ambidextrous leadership on employee engagement. On the other hand, and in line with SET, ambidextrous virtual expatriates who communicate effectively will be perceived as supportive by employees, thereby improving the quality of the social exchange and fostering reciprocity through greater engagement. Accordingly, we hypothesize:

H3. Virtual expatriates' communication effectiveness moderates the relationship between ambidextrous leadership and subsidiary employee engagement, such that the relationship is stronger at high levels of communication effectiveness

SET highlights that exchange relationships develop through repeated interactions, creating enduring social patterns that are fundamental to trust and reciprocity (Cropanzano & Mitchell, 2005). The more frequently two parties interact, the more opportunities they have to give and receive resources and to reinforce norms of reciprocity. In a virtual setting, the frequency of interaction between the virtual expatriate and the supervised employees might also reinforce the direct positive relationship between ambidextrous leadership and employee engagement by improving the perceived quality of the exchange. First, frequent interactions generate instrumental ties that are a source of information for the expatriate (Bruning et al., 2012; van Bakel, 2019). Second, virtual expatriates face greater difficulties in bridging emotional distance (Wicht & Holtbrügge, 2023) and typically have weaker bonds due to the lack of informal communication (Klitmøller & Luring, 2013); hence, more frequent interaction with employees can increase their connection and reduce information asymmetries. More interaction creates opportunities to build a common ground for collaboration and knowledge sharing, especially of tacit knowledge. The frequency of interaction is also important in bridging the functional and temporal distances, as delays in replying can create a negative perception among employees.

Thus, the effects of ambidextrous leadership on employee engagement can be reinforced through frequent communication, which enables

the acquisition of more information and clarifies potential misunderstandings at the functional or technical level. Additionally, it reduces the response lag in the virtual setting, increasing employees' perceived support and trust, and enhancing their willingness to reciprocate by engaging. However, ambidextrous expatriates who connect less frequently with employees might worsen the quality of the exchange and have fewer opportunities to offer supportive behavior. In this case, the social exchange becomes looser and less bound by reciprocity, thereby attenuating employees' engagement. Therefore, we hypothesize that:

H4. Frequency of interaction moderates the relationship between ambidextrous leadership and subsidiary employee engagement, such that the relationship is stronger at high frequency of interaction.

The four hypotheses and the study's theoretical model are summarized in Fig. 1. The dependent variable is employee engagement, and the hypothesized relationships include a direct effect of ambidextrous leadership on employee engagement, as well as three moderating effects of cultural intelligence, communication effectiveness, and interaction frequency.

3. Empirical setting

3.1. Sample and data collection

Obtaining large-scale data on virtual expatriation is challenging, as this phenomenon is relatively new for most companies. However, we managed to gather data from a multinational company with significant experience in expatriation that has used both traditional and virtual expatriation methods. The focal company is the multinational Maersk, a world-leading company with operations spanning liner shipping, land and air transportation, air and rail logistics services, and terminal operations. Maersk is headquartered in Copenhagen (Denmark), has subsidiaries in 130 countries, and has over 110,000 employees worldwide as of 2022 (company internal information). This provides a sound setting for our study, as Maersk has a far-reaching global presence and a long history of adopting expatriation as an effective tool for managing overseas subsidiaries, which has accompanied the company's globalization journey over the past few decades (Jephson & Morgen, 2014). Maersk had around 90 expatriates worldwide as of the end of 2022

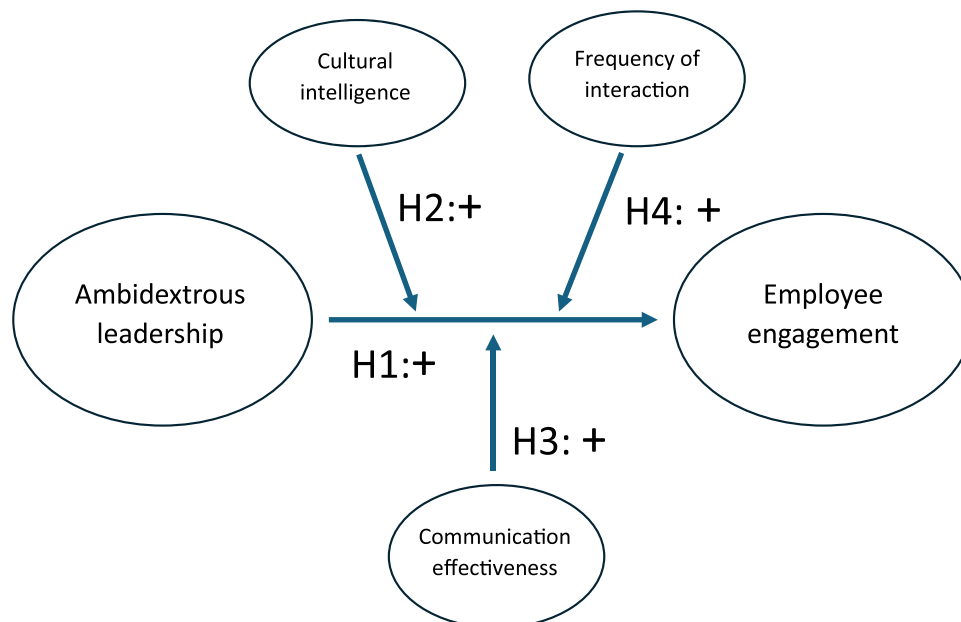


Fig. 1. The hypotheses and theoretical model of the study.

(company internal information).

When the global COVID-19 pandemic broke out in early 2020, Maersk quickly adopted virtual expatriation as an alternative to the traditional one. Specifically, the Asia-Pacific region saw the most significant number of expats forced to adopt a virtual modus operandi. This was due to the greater number of expatriates deployed in the region than in the rest of the world. Asia-Pacific was responsible for >40% of Maersk's global revenue. Additionally, more stringent COVID-related international travel restrictions were implemented in most countries in the Asia-Pacific region, often involving substantial quarantines. The empirical setting is typically an expatriate in the Asia-Pacific who virtually leads employees in other countries. During the COVID period of almost two years, there was minimal access to in-person meetings, as they required substantial quarantines, so communication had to be virtual. The virtual expatriates are primarily located in Hong Kong, Singapore, Shanghai, and Copenhagen, while the supervised employees are spread around the globe, providing substantial cultural variation. One illustrative example is the Chief Financial Officer (CFO) of Maersk Asia Pacific Operations, based in Shanghai, being temporarily assigned as the interim CFO for Maersk Africa Operations, headquartered in Cape Town, South Africa. In such instances, the CFO must manage the African team entirely remotely, utilizing various electronic communication tools to ensure adequate oversight. Similarly, the Head of Sales for a regional brand based in Tokyo may manage his team based in Singapore, or the Head of Procurement based in Singapore may oversee his team in Shanghai. For Maersk, this period was a natural experiment in which virtual expatriation was often the only option. Therefore, they gained substantial insights into the effectiveness of virtual expatriation. Learnings they are applying in the post-COVID period. This makes Maersk a particularly suitable case for our data collection. In addition, the advantage of collecting data within a single company is that, by design, one is controlling for many confounding factors that might vary across companies.

