No room at the top?

A system dynamics view of the recursive consequences of women's underrepresentation in international assignments

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Version August 2021

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Abstract

Purpose: The expatriation literature has developed an insightful body of research on the reasons why women are not assigned abroad as frequently as men. However, we know very little about the systemic and recursive consequences of women's underrepresentation in international assignments (IAs), which are examined in this conceptual paper.

Design/methodology/approach: Drawing upon expatriation research and a system dynamics perspective, we propose a conceptual model to explain both women's underrepresentation in IAs and its recursive consequences.

Findings: We highlight how women's underrepresentation in IAs results from a complex system of recursive effects that jeopardizes women's professional development and undermines both their own career progression to top management and firms' competitive advantage and international growth. We argue that organizations make decisions that contravene their own interest in a competitive global environment. First, because they are limiting their talent pool by not considering female candidates. Second, because they are missing the opportunity to use IAs to advance women's careers.

Research implications/limitations: Our model provides a solid grounding for future research on selecting the most effective organizational actions and designing supportive measures to disrupt the persistent dynamics contributing to women's underrepresentation in IAs. Future research could also expand our study by incorporating individual differences and the proactive role that women may take.

Managerial implications: Our model points to specific managerial interventions (e.g., increased access to job-training and specific training ahead of the assignment, dual-career support, women's mentoring, and affirmative action) which have the potential to reduce women's underrepresentation in IAs and in top management.

Originality: Our system dynamics approach enables a broader understanding of why women are underrepresented in IAs, how this underrepresentation further exacerbates gender segregation in international business, and how these recursive outcomes can be averted to the advantage of firms' sustainable growth.

Keywords: women expatriates; international assignments; expatriate selection; careers; system dynamics

Introduction

Both gender equality and women's empowerment are critical to accomplish the United Nation's Sustainable Development Goals and are integral to the "Leave no one behind" vision of the 2030 Agenda for Sustainable Development (ILO, 2018). Despite these global priorities, research has documented a variety of barriers - both subtle and not so subtle - that impede gender equality in top management and keep women out of the upper echelons of leadership (Barreto et al., 2009; Bruckmüller et al., 2014). The term "glass ceiling" (Arfken et al., 2004; Barreto et al., 2009; Hoobler et al., 2018) has been used to describe these obstacles to women's advancement. This lack of women's advancement to top management not only impedes women's career progress, but also undermines firms' ability to innovate and achieve superior performance, especially in complex environments (Dezsö and Ross, 2012; Francoeur et al., 2008; Mor Barak et al., 2016).

At the same time, the underrepresentation of women in international assignments (IAs) has been extensively documented. This is true for traditional forms of international work, i.e., long-term, company-initiated assignments (Altman and Shortland, 2008; Hutchings and Michailova, 2014; 2017), but also for more flexible forms of international work, such as short term, project-based, and frequent flyer assignments (Mäkelä, et al., 2015; Puchmüller and Fischlmayr, 2017), although for self-initiated expatriation (Andresen et al., 2015) women are more evenly represented (Vance and McNulty, 2014). Women expatriates are highly underrepresented across all industries (Santa Fé Relocation, 2019), including the masculine sectors of oil and gas where fewer than 15 % of the expatriates are female (Shortland and Porter, 2020). Although there has been an increasing level of interest in analyzing the reasons why women are not appointed to IAs (for reviews see Altman and Shortland, 2008; Hutchings and Michailova, 2017; Salamin and Hanappi, 2014; Shortland, 2014a; 2014b), very little attention has been paid to its recursive consequences, one of which - as we argue in this paper - is the lack of career advancement for women. One reason for this is that studies generally take a static approach, which documents why women are not internationally assigned, but does not address the medium and long-term systemic consequences of women's underrepresentation.