The data were collected between July 2022 and March 2023 through surveys and in-depth interviews in Maersk. Firstly, two surveys were conducted in parallel in July and August 2022: one among employees whose leader was a virtual expatriate and another among the virtual expatriates themselves. Secondly, we collected qualitative data among the virtual expatriates and their employees, through different interviews done between September 2022 and November 2022. In the employee survey, respondents answered questions about their work experience with Maersk, interactions with their leaders, various perceived leadership behaviors, and their own level of engagement. The expatriate survey included questions on employee engagement and on assessments of their own leadership style, communication effectiveness, and cultural intelligence. In total, we identified 210 employees led by 24 virtual expatriates, constituting our population. The final sample comprises 104 usable employee responses headed by 22 virtual expatriates, yielding a satisfactory response rate of 50% for employees and 92% for expatriates. We assessed non-response bias in the employee sample because we had information on gender, location, and function for the entire population. We found no systematic differences between respondents and non-respondents, which is expected given the high response rate.

The number of employees led by a virtual expatriate varies from 3 to 8. Among them, their demographic data are as follows. 57.7% of them are male. Regarding participants' age, the distribution is as follows: 3.9% are under 25 years old, 17.3% are between 25 and 30 years old, 23.1% are between 31 and 35 years old, 26.9% are between 36 and 40 years old, and 28.9% are over 40 years old. Participants with a college degree or below account for 12.5%, those with a bachelor's degree account for 51%, and those with a master's degree or above account for 36.5%. In terms of years of work experience with Maersk, participants with less than one year of experience account for 11.5%, those with 1–5 years of experience account for 20.2%, those with 6–10 years of experience account for 14.4%, and those with >10 years of experience account for 53.9%. In addition, as for time working with their virtual

expatriate leader, participants with <0.5 years account for 25%, with 0.5–1 years account for 17.3%, with 1–1.5 years account for 9.6%, with 1.5–2 years account for 9.6%, and with >2 years account for 38.5%.

The information obtained from the 22 virtual expatriates has mainly been used to validate employees' assessments, e.g., of their own engagement, as well as the expatriate leader's performance. The in-depth interviews further triangulate the findings and provide more detailed insight into the mechanisms underlying the observed relationships.

4. Measures

All the variables used in this study were adopted from previous studies where they had been validated. All items were measured on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A key feature of the survey is that it is the supervised employees who assess the behavior and leadership style of the virtual expatriates that oversee them. This implies that the behavior of virtual expatriates is evaluated by their employees, who are exposed to them, rather than by the expatriates themselves. Therefore, all items and variables are assessed by those affected. The only exception is employee engagement, which is based on employees' self-reports; however, validation is provided by responses from their virtual expatriate.

A confirmatory factor analysis was conducted to assess the construct validity of all our constructs. It included tests of convergent validity (to ensure that the proposed items accurately measure the constructs) and discriminant validity (to verify that the constructs are distinct). The convergent validity is assessed by the values of the Composite Reliability (CR) and Average Variance Extracted (AVE), while the discriminant validity is evaluated by the Cronbach Alpha (CA) value as well as the Heterotrait-Monotrait Ratio of Correlations (HTMT). The values of CR, AVE, and CA are listed for all constructs in Table 1. The HTMT values for each pair of latent variables are listed in Table 2. Because all HTMT values are below the 0.85 threshold, discriminant validity is established, indicating that the constructs are statistically distinct (Henseler et al., 2015).

4.1. Dependent variable

The employees themselves assessed their own *engagement*, as they are well placed to evaluate their state of mind and motivation (Kahn, 1990). It was measured using a six-item scale developed and validated by Joplin et al. (2021), and all six items are listed in Table 1, along with the construct measures. All measures exceed the accepted thresholds, enabling us to create a common construct based on the six items reflecting employee engagement. The construct was created by averaging the six items, yielding a score of 4.19 (see Table 3) on a 1–5 scale, indicating a relatively high level of employee engagement.

Since the employees themselves measured this construct, we validated it by asking the virtual expatriates to assess the average engagement of the employees they supervised (on the same 5-point scale). We were then able to compare the employees' average assessment of employee engagement with the comparable assessment by their virtual expatriate. An ANOVA was then conducted to determine whether there were significant differences between the evaluations made by employees themselves and those created by their virtual expatriates. A total of 22 cases, assessed by both employees and expatriates, were compared. The ANOVA test revealed no significant differences in the average level of employee engagement, as evaluated by both employees and their virtual expatriates (the test of the assessments being different was rejected, with a F-value of 1.32, $p = 0.26$), which provides confidence in the measure.

4.2. Independent variables

Ambidextrous leadership is measured using a 14-item scale, based on Rosing et al. (2011), which was developed and validated by Zacher and

Table 1

All items for the constructs with measures of reliability and validity.

	Composite reliability	AVE	Cronbach Alpha
Employment engagement - Joplin et al.'s (2021)	0.75	0.51	0.76
- I really throw myself into my work under virtual situation			
- I devote a lot of effort and energy to my work under virtual situation			
- I gain considerable pride from performing my job well under virtual situation			
- I feel passionate and enthusiastic about my job under virtual situation			
- Performing work in my area (as a whole) is so absorbing that I often forget about the time under virtual situation			
- I tend to be highly focused when doing my job under virtual situation			
Ambidextrous leadership – open leadership behavior - Zacher and Wilden (2014)	0.84	0.53	0.84
- My leader allows different ways of accomplishing a task under virtual situation			
- My leader encourages experimentation with different ideas under virtual situation			
- My leader motivates me to take risks under virtual situation			
- My leader gives possibilities for independent thinking and acting under virtual situation			
- My leader gives room for my own ideas under virtual situation			
- My leader allows errors under virtual situation			
- My leader encourages error learning under virtual situation			
Ambidextrous leadership – closed leadership behavior - Zacher and Wilden (2014)	0.87	0.55	0.86
- My leader wants to monitor and control goal attainment under virtual situation			
- My leader wants to establish routines under virtual situation			
- My leader wants to take corrective action under virtual situation			
- My leader wants to control adherence to rules under virtual situation			
- My leader wants to pay attention to uniform task accomplishments under virtual situation			
- My leader wants to sanction errors under virtual situation			
- My leader wants to stick to plans under virtual situation			
Communication effectiveness - Gudykunst and Nishida (2001)	0.85	0.68	0.83
- I communicated effectively with my virtual leader			
- My communication with my virtual leader was not successful (reverse-coded)			
- I communicated appropriately with my virtual leader			
- My communication with my virtual leader was a failure (reverse coded)			
Cultural intelligence - Ang et al. (2007)	0.88	0.64	0.89
- My virtual leader can change his/her verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.			
- My virtual leader can change his/her non-verbal behavior when a cross-cultural situation requires it.			

Table 1 (continued)

	Composite reliability	AVE	Cronbach Alpha
- My virtual leader uses pause and silence differently to suit different cross-cultural situations.			
- My virtual leader can vary the rate of his/her speaking when a cross-cultural situation requires it.			
- My virtual leader can alter his/her facial expressions when a cross-cultural interaction requires it.			

Wilden (2014). The scale comprises seven items for opening leader behavior and seven items for closing leader behavior. All items are listed in Table 1, along with the values for CR, AVE, and CA for the two constructs; the HTMT is shown in Table 2. The values for the seven items of opening leader behavior allow us to take the average of the seven items as a common construct for opening leader behavior. Similarly, for the seven items of closing leader behavior, we can calculate their average to reflect closed leader behavior. The mean value for the opening leader behavior construct is 4.30, while it is 3.83 for the closing leader behavior construct, indicating that opening leader behavior is slightly more common than closing leader behavior. Following Hu et al. (2020), we multiply the opening and closing leadership dimensions to obtain the ambidextrous leadership score. This is based on the existing ambidexterity literature, which has used an interaction term to reflect that the two behaviors are relevant and require balance for optimization. Thus, our measure of ambidextrous leadership refers to the combination of opening and closing leadership behaviors (Zacher et al., 2014). The mean value of the construct of ambidextrous leadership is 16.58 with a standard deviation of 4.07 (see Table 3). For this construct, we could compare assessments of ambidextrous leadership made by the 22 virtual expatriates themselves with those made by their subordinate employees. The ANOVA test revealed no significant differences in the average level of ambidextrous leadership, as evaluated by the virtual expatriates and their employees. The test of whether the assessments differed was not significant ($F = 1.36, p = 0.24$).

We conducted further tests of the validity of the combined measure of ambidextrous leadership by running two nested OLS models: one in which open and closed leader behavior each explains employee engagement, and another in which the combined measure of ambidextrous leadership is added. In the first model, both open and closed leader behavior are as expected, significantly positive, with an R-square of 0.21; however, they become non-significant when ambidextrous leadership is added. In the second model, ambidextrous leadership is highly significant ($\beta = 0.32, p = 0.01$), and the R-squared increases to 0.25, providing confidence in our combined measure of ambidextrous leadership.

Based on Gudykunst and Nishida's (2001) research, communication effectiveness is measured using a four-item scale (listed in Table 1) that reflects the employee's perception of the leader's communication effectiveness. The four items are averaged to form the communication effectiveness construct, yielding a mean of 4.38. When comparing the assessment of communication effectiveness by the 22 virtual expatriates themselves and their subordinate employees, the ANOVA test revealed no significant differences in the average level of communication effectiveness. The test of whether the assessments differed was rejected ($F = 1.03, p = 0.32$).

We followed Ang et al. (2007) in measuring cultural intelligence using a five-item scale designed to assess cultural intelligence from a behavioral perspective. We focus on the behavioral dimension because leaders' behavior and adaptation to the cultural environment are related to task performance (Ang et al., 2007), and this is the dimension employees can observe in remote communication. The five items are listed in Table 1, and we formed the cultural intelligence construct by averaging them,

Table 2

The Heterotrait-Monotrait Ratio of Correlations (HTMT) for every pair of latent variables.

	Employee engagement (6 items)	Open leadership (7 items)	Closed leadership (7 items)	Communication effectiveness (4 items)	Cultural intelligence (5 items)
Employee engagement					
Open leadership	0.48				
Closed leadership	0.51	0.46			
Communication effectiveness	0.36	0.65	0.40		
Cultural intelligence	0.39	0.55	0.45	0.37	

Table 3

Correlation matrix and summary statistics (listed mean values are before standardization)*.

	1	2	3	4	5	6	7	8	9	10	11	12
1 Employee engagement	1											
2 Ambidextrous leadership	.47	1										
3 Cultural intelligence	.10	.35	1									
4 Communication effectiveness	.27	.29	.28	1								
5 Frequency of interaction	.29	.31	.30	.23	1							
6 Front-end	−0.13	.08	−0.14	−0.08	−0.01	1						
7 Unbalanced leadership behavior	−0.12	−0.23	−0.03	.11	−0.05	.05	1					
8 Working experience with the leader	.01	−0.11	−0.19	.08	−0.03	.08	−0.08	1				
9 Working experience with the company	.13	.12	.11	.05	.05	.06	.01	0.30	1			
10 Gender	−0.10	.06	−0.10	−0.03	−0.03	.11	−0.15	−0.01	.08	1		
11 Age	.09	−0.05	−0.13	−0.12	−0.03	.10	−0.01	0.31	0.40	.05	1	
12 Education	.16	−0.03	−0.21	.09	−0.20	.02	.15	−0.17	−0.02	.04	.01	1
Mean	4.19	16.6	3.81	4.38	2.46	0.36	0.16	3.19	3.11	0.58	3.60	0.37
Std. Dev.	0.55	4.07	0.63	0.57	1.04	0.48	0.37	1.67	1.10	0.50	1.19	0.48
Min.	2.6	8.81	2	2.66	1	0	0	1	1	0	1	0
Max.	5.0	25.0	5	5	4	1	1	5	4	1	5	1

* All coefficients above |0.20| are significant at a 5% level of significance.

yielding a mean of 3.81. The ANOVA test revealed no significant differences in the average level of cultural intelligence, as evaluated by virtual expatriates and their employees. The test of whether the assessments differed was rejected ($F = 0.21$, $p = 0.64$).

The *frequency of interaction* is measured as a single item (Neufeld et al., 2010) where respondents were asked to indicate their weekly interaction frequency with their leader using communication tools such as telephone, video, video conferencing, voice mail, and email exchanges (1 = <3 times, 2 = Between 3–6 times, 3 = Between 7–9 times and 4 = >9 times). The mean value is 2.46, indicating that they interact 7–8 times per week, or approximately once a day.