Ever since research has noted that top managers' international experience is an important condition for a successful internationalization strategy (Maddux et al., 2020; Shortland and Porter, 2020), including firms' ability to innovate (Talke et al., 2010) and achieve superior performance (Dezsö and Ross, 2012; Nielsen and Nielsen, 2013), the resulting international and intercultural skills have become a prerequisite for advancement to higher-level management positions in globalizing firms (Bird and Mendenhall, 2016; Cao, et al., 2012; Tung, 2016; van der Boon, 2003). These skills provide individuals with a better knowledge of other cultures, legal systems, and market risks and reduce the uncertainty associated with international expansion (Hutzschenreuter and Horstkotte, 2013; Hsieh et al., 2019). Having globally competent managers is a strategic asset for companies, i.e., a source of competitive advantage (Felício et al., 2015; Harvey and Novicevic, 2004; Herrmann and Data, 2005, 2006; Hsu et al., 2013; Hutzschenreuter, & Horstkotte, 2013; Li, 2018).

The fastest and most effective way to acquire these skills is to undertake consecutive IAs (Caligiuri et al., 2019; Caligiuri and Tarique, 2012; Insch et al, 2008). Consequently, these experiences have become a key requirement for career progression and have been considered

a springboard to senior appointments, acting as a precursor to top management (Dickmann et al., 2018; Francoeur et al., 2008; Shen and Kram, 2011). Thus, if women are not offered IAs, they will have fewer opportunities to acquire the skills and capabilities required to compete and apply for a top managerial job in today's globalized economy (Caligiuri and Tarique, 2012; Shortland and Perkins, 2016; Shortland and Porter, 2020; Tung, 2004; 2016;). As Insch et al. (2008: 19) noted, the prerequisite of having international experience for advancement to managerial positions signifies the addition of a "*double pane of glass to the still-existing managerial glass ceiling*".

Given the paucity of research on the systemic consequences of women's underrepresentation in IAs, our paper is important both from a theoretical and a practical point of view. As to the former, we introduce a system dynamics approach to study the paucity of women expatriates, highlighting the long-term and recursive consequences of this underrepresentation. System dynamics provides several unique insights (Braun, 2002; Sterman, 2000; 2002; Wolstenholme, 2003) that make the approach very suitable to analyse the recursive consequences of women's underrepresentation in IAs. These insights include understanding that: (i) in complex dynamic systems cause and effect are often separated in time and space ('time delays'); (ii) organizational decisions (e.g. selection for IAs) create their own cycle of feedback; (iii) efforts to solve complex problems (e.g. 'affirmative action') often make them worse through unforeseen consequences that provoke 'policy resistance'; (iv) what we call 'side effects' are just 'unforeseen effects' (e.g. women's underrepresentation in managerial roles) based on a somewhat narrow, event-oriented and reductionist worldview; (v) most processes are not external, but instead, are influenced by people's actions which often enact vicious cycles (Sterman, 2000; 2002).

We use system dynamics to describe the recursive consequences of women's underrepresentation in IAs and to gain insight into the underlying systemic structures (e.g., system archetypes) responsible for the patterns of behavior over time (Braun, 2002; Wolstenholme, 2003). Firstly, we argue that the importance of international experience for top management positions creates a new barrier to women's professional development. Secondly, we contend that when women are denied the opportunity of IAs, they are less likely to acquire international and intercultural skills than men. Consequently, women have less of a chance to be promoted to top management teams. Given that system dynamics can only be averted by systemic actions, we subsequently provide suggestions to interrupt this negative feedback loop for both female professionals and organizations.

The remainder of this article is structured as follows. We start with a review of the literature on women's underrepresentation in IAs, examining the circumstances under which women and men are appointed (or not) to IAs. We then present a conceptual model of the problematic recursive outcomes associated with the scarcity of women expatriates and offer suggestions on how to address this problem. Our system dynamics approach emphasizes that (i) a single action cannot address all problems; (ii) the larger the extent to which supportive practices are implemented, the lower the barriers to women's underrepresentation, and the lower the chances of unintentional negative loops; and (iii) the most effective actions are those that are tackling the fundamental aspects of a problem, in addition to addressing symptomatic aspects. We conclude by discussing the implications for future expatriate research and HR management practice.

Prior research on the women's underrepresentation in IAs

To understand women's underrepresentation in IAs, it is important to first review the concept of gender segregation. Occupational gender segregation pertains to the tendency for men and women to perform different occupations (Blackburn et al., 2002). It includes two distinct dimensions: horizontal segregation, which measures occupational gender differences, and vertical segregation, which refers to the social status and material differences pertaining to gender inequality (Blackburn et al., 2002), including different opportunities for career progression. Overall segregation often blends these dimensions which explains the difficulty of unravelling occupational gender differences. To understand women's underrepresentation in IAs we include elements from both dimensions, such as women and men possibly choosing different managerial occupations (Bolton and Muzio, 2008; Grant Thornton, 2021) in the first place; and men's predominance in top managerial roles in the second place. If we are to understand women's underrepresentation in IAs, we need to understand how the situation developed, how it is reinforced, what the systemic and recursive consequences are, and how to transform the current system dynamics. For our present purposes, we look for answers in existing expatriation research through the lens of systems thinking.

The low proportion of women expatriates (relative to men) has been addressed from a variety of perspectives over the past decades. Since Adler's (1984) seminal work on the underrepresentation of women in IAs, most research has focused on several widely recognized "myths", such as women's reluctance to accept IAs as well as their lower performance once transferred abroad (Adler, 1984; 1987). Systematic literature reviews (e.g. Altman and Shortland, 2008; Hutchings and Michailova, 2017; Salamin and Hanappi, 2014; Shortland, 2014b) have identified some clear trends, such as: (a) the lack of women transferred abroad (Fischlmayr, 2002; Tharenou; 2010; van der Belde et al., 2005); (b) women's alleged lack of interest in expatriation (Fischlmayr, 2002; Shortland, 2009; Stroh et al., 2000; Tharenou, 2010); (c) organizational resistance, including bias in the selection process (Harris, 2001, 2002; Paik and Vance, 2002; Vance and Paik, 2001; Vance et al., 2006; Varma et al., 2006); (d) women's difficulties in balancing personal and professional life (Fischlmayr and Kollinger, 2010; Fischlmayr and Puchmüller, 2016; Mäkelä et al., 2015; 2017; Tharenou, 2008); and (e) gender stereotypes including host country prejudices against women expatriates (Bader et al., 2018; Hutchings et al., 2013; Stroh et al., 2000; Tung, 2004).

The literature on women expatriates has expanded in recent years to also include new forms of international work (Shortland, 2020; 2021), as well as women working in non-corporate institutions and performing specific professional roles. For example, work and family conflict has been explored among female non-traditional assignees (Fischlmayr and Puchmüller, 2016; Mäkelä et al., 2015; Puchmüller and Fischlmayr, 2017), while specific barriers for women have been studied among militaries (Fisher et al., 2015), diplomats (Davoine et al., 2013), sports professionals, religious functionaries, academics, and in non-profit organizations (McNulty et al., 2017a). Furthermore, some studies focused on the barriers for lesbian, transsexual, and bisexual women expatriates (McNulty et al., 2017b; McPhail et al., 2016; McPhail and Fisher, 2015). However, the common conclusion in all studies was that women are underrepresented in international assignments.