4.3. Control variables

Several variables were added to control for confounding factors. Firstly, a dummy variable was added if the relationship between the opening and closing leadership behaviors was highly unbalanced (i.e., if the virtual expatriate scores very high on one leadership behavior and very low on the other). This variable allows us to control for extreme cases in which the combined measure of ambidextrous leadership (the product of both dimensions) could mask an unbalanced behavior dominated by one dimension. It is calculated as the difference between the opening and closing behaviors (Cao et al., 2009). Secondly, we added a control for whether the employee worked in a front-end function (e.g., sales, marketing, or customer service) or a back-end function (e.g., Finance, HR, IT, operations, or procurement). Thirdly, two variables measure the length of working experience with Maersk and with the virtual leader, respectively. These are added, as more prior work experience might make it easier to understand and communicate virtually. Finally, we controlled for participants' demographic variables, such as gender, age, and education.

5. Results

Table 3 presents the summary statistics and correlation matrix for all variables. The binary correlation coefficients are all below 0.4,

suggesting that multicollinearity is less of an issue in the data. The highest binary coefficient is between age and working experience at the company, as expected.

Potential common method bias has been addressed both in the study design and through the application of appropriate statistical tests to detect it. In the study design, the employees' assessments have been validated against the virtual expats' assessments, providing confidence in the measures being less biased. In addition, the survey included multiple scales and reverse-coded items.

To detect potential bias, we first ran Harman's one-factor test on the 12 variables included in the model, which identified five factors with eigenvalues greater than 1; the first two accounted for only 20% and 16% of the total variance, respectively. Second, two additional tests were conducted using confirmatory factor analyses on our hypothesized multi-item variables (Podsakoff et al., 2003).¹ A single-factor model (all items loaded on one factor – a “method” factor) was compared with a multi-factor model (all items loaded on their respective latent constructs), and the multi-factor model fits much better than the single-factor model on all goodness of fit measures (e.g., with a GFI of 0.70 vs. 0.53). In addition, as the strongest test, an unmeasured latent factor model (in which all items both load on the single/method factor and on their respective latent constructs) indicated that adding the method factor only minimally improved goodness-of-fit (GFI increased from 0.70 to 0.75). In addition, the size of the method factor loadings is much smaller than the substantive loadings on the constructs. While the statistical tests do not eliminate the threat of common method bias, they suggest that our results are not driven by it. Moreover, our results are based on complex estimations that involve multiple independent variables and interaction terms. It has been argued that the results of such models are unlikely to be solely due to common method bias (Siemens et al., 2010).

¹ These are our five multi-item variables: employee engagement, open leadership behavior, closed leadership style, communication effectiveness, and cultural intelligence (all items listed in Table 1).

All variables included in the models are standardized (mean=0 and standard error=1), as we are applying interaction effects, so none of the variables dominate the others when interacting. In addition, standardization has the advantage that the (effect) size of the obtained coefficients for each variable is directly comparable.

Given the multilevel nature of our data (i.e., employees who are subordinates to virtual expatriates), our main models employed two-level hierarchical linear modeling (HLM) (Bryk & Raudenbush, 1992) to simultaneously estimate within- and between-variance components (Kozlowski & Klein, 2000). The random-intercept model enabled us to decompose the variance of the dependent variable and explain it at both the employee and virtual expatriate levels. To derive the initial variance decomposition, we ran the null model for the dependent variable, that is, employee engagement.

Results are presented in Table 4, where Model 1 is the null model, while the control variables are added in Model 2. Model 3 includes the main effects of the hypothesized variables, whereas the final, fully specified model includes the hypothesized interaction effects. In Model 1 (the null model), we find that nearly 99% of the variation in employee engagement is attributable to employee-level factors, underscoring the importance of employee-level characteristics and perceptions in understanding employee engagement. When adding the controls in Model

Table 4

Hierarchical Linear Model (HLM) with employees' engagement as dependent variable (N = 104). Standard error in parentheses.

	Model 1	Model 2	Model 3	Model 4
Ambidextrous leadership			0.21*** (0.05)	0.17** (0.05)
Cultural intelligence			0.03 (0.05)	0.01 (0.05)
Communication effectiveness			0.15** (0.05)	0.12* (0.05)
Frequency of interaction			0.13** (0.05)	0.05 (0.04)
Ambidextrous leadership * Cultural intelligence				0.14** (0.04)
Ambidextrous leadership * Communication effectiveness				−0.01 (0.04)
Ambidextrous leadership * Frequency of interaction				0.11* (0.04)
<i>Controls</i>				
Front-end functions (dummy= 1=front-end, 0=back-end)		−0.14 (0.10)	−0.17 (0.09)	−0.24** (0.09)
Unbalanced leadership behavior (open vs. closed)		0.01 (0.05)	0.04 (0.05)	0.07 (0.04)
Working experience with the leader		0.04 (0.06)	0.03 (0.05)	0.04 (0.05)
Working experience with the company		−0.03 (0.06)	−0.04 (0.06)	−0.02 (0.05)
Gender (1=male, 0=female)		−0.07 (0.05)	−0.06 (0.04)	−0.05 (0.04)
Age		0.01 (0.06)	0.08 (0.06)	0.03 (0.05)
Education (dummy: master=1 otherwise 0)		0.04 (0.05)	0.06 (0.05)	0.08 (0.04)
Intercept	4.23*** (0.05)	4.28*** (0.06)	4.29*** (0.05)	4.22*** (0.05)
Virtual expat level variance	0.003 (0.016)	0.003 (0.016)	0.001 (0.014)	0.001 (0.014)
Employee-level variance	0.256*** (0.039)	0.247*** (0.035)	0.179*** (0.029)	0.150*** (0.021)
−2 log Likelihood	150.4	145.2	113.5	95.4
AIC	156.4	155.3	141.5	127.4

***, ** and * indicate 0.1%, 1%, and 5% significance levels, respectively.

2, there are minor changes, as none of the controls are significant. However, when adding employees' perceptions of their expatriate leader's behavior to Model 3, we observe a significant improvement in the model, as the log-likelihood decreases by 25% and the remaining employee-level variance also decreases significantly.