So far, the literature has provided compelling evidence that the lack of women expatriates is not related to their ineffectiveness on IAs, but rather to an interplay of individual and institutional factors that involve the circumstances of the international work itself. It has been

suggested that hostile cultural environments may be a major problem for the effectiveness of women expatriates, since the prejudices they might face could lead to discrimination and lower performance (i.e., Bader et al., 2018; Shortland, 2018; van der Boon, 2003). However, prior research has yielded conflicting evidence on this. Whilst some studies have indicated that females suffer from disadvantages abroad (i.e., Stalker and Mavin, 2011; Traavik and Richardson, 2010), others found that women expatriates perform well regardless of their country of origin and the country of assignment. Success for women expatriates has been reported for a wide range of countries, such as the USA (Caligiuri and Tung, 1999), Europe (Bastida, 2018; Linehan and Scullion, 2004b; van der Boon, 2003), China (Shen and Jiang, 2015); Japan, and South-Africa (Napier and Taylor, 2002 and Mathur-Helm, 2002 respectively), as well as highly masculine cultures such as Turkey or India (Sinangil and Ones 2003; Varma et al., 2006). Moreover, it has been suggested that women expatriates may be even better positioned than men to handle an expatriate assignment because of their superior communication and social skills, their team building abilities, and a relational leadership style that seems to be well suited to the international context (Shortland and Altman, 2011; Selmer and Leung, 2003b; van der Boon, 2003). Then, why are women still underrepresented in IAs?

Diagnosing the problem:
a systemic view of women's underrepresentation in IAs

The complexity and volatility of present-day organizational life has increased the need to draw on specialized knowledge and make rapid decisions. Therefore, organizational problems are typically broken into smaller parts for analysis. Consequently, systemic perspectives are often ignored, leading to a disregard of how actions are ongoing, interact and affect other actions, often in a counter-intuitive way, frequently leading to policy resistance (Sterman, 2002). Individuals thus underestimate the complexity of many situations and offer simple solutions to complex problems, ignoring non-linear and time delayed effects. Hence, a sequence of seemingly rational, but sub-optimal, decisions can produce unexpected and undesirable consequences (Sterman, 2000; 2002). The system dynamics approach (Forrester, 1971; Sterman, 2000, 2001) is useful to model and understand the dynamic behavior of complex systems. This approach recognizes that the system's behavior is determined by its structure and the relationships among its components. Through this approach, one can depict the relationships between variables, focus on their interactions and anticipate the varying impact of specific decisions and actions undertaken.

At the first stage of a system's design, the system elements and their interdependencies are shown in a causal loop diagram (Sterman, 2001). Such a diagram denotes whether elements affect each other positively or negatively, depending on whether they vary in the same direction (e.g., increase-increase) or in the opposite direction (e.g., increase-decrease). The set of elements of a system, together with their relationships, aims to capture a global view of specific situations by designing archetypes, which capture the essence of "thinking" in systems thinking (Wolstenholme, 2004). These diagrams are valuable to make explicit the understanding of a system's structure by providing a visual representation of the complex problem under analysis. At a second stage, it is possible to trace the long-term effects of the causal loops based on the relationships between the elements. This depicts a system archetype, namely a graphical representation that seems to recur in a particular setting. These archetypes consist of several combinations of causal loops (Wolstenholme, 2004).

While system dynamics is a powerful tool to help understand complex problems, it also has its drawbacks (Braun, 2002; Wolstenholme, 2003; 2004). Models emphasize a collective level of analysis (which may overlook individual characteristics) and are unable to suggest which specific actions may influence the behaviors described in the model. However, this approach can identify potential turning points that can prevent vicious and/or inadvertent negative loops. By applying system dynamics, women's underrepresentation in IAs can be depicted as a complex system of loops with recursive effects, which highlights why and how women remain underrepresented in IAs and in top management teams.

As discussed above, there is extensive research confirming that women are at least as successful as men on IAs. Hence, the problem of women's underrepresentation is not one of effectiveness, but instead appears to be one of occupational gender segregation (Blackburn et al., 2002) and managerial reluctance to send women overseas. Past research shows that gender segregation varies horizontally across higher education (e.g., Charles and Bradley, 2002), industries (Blackburn et al., 2002) and occupations (e.g., Bolton and Muzio, 2008), and vertically as significant gender gaps persist in income and status (Blackburn et al., 2002). On the whole, and especially for more developed countries, horizontal segregation is larger than vertical segregation, but both are important, to such a degree that Blackburn et al., (2002, p. 531) claimed that "segregation is best understood through the examination of social reproduction and changing gender relations".

In the international context, many organizations have informal selection processes for IAs in which senior colleagues recommend appropriate candidates (Harris and Brewster, 1999, Hutchings et al., 2008). As senior managers are most likely to be male, the similarity-attraction-paradigm (Byrne, 1971) and sex-role stereotyping (Ellemers, 2018) will lead to men being favoured in expatriate selection processes. Since decision-makers evaluate those who are like them more positively (Byrne, 1971) and women typically occupy lower-level positions in the organizational hierarchy (Bolton and Muzio, 2008), women are more likely to have male superiors who will judge them as less suited for IAs (Paik and Vance, 2002; Tharenou, 2010; Varma et al., 2006).

As for sex-role stereotyping, the "masculine nature" of IAs has been well documented (Bader et al., 2018; Fischlmayr and Puchmüller, 2016; Fraga et al., 2020; Harris, 2002; Koveshnikov et al., 2019; Vance et al., 2006), being even more evident in male-dominated industries such as mining (Shortland, 2009) or oil and gas (Shortland and Porter, 2020). The rejection of women expatriates by foreign employees has been implicitly assumed (Vance and Paik, 2001), so gender stereotypes result in selection biases, based on the assumption that women are less willing to take on IAs or must be denied IAs because of concerns for safety or loneliness (Harris 2001, 2002; Hutchings et al., 2012; Insch et al., 2008; Paik and Vance, 2002; Tharenou 2010; Vance and Paik, 2001; Varma et al., 2006).

A key reason for women's underrepresentation in IAs might thus be that male managers are more willing to send male employees on IAs, due both to the similarity-attraction-paradigm and to the general belief that gender roles may impact the ability of women expatriates to be effective overseas (Connerly et al., 2008; Guthrie et al. 2003; Selmer and Leung, 2002). Figure 1 depicts the subsequent dynamics that can be expected from women's underrepresentation in IAs namely (a) a scarcity loop, and (b) a network absence loop. Additionally, both dynamics are self-reinforcing and cause a third effect, (c) an organizational resistance loop.

Insert Figure 1 about here

(a) The Scarcity Loop

The phenomenon of women's underrepresentation in IAs conveys both horizontal and vertical segregation. Horizontal segregation because IAs are assumed to be less attractive to women, and vertical segregation because when women are willing to go abroad, they are less likely to be appointed. When women are denied IAs, they have fewer opportunities to acquire the international and intercultural skills that are essential to gain access to the senior management level of companies seeking international expansion (Bird and Mendenhall, 2016; Cao et al., 2012). In turn, the absence of these skills reduces women's opportunities to be assigned abroad (Kraimer, et al., 2016; Shortland and Porter, 2020).

Figure 1 presents this scarcity loop (R1), which is self-reinforcing given the strong inter-relationships between its variables. As the number of women expatriates decreases, so do the opportunities for women to gain international and intercultural skills, which in turn will confirm that women have fewer capabilities, making them less suitable to be assigned abroad. Thus, the lower the number of women in IAs, the lower the number of women that will be selected for other IAs.

(b) The Network Absence Loop

A second consequence of the scarcity of women expatriates is their lower access to networking and the lower number of women available as a mentor or role model for a successful overseas experience. These are major obstacles that women face in opting for international careers (Linehan, 2001; 2004a Linehan and Scullion, 2004b; Selmer and Leung, 2002; 2003a).