In the fully specified Model 4, the log likelihood and AIC values continue to decrease, indicating a substantial improvement in the model's overall fit. Notably, at least 41% of the original variance at the employee level is explained in the fully specified model. When adding interaction effects in Model 4, the direct effect of ambidextrous leadership on employee engagement remains positive and significant ($\beta = 0.17$, $p = 0.002$), corresponding to a medium-sized partial effect that explains approximately 12% of the unique variance in employee engagement after controlling for other predictors. This confirms H1. The interaction effect between ambidextrous leadership and cultural intelligence is significant and positive ($\beta = 0.14$, $p = 0.002$), explaining 12% of the variance in employee engagement, thus confirming H2. That is, the expatriate's cultural intelligence reinforces the positive relationship between ambidextrous leadership and employee engagement. The interaction effect between ambidextrous leadership and interaction frequency is also as expected: significant and positive ($\beta = 0.11$, $p = 0.012$), with an effect size of 8%, confirming H4. However, the main effect of frequency of interaction becomes non-significant, indicating that its (moderating effect) combination with ambidextrous leadership is stronger than the direct effect. The interaction effect between ambidextrous leadership and communication effectiveness is non-significant, thus H3 is not supported. In contrast, the direct effect of expatriates' communication effectiveness remains significant ($\beta = 0.12$, $p = 0.021$; effect size = 6%) indicating that communicating effectively is a significant predictor of employees' engagement rather than a boundary condition for virtual expatriates' ambidextrous leadership effectiveness. The likely reason for the insignificant interaction effect is that we have too little variation in our communication-effectiveness variable. The mean is relatively high (4.38 on a 5-point scale, with a standard deviation of 0.57), so there may not have been sufficient contrast between "low" and "high" communication effectiveness to detect moderation.

The standardized coefficients and effect sizes indicate that ambidextrous leadership is the most important variable in fostering employee engagement. Ambidextrous leadership itself explains 12% of the variation in employee engagement. When leaders combine ambidextrous leadership with high cultural intelligence and translate the leadership behavior into the specific context, another 12% of the variation in employee engagement can be explained. Cultural intelligence seems to have little effect on employee engagement on its own, but as a cultural translator of the complex signals from ambidextrous leadership, it has a strong effect. Frequency of interaction is significant in Model 3, but its effect is even more substantial in Model 4, where it interacts with ambidextrous leadership (effect size of 8%). Thus, the frequency of interaction also plays a strong role in making the complex leadership style more effective. Ambidextrous leadership, combined with high cultural intelligence and high interaction frequency, explains no less than one-third of the total variation in employee engagement among the distant employees. Contrary to our expectations, communication effectiveness does not amplify ambidextrous leadership but stands out as a direct predictor of employee engagement under virtual expatriation (effect size of 6%), indicating a small positive effect irrespective of leadership style.

All our hypothesized variables have a significant direct or indirect (moderating) effect, whereas only one of the control variables is significant. Front-end functions that turn out to be significantly negative imply that back-office functions have higher employee engagement. This suggests that it may be easier for virtual expatriates to foster employee engagement in back-office functions, which are often more standardized within the company, compared to customer-facing front-end functions.

To strengthen the validity of these results, we conducted several

robustness checks (results are listed in Appendix A). More specifically, we ran the model as a multinomial logistic regression because our dependent variable could be treated as a categorical variable with 12 levels (despite a normality test indicating it was normally distributed), and we obtained qualitatively similar results (see the first column in Appendix A). We also tested mediation rather than moderation for our three moderating variables, finding no significant mediation effects (see the second column in Appendix A, which shows the employee engagement equation).

6. Post-hoc analysis of the mechanism

The statistical analysis identified key factors influencing employee engagement in the context of virtual expatriation and their relative significance. To further elucidate the mechanisms by which these factors influence engagement, we conducted in-depth interviews with virtual expatriates and their employees after the survey was completed. More specifically, seven interviews were conducted with virtual expatriate leaders and six with their employees. Appendix B offers a more detailed description of the qualitative data collection process. The following highlights some key findings from the qualitative data.

A finance executive serving in a virtual expatriate role articulated the complexity of balancing performance demands with fostering an environment conducive to innovation: *"Managing the virtual team to achieve goals under time pressures is hard, and to allow error-learning and creativity-expression at the same time is even more challenging. The key is about setting clear goals and expectations"* (virtual expatriate leader B, Finance). This statement emphasizes the crucial role of clear goal setting and effective expectation management, which serve as foundational elements for enhancing both operational efficiency and a culture of creativity. Unclear or conflicting goals can inhibit innovation and exacerbate uncertainty regarding acceptable risk levels, ultimately undermining employee engagement and productivity.

Further, the notion of balancing openness and control was addressed by a virtual expatriate leader in marketing, who explained: *"I will typically focus more on the creative and encouraging part when I communicate to a large group. I will clearly state the expectations, while I will focus more on accountability and milestones when I talk to the employees individually."* This perspective underscores a nuanced, context-dependent leadership approach. Specifically, the leader adapts their communication style to foster creativity and motivation in group settings while emphasizing accountability in individual interactions. This strategic differentiation in leadership behavior suggests that effective virtual expatriation necessitates an ability to oscillate between divergent leadership behaviors, thereby achieving a dynamic balance that enhances both engagement and performance.

Another recurring theme pertained to the practical challenges posed by geographical and temporal dispersion. A finance employee expressed frustration over inconsiderate scheduling practices: *"I am tired of my virtual expat boss scheduling early-hour meetings for his own convenience as he lives in an earlier time zone."* This highlights the importance of temporal equity in virtual communication, where leaders must be aware of and sensitive to time-zone differences to maintain cohesion and fairness. Consistent with this, a virtual expatriate leader in the sales function emphasized the value of creating an environment of trust through regular virtual engagements: *"The vibe is so different in the virtual team when everyone is having their camera on and started our meeting by talking about everyone's achievement in the weekend!"* This reflects the role of deliberate relational practices, such as informal discussions and visual presence, in mitigating the psychological distance inherent in virtual teams, thereby fostering a more cohesive and engaged work environment.

Cultural intelligence also emerged as a crucial factor for successful virtual leadership. An operations employee provided an illustrative example: *"It made a difference when my manager sent the Hari Raya Puasa holiday wishes from Shanghai to me, with his selfie enjoying the beef rendang in a Malaysian restaurant."* Such gestures, which acknowledge and

respect employees' diverse cultural backgrounds, contribute substantially to a more inclusive workplace environment. Demonstrating cultural sensitivity not only enhances employees' sense of belonging but also reinforces the leader's authenticity and commitment to their well-being. This, in turn, positively impacts employees' perceptions of being valued, thereby strengthening engagement and organizational loyalty.