As previously argued, access to closed and informal mechanisms of selection is important to be selected for IAs. Participation in formal and informal networks is thus crucial and mentors enhance the introduction into such networks (Harris and Brewster, 1999; Hutchings et al., 2008; Linehan, 2001; Selmer and Leung, 2003a). Indeed, previous research has reported that mentoring arrangements are less available to women, even though they are more important for them than for their male counterparts (Hutchings et al., 2012; Linehan and Scullion, 2004a; Selmer and Leung, 2003a; Shortland, 2011).

Consequently, the lack of successful women expatriate role models might affect women's perception of their access to IAs and their self-confidence with respect to successful performance as an expatriate (BarNir et al., 2011). This lack of confidence in their chances of success may undermine their desire to apply for these positions, thus reducing the number of female candidates for IAs. Women's desire to compete for expatriate positions might also be jeopardized by the conviction that the organization will not provide these opportunities and/or by the absence of dual-career support to facilitate suitable employment for their partners (Smith, 2020).

Consequently, it is to be expected that women look for opportunities to acquire international and intercultural skills elsewhere. In other words, the dearth of women in IAs can ultimately lead women to leave the organization (Insch et al., 2008). Indeed, it has been documented that women pursue alternative forms of global work (e.g., self-initiated expatriation)

to overcome the barriers they face in attaining corporate assignments (Hutchings et al., 2012; Myers and Pringle, 2005; Tharenou, 2010; Vance and McNulty, 2014).

Figure 1 presents this Network Absence Loop (R2): the lower the presence of women in IAs, the lower the chances for networking and the lower the number of female mentors and role models. The combination of these factors results in a perception that women are less likely to be successful in other countries. From this point forward two outcomes are expected: (i) women might see themselves as ineffective in IAs, and thus might opt out of the competition for a post abroad (R2a); (ii) women might see IAs as unattainable, and thus leave the organization to benefit from another form of international experience (R2b). Both outcomes prompt the same effect, namely a decrease in the total number of female candidates to be assigned abroad. Once again, this is a self-reinforcing loop, since the lower the number of female candidates, the lower the number of women in IAs, so the Network Absence Loop reignites itself.

(c) The Organizational Resistance Loop

The third dynamic considers the combined effect of the aforementioned similarity-attraction-paradigm (Byrne, 1971) and the similar-to-me bias (Connerly et al., 2008). As argued, traditional top management structures are mainly dominated by men, who feel more comfortable and more engaged with members of their own group and, according to the similar-to-me bias, evaluate more positively those like themselves (Connerly et al., 2008; Vance et al., 2006). Thus, when selecting new members for IAs a man is more likely to be selected due to intra-group decision-making dynamics (Ryan et al., 2007). This problem is often exacerbated by gender stereotypes in that people think that a successful expatriation requires highly masculine behaviors (Koveshnikov et al., 2019). Thus, all this combined with a lower number of female candidates ignites an organizational resistance loop (Figure 1, loop R3) that will reduce the number of women in IAs.

Additionally, a low number of female candidates (i.e., horizontal segregation) may lead to low confidence in their capabilities to manage an international subsidiary. Selmer and Leung (2003c) argued that traditional views and gender stereotyping may result in a 'self-fulfilling prophecy' in that qualified female candidates develop negative expectations towards the probability of being selected for IAs. Consequently, they are unlikely to actively seek corporate expatriate assignments. This may strengthen strongly masculinized organizational cultures (Insch et al., 2008), where gender stereotypes and beliefs that keep women out of IAs – such as their lack of interest and/or higher inefficiency – are reproduced. In other words, the Organizational Resistance Loop (R3) is also a self-reinforcing one.

In sum, drawing upon a system dynamic view it is possible to put forward a conceptual model of women's underrepresentation in IAs resulting from multiple and often distant, both in time and in space, forces influencing the number of women expatriates. Ultimately, these dynamics lead to a low representation of women at the top management level of international firms. Underlying these negative dynamics are strongly held collective beliefs about the problems associated with sending women on IAs (Bendl and Schmidt, 2010; Harris and Brewster, 1999; Hutchings, et al., 2012; Tharenou 2010; Vance and McNulty, 2014). Based on this prejudice, women are then denied IAs, which sets a new barrier in their access to senior management positions (Insch et al., 2008). Lower opportunities to acquire international and

intercultural skills will thus, in turn, decrease the number of women with the capabilities required for a top managerial role (Francoeur et al., 2008).