In summary, the qualitative findings reveal that effective virtual expatriate leadership is characterized by a clear articulation of expectations, contextually adaptive communication styles, a commitment to temporal equity, and a demonstrated cultural intelligence. These dimensions are instrumental in fostering an environment where employees feel motivated, included, and valued, thereby enhancing overall engagement and performance when managed virtually.

7. Discussion and conclusion

The motivation for our study was the question of how virtual expatriates can fulfill their leadership roles and engage their employees when they communicate only virtually. Virtual expatriates must lead across distance, culture, and limited social cues, which is challenging. Leadership depends heavily on trust, context, and human connection, and all three are harder to build through screens and virtual means. Our results have confirmed that, through ambidextrous leadership (combining closing and opening behaviors), virtual expatriates can increase employees' engagement and, in turn, mitigate the adverse effects of remoteness. Ambidextrous leadership in itself explains 12% of the variation in employee engagement and, as such, is the single most important factor related to it. Additionally, we have analyzed the moderating effects of variables that influence social exchange. Virtual expatriates face both cultural and physical distances; therefore, behaving culturally intelligent and increasing interaction frequency further reinforce the positive effect of ambidextrous leadership on employee engagement, as they pave the way for building trust and reciprocity in the exchange relationship between virtual expatriates and their subordinate employees. The combination of ambidextrous leadership, cultural intelligence behavior, and interaction frequency accounts for one-third of the variation in employee engagement, with clear managerial implications, as the leaders can manipulate these factors. Virtual expatriates' effective communication does not represent a boundary condition, contrary to our positing, as it does not reinforce the relationship between ambidextrous leadership and employees' engagement. Notwithstanding, it directly predicts employee engagement at a distance, accounting for an additional 6% of the variation, regardless of leadership style. This is an interesting result that points to the critical, independent role of this relational variable in reducing equivocality and ambiguity in the virtual sphere and increasing the perceived quality of the social exchange.

The significance of ambidextrous leadership underscores the need for virtual expatriates to be aware of both sides of the coin and to execute both open and closed leadership. However, the challenge is knowing when, where, and how to flip the coin. When should virtual expats be open and when closed in the leadership style, and how should they do it in the virtual space? We will discuss the study's insights along these lines below. We have framed our paper within the Social Exchange Theory (SET), as employees' engagement depends on their perceptions of the resources and support they receive from the organization (Saks, 2019). On this basis, they will correspond reciprocally by engaging in a series of interactions that generate obligations (Cropanzano & Mitchell, 2005; Mitchell et al., 2012). SET helps illuminate the challenges that virtual expatriation poses to employee engagement, as maintaining a high-quality social exchange across distances can be impeded by the physical and psychological detachment of the virtual expatriate. SET has been applied to the study of traditional expatriation, in which studies have focused on the expatriate-employee relationship and the factors that favor the perceived support of the latter (Guang &

Charoensukmongkol, 2022; Takeuchi et al., 2009). We contribute to extending the boundary conditions of SET by highlighting the added complexity that remoteness poses for social exchange in work relationships within MNCs and for subsidiary employees' engagement.

This study goes beyond focusing on the role of the virtual expatriate (Selmer et al., 2022; Wicht & Holtbrügge, 2023) and identifies the reasons why remoteness can threaten the exchange relationship between the virtual expatriate and employees, with consequences for the expatriate's effectiveness. This social exchange is bidirectional, as both parties act based on their perceptions of the other's behavior. Thus, by qualifying virtual expatriation as a conceptual oxymoron, we theoretically reflect on the dual tensions that virtual expatriates experience when engaging with their distant subordinates and on the effects of these tensions on their effectiveness as leaders. Leadership has been identified as a key factor driving collaboration and engagement for both expatriates and global virtual teams (Lauring et al., 2024; Lazarova et al., 2023), but beyond common challenges, there are also significant differences that affect the social exchange relationship, the adequate provision of resources and support, and the reciprocity of supervised employees. We concur with prior findings in the IHRM literature that virtual leaders need to exhibit people-oriented behaviors (e.g., valuing people, mentoring, and empowering) to motivate and engage employees (Zander et al., 2012). Notwithstanding, as our study shows, in the relationship between virtual expatriates and subsidiary employees, a more pronounced hierarchical divide exists, and an evident tension arises, as the expatriate must ensure objectives are met in line with the plans, and to that end, the employees' commitment, motivation, and availability are needed. However, as SET posits, such engaged behavior is not obvious and cannot be taken for granted, as it is part of a social exchange. Thus, virtual expatriates must reconcile this encouragement with the supervisory function of expatriates (Harzing, 2001; Lazarova et al., 2023), which involves providing information and guidance.

We contribute to recent calls in the IHRM literature (Lazarova et al., 2023) and, more broadly, in the IB literature (Meyer et al., 2020) by introducing the concept of ambidextrous leadership, which deepens understanding of virtual global assignments and leadership in MNCs' subsidiaries (Lazarova et al., 2023). Ambidextrous leadership has been extensively studied in the field of innovation (Mascareño et al., 2021; Rosing et al., 2011), as it promotes the combination of behaviors that might be opposite and require different approaches, such as creativity versus efficiency in implementation. However, the concept of ambidextrous leadership is less applied in the IHRM field. As previously noted, virtual expatriates face a dual tension that cannot be resolved just by applying people-oriented leadership styles, such as transformational leadership. Ambidextrous leadership increases the quality of social exchange and employee engagement (Saks, 2019) by providing more informational and socio-emotional resources and mitigating potential ambiguities (Hu et al., 2020; Joplin et al., 2021). Specifically, as one virtual expatriate interviewed said, *"It is all about the balancing of taking risks and managing the risks"*. In this sense, through open leadership, a virtual expatriate exhibits people-oriented behaviors, such as promoting employees' diverse approaches and tolerance for making mistakes. In a virtual setting, such leader behaviors signal trust in employees and promote their feelings of autonomy and self-efficacy (Gagné & Deci, 2005), thereby positively affecting the cognitive dimension of engagement. However, as virtual expatriates exercise distant leadership, their attention is split between different settings (Cummings & Haas, 2012). Additionally, due to the lack of informal interaction and potential delays in responses, employees may feel uncertain about what to expect and how to proceed, creating room for potential misunderstandings and ambiguities that have detrimental effects on both the physical and emotional dimensions of engagement. Thus, to truly engage employees, such an opening behavior must be balanced with the provision of precise information and with the guidance that comes from setting clear goals and expectations, that is, with closing behavior (Rosing et al., 2011).

Our follow-up interviews illustrate how expatriates can adapt to situations in which they might adopt a more open leadership style in larger meetings, inspiring, encouraging, and motivating. In contrast, the more closed leader behavior is practiced in one-on-one meetings, where individual performance is discussed in relation to goals and guidance is provided. These are excellent examples of expatriates who are aware of when, where, and how to exercise the open and closed leadership.

We also contribute by theorizing and empirically testing factors that can leverage ambidextrous virtual expatriates. In this paper, we have examined the extent to which individual and relationship-related characteristics mitigate the effects of cultural and geographical distance. Specifically, we confirm that the cultural intelligence behavior of virtual expatriates will reinforce the positive relationship between their ambidextrous leadership and the employees' engagement. This suggests that being accurate in balancing open and closed leader behaviors is not culturally neutral, and when combined with cultural intelligence, it amplifies its effects on the cognitive, physical, and emotional dimensions of engagement by improving their adjustment (Takeuchi et al., 2009). In some cultures, employees are more receptive to delegation of power than in others, and the same applies to delegation, criticism, and accountability, which are not perceived the same way in all cultures (Guang & Charoensukmongkol, 2022). A culturally savvy virtual expatriate will be aware of these cultural variations and behave accordingly, tailoring her open and closing behavior to the specific culture. One virtual expat expressed the challenge in this way: *"...cultural intelligence is about balancing one's cultural adaptation with authenticity"*. We contribute by outlining the mechanisms by which this dimension of cultural intelligence can assist the expatriate in deciding when, where, and how to balance between opening and closing behaviors, thereby reducing perceptions of being a foreigner that might worsen the quality of the exchange (Elenkov & Manev, 2009; Wicht & Holtbrügge, 2023). As we posited, the frequency of interaction can enhance the positive effects of ambidextrous leadership on employees' engagement by increasing feelings of support, improving information processing, and reducing uncertainty (Hill et al., 2024), thereby bridging the spatial distance (Windeler et al., 2017). Communicating effectively in a virtual setting is another key antecedent to employees' cognitive, physical, and emotional engagement, regardless of leadership style. Thus, this result points to effective communication as a precondition for virtual expatriates to engage employees (Klitmøller & Lauring, 2013), and to improve the quality of the social exchange. While virtual media communications have developed substantially in the last decade, and there is a broad range of media (emails, phone text messages, video conferences, platforms like Teams or Zoom, and so on), knowing how, when, for what purposes, and with whom to use each of them is key to bridging emotional distance (Wicht & Holtbrügge, 2023) and to avoiding ambiguity and equivocality (Daft et al., 1987).

Our study also contributes to the emerging literature on virtual staffing (Collings et al., 2007; Holtbrügge & Schillo, 2008) by examining the outcomes of virtual expatriation from the perspective of subsidiary employees, rather than that of the expatriate or the headquarters. While current literature has been more focused on understanding the antecedents of virtual expatriation (Lazarova et al., 2023; Selmer et al., 2022) or the consequences of the relationship between expatriates and HQ (Wicht & Holtbrügge, 2023), less is known about the performance of virtual expatriates measured through the effects on their employees' engagement. Despite virtual expatriation convenience for economic and practical reasons, both for MNCs and international assignees, it might end up having non-desired consequences at the individual level in terms of feelings of isolation, lack of guidance, interruptions in working sequences, and stress (Hill et al., 2024; Lazarova et al., 2023), which affects the quality of their leadership. Our paper shows that subsidiary leadership from a distance is more challenging, as it pushes the exchange relationship to the edge and requires greater support and a complex leadership style.

The study has some limitations that need to be acknowledged. First,

our study was conducted within the global MNC Maersk, which is a single-firm context that allowed us to control for organizational variability. Even though it provides an unusually rich opportunity to examine virtual expatriation in depth, it also necessarily constrains the generalizability of the findings across different organizational and institutional settings. This limitation also offers potential new avenues for further research in other organizations or institutional settings. Second, the cross-sectional design of the survey data limits our ability to draw conclusions about temporal ordering or causality. Additionally, the study is based on subjective evaluations of the constructs, which may introduce some biases. We recognize that some of these variables, such as interaction frequency and other measures of employees' performance, can be measured using more objective data, which would have been desirable to obtain. Moreover, our measure of cultural intelligence is limited to the behavioral dimension. We took deliberate steps to mitigate perceptual and common-method biases associated with this methodological design, most notably by conducting a qualitative post hoc analysis and collecting additional data to better understand the findings, thus providing multi-source validation and triangulation with qualitative evidence. However, we acknowledge that some degree of these biases may still be present. Taken together, these caveats suggest appropriate caution in interpreting the results, while the convergence of evidence across methods provides a reasonable basis for confidence in the robustness of the patterns we identify.

7.1. Managerial implications and future lines of research

Finally, we would like to highlight some implications for practitioners and future lines of research. First, working remotely and virtuality seem to be the new normal and highly convenient for individuals and organizations. Despite such acceptance and spread, it is far from clear that the same leadership style that is efficient for co-located managerial positions will work for virtual expatriates. Hence, this study confirms the need for virtual expatriates to balance two opposing leadership behaviors (opening and closing), which may not come naturally to them. MNCs and leaders who want to experiment with this type of assignment must avoid overconfidence and recognize the importance of an ambidextrous leadership style. It calls for awareness and paying attention to this duality of competences when recruiting and

selecting virtual expatriates.

Second, this study emphasizes the importance of expatriates cultivating their cultural intelligence and communication skills and engaging in recurrent interactions. So far, the literature has focused heavily on the benefits and flexibility of having virtual expatriates (i.e., lower costs than expats, easier to combine with family, no relocation, and so on). However, from a SET perspective, the social exchange between the virtual expatriate and the employees is more fragile. It needs more investment, mainly at the expense of expatriates in terms of their own skills (to behave culturally savvy) and their own effort to keep employees in the loop across distances. If MNCs want to succeed with virtual expatriation, they need to compensate for the effort and support virtual expatriates. On the other hand, the expatriate must not be overconfident, as her future performance will depend on establishing an ongoing, trustworthy relationship with employees, which might be difficult given the detachment between the personal and professional spheres. Thus, MNCs will need to invest in additional training and support for virtual expatriates.

Along these lines, we encourage future studies to identify how virtual expatriation might change the traditional HRM functions of recruitment, selection, training, and compensation, and, relatedly, whether, when assessing the advantages and disadvantages of virtual expatriation, some hidden costs arise. Additionally, future studies could extend our findings to other MNCs to determine whether the subsidiary role or the type of functional tasks employees perform imposes additional requirements on virtual expatriates.