Addressing the problem:
Turning system dynamics into a virtuous loop

System dynamics can also be applied as a creative process in which new insights are gained and structured in a coherent framework, thus providing solutions that prevent undesirable outcomes. From a theoretical point of view, system archetypes highlight two ways of facing a problem (Braun, 2002). The first is focused on the symptoms of the problem and is easier to formulate, requires fewer resources, and produces immediate satisfaction. The second tries to provide a more fundamental solution through actions that need deep understanding, time, resources, and do not offer immediate results (Braun, 2002). In our model, the challenge is how to design actions capable of interrupting the causal loops that sustain women's underrepresentation in IAs and hence in management boards.

The first solution refers to addressing the symptom that is the scarcity of women in IAs. For that, and to tackle both the horizontal occupational segregation observed in most industries and the alleged managerial biases in the selection process of expatriates, we advise the implementation of affirmative action. This means that if there are several qualified candidates in a selection process, the decision will be taken in favour of women. In recent years, companies have implemented affirmative action measures to correct gender imbalances in some jobs, generally in response to legal requirements and social pressures (Moscoso et al., 2010). As for IAs, a first question is whether companies would be willing to implement such measures. The alleged reasons for not sending women abroad - such as safety risks, probable rejection by host country nationals, and/or additional family hurdles - are often seen as "objective reasons" for not implementing affirmative action, so it is debatable whether affirmative action measures will take place in practice.

However, even if companies do apply affirmative action, they may not experience the expected result. Indeed, policies aimed at promoting equality through affirmative action often result in negative attitudes among men in senior positions (i.e., policy resistance), which in turn may increase prejudices against women (Moscoso et al., 2010). In fact, a recent study by Foley and Williamson (2018) found that affirmative action is seen by some as an unacceptable violation of merit. Taking this point further, Täuber (2019:1720) argued that affirmative action might in fact reinforce preferential treatment of male employees as a "morally justifiable attempt to correct a system that unfairly favours female employees". This negative attitude may also hamper cooperation between male and female employees, for example by males withholding resources and information from women (Moughalian and Täuber, 2020), resulting in decreased productivity and a lower performance evaluation for women expatriates. In turn, this will reduce the likelihood of continued implementation of affirmative action.

In sum, in addition to creating potential negative perceptions towards women expatriates, affirmative action might not improve women's underrepresentation in IAs. Thus, the loop that sustains women's underrepresentation within top management teams is maintained. Figure 2 shows this loop of resistance-to-change (S1). When companies implement affirmative action, disapproval may arise on the part of those who are not favoured by such measures (most likely men). This disapproval, in turn, may lead to acts of resistance, such as

decreased willingness to collaborate with women who benefit from affirmative action. This reduced collaboration, or even worse, actions bordering on sabotage, could lead to a decline in women's performance. If this is the case, women will again be at a disadvantage in case of promotion, and more affirmative action will be needed to find a balance. Consequently, the loop starts all over again. Ultimately, the increasing need to implement affirmative action to get women into certain positions is likely to increase the perception of their reduced effectiveness, which will further encourage organizational resistance.