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CRediT authorship contribution statement

Àngels Dasí: Writing – review & editing, Conceptualization. **Rex Gu:** Writing – original draft, Project administration, Methodology, Data curation, Conceptualization. **Torben Pedersen:** Writing – review & editing, Supervision, Methodology, Formal analysis.

Appendix A. Robustness checks

Column 1 is a multinomial logistic model with the dependent variable specified as a categorical variable. Column 2 presents a mediation model in which cultural intelligence, communication effectiveness, and interaction frequency mediate the effect of ambidextrous leadership on employee engagement. In the table, only the equation for employee engagement is shown.

Standard error in parentheses

	Multinomial logistic	Mediation model (2SLS)
Ambidextrous leadership	0.88*** (0.26)	0.21*** (0.06)
Cultural intelligence	0.15 (0.24)	0.03 (0.06)
Communication effectiveness	0.57* (0.24)	0.05 (0.05)
Frequency of interaction	0.20 (0.20)	0.05 (0.05)
Ambidextrous leadership * Cultural intelligence	0.88*** (0.24)	
Ambidextrous leadership * Communication effectiveness	0.07 (0.23)	
Ambidextrous leadership * Frequency of interaction	0.70** (0.23)	
Front-end functions (dummy = 1 = front-end, 0 = back-end)	−1.05* (0.42)	−0.06 (0.05)

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Unbalanced leadership behavior (open vs. closed)	0.35 (0.20)	0.04 (0.05)
Working experience with the leader	0.25 (0.23)	0.03 (0.05)
Working experience with the company	−0.18 (0.25)	−0.04 (0.06)
Gender (1=male, 0=female)	−0.19 (0.19)	−0.06 (0.05)
Age	0.20 (0.24)	0.08 (0.06)
Education (dummy: master=1 otherwise 0)	0.30 (0.20)	0.06 (0.05)
Intercept	12 levels	4.29*** (0.06)
Score Test for Proportional Odds Assumption: 301.8***		F-value: 3.57***
Likelihood Ratio: 59.7***		Adj. R-square: 0.22

***, ** and * indicate 0.1%, 1%, and 5% significance levels, respectively.

Appendix B. Methods for qualitative data

The qualitative phase was conducted after the quantitative survey and was designed to clarify, deepen, and contextualize the statistical relationships identified in the analysis. Rather than pursuing an inductive exploration, this stage adopted an interpretive and explanatory purpose. Following the logic of a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2011), the follow-up interviews sought to illuminate the mechanisms through which ambidextrous leadership, cultural intelligence, and interaction frequency shape subsidiary employees' engagement. The interview protocol was therefore informed by key insights from the quantitative results, allowing a more nuanced understanding of the behavioral and relational dynamics that could not be fully captured through survey data alone.

We adopted a comprehensive, multi-phase approach informed by established qualitative methodologies (Gioia et al., 2013; Miles & Huberman, 1994). Our primary data source consisted of semi-structured interviews conducted between September 2022 and November 2022 with virtual expatriate leaders and their employees within Maersk. These interviews typically lasted 45 to 60 min and were systematically recorded (with participant consent) and transcribed verbatim to capture authentic insights and nuances.

We employed open-ended questions that encouraged participants to articulate their personal experiences and insights regarding leadership behaviors, communication effectiveness, and cultural intelligence dynamics. These interviews allowed us to capture rich, descriptive narratives that provided depth to our quantitative findings. In the next phase, we conducted follow-up interviews and additional consultations with key informants to clarify emerging themes and close gaps identified during initial data analysis. This iterative process of data collection and analysis facilitated continuous refinement, strengthening the reliability and depth of our findings.

Data analysis was conducted systematically, following the guidelines of Gioia et al. (2013) and Corbin and Strauss (2014). We initially engaged in open coding, maintaining proximity to participants' original language to generate authentic first-order codes. Through axial coding, we grouped these codes into meaningful second-order themes by identifying relationships and patterns within the data. Preliminary findings and conceptual insights were shared with select participants who provided feedback confirming the authenticity and relevance of our interpretations. Throughout our analysis, we consistently reflected on and aligned our emerging themes with the theoretical frameworks.

Illustrative data Structure: Linking Second-Order Themes, First-Order Codes, and Empirical Evidence

Second-order Theme	First-order Code	Selected Empirical Evidence
Ambidextrous Leadership – Opening Behavior	Encouraging risk-taking and creativity	'It is all about the balancing act of taking the risks and managing the risks.' (Virtual expat leader A, Marketing)
	Fostering psychological safety	'The underlying principle should always be creating the culture of psychological safety.' (Employee A, Procurement)
	Promoting error tolerance as learning	'Mistakes are seen as ways to learn rather than as crimes that should be punished.' (Employee A, Procurement)
Ambidextrous Leadership – Closing Behavior	Recognition and emotional affirmation	'Getting public praise on a virtual call made my week—I felt seen and appreciated.' (Employee G, Operations)
	Clarifying expectations and deliverables	'Managing the virtual team to achieve goals under time pressures is hard... the key is about setting clear goals and expectations.' (Virtual expat leader B, Finance)
Communication Effectiveness in Virtual Settings	Monitoring progress through structured check-ins	'I find it very important to have regular one-on-one check-ins to discuss progress and provide personalized feedback.' (Virtual expat leader F, Finance)
	Initiating meetings with informal rituals and normalizing camera use	'The vibe is so different in the virtual team when everyone is having their camera on and started our meeting by talking about everyone's achievement in the weekend!' (Virtual expat leader C, Sales)
	Addressing technological disruptions proactively	'The network will break the moment you need it the most in the virtual meeting, seriously.' (Employee B, Operations)
	Adapting based on feedback for clarity	'We shortened meetings and rotated speakers—based on what people said in feedback surveys.' (Employee E, Operations)
	Demonstrating respect through cultural gestures	'It made a difference when my manager sent the Hari Raya Puasa holiday wishes... with his selfie enjoying the beef rendang.' (Employee D, Operations)
	Maintaining authenticity while adapting to norms	'For me, cultural intelligence is about balancing one's cultural adaptation with authenticity.' (Virtual expat leader D, Human Resource)

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Cultural Intelligence	Challenging assumptions through local immersion Adjusting communication for cultural nuance Scheduling with timezone equity in mind	'Don't take things at face value, trust me I have paid huge prices to learn this during 2020–2021.' (Virtual expat leader E, Operations) 'I could have been more actively seek out experiences... talk to team members with an open mind and test my assumptions.' (Virtual expat leader F, Finance) 'I am tired of my virtual expat boss scheduling early hour meetings for his own convenience.' (Employee C, Finance)
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Data availability

The data that has been used is confidential.

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