Insert Figure 2 about here

The second systemic solution resides in a change that allows the resolution of fundamental aspects of the problem, in addition to addressing symptomatic aspects. This solution involves organizations developing systems and policies to support women expatriates' cross-cultural success (France et al., 2019). In this context, women aspiring to IAs can feel reassured that organizational career management policies will support their attempts to access those assignments, i.e., women need to feel that they "count" in the career development plans of their organizations in the same way as men do. This means that companies might deploy organizational support to encourage positive behaviors that would benefit female presence in IAs, which in turn, increases women's options for reaching top management levels in the long run (David et al., 2019). Some organizational support practices that have been tested for their effectiveness (Schoen and Rost, 2021; Shortland and Porter, 2020; Smith, 2020) include: (1) job training and specific development programs preparing women for IAs, and then managerial roles; (2) dual-career support to women and partners who go on IAs; (3) networking and mentoring programs for women; and (4) family-friendly practices (such as provisions for childcare, regulations to avoid late-evening meetings) and senior management's commitment to implement these practices. For example, Shortland & Porter (2020) showed that both male and female assignees require specific knowledge and skills ahead of the assignment to perform. However, women assignees viewed the technical job-training available within their current roles as insufficient or irrelevant for future expatriate posts. Managerial training (once offered) was considered potentially appropriate but was generally absent. Therefore, the quest is the provision of pre-assignment training and relevant on the job training delivered within an expatriate position at similar or higher grades to build women's human capital. These supporting measures could turn the Network-Absence loop into a Virtuous-Supporting Loop, as is shown in Figure 2 (S2a).

This solution implies that the negative trend will only be reversed when the expectations of top-level managers change (S2b), especially regarding the ability of women employees to face the challenge of excelling abroad. Then, the negative organizational dynamic will instead become positive, thus increasing the presence of women in IAs (S2c) and providing them with the opportunities to acquire the skills and capabilities critical for their success in a managerial career (S2d). This positive trend starts when organizations provide women support (S2a) with access to general job training and specific training and development programs ahead of the IA (Shortland and Porter, 2020), which will increase the number of women prepared to go abroad. The provision of dual-career support (Smith, 2020) and the encouragement of women to network and act as mentors and role models will also increase

women's success in IAs. Finally, managers' commitment to implementing family friendly practices will benefit women's engagement on IAs. As Lyngsie and Foss (2017) observed, as female managers become more common, they are no longer seen as a challenge by the dominant group. This will reduce negative out-group bias based on gender and facilitates women's professional development.

Organizational support measures might enhance both the perceptions of women's success abroad and their willingness to relocate (S2b), thus increasing the number of female candidates to be assigned overseas (Shortland and Perkins, 2019). The larger the number of potential female assignees, the larger the pool for selection (S2c). Once companies become conscious that females can succeed abroad, selection biases are likely to be reduced. Moreover, women will perceive they have real opportunities to embark on a global career within their organizations, so they will be less likely to seek out opportunities to acquire international experience elsewhere (S2b). Taken together, these dynamics increase the number of female candidates for IAs (S2c). In turn, the higher the number of women expatriates, the higher the number of women available as mentors and role models for other women, ultimately leading to more women having the required skills to be appointed to managerial boards (Harvey et al., 2017). In a recent study among Brazilian women expatriates (Fraga et al., 2020:205) participants stressed that "they were pioneers in expatriation, and only because of them the doors were opened for the others". Consequently, the virtuous loop would be reignited (S2d).

Discussion and implications

Half a century of research into the glass ceiling effect confirms that it is a pervasive phenomenon and a significant challenge for women's professional development and career progression. This paper introduced a hitherto ignored barrier to gender equality in senior management, namely women's underrepresentation in IAs. Although the lack of women expatriates is well-known, and its causes have received substantial research attention, its recursive consequences in the form of a lack of access to the managerial suite are much less understood. We therefore set out to analyse the underrepresentation of women in IAs using a system dynamics approach. In doing so, we also answered recent calls for a better understanding of how organizations can best support women expatriates and facilitate their career success (Caligiuri and Bonache, 2016; Kraimer et al., 2016).

We conclude that the absence of women in IAs appears to be caused by prevailing assumptions in their employing organizations. Within these organizations there are strong preconceptions about women and their role as expatriates. For example, headquarter managers are often doubtful about the ability of women expatriates to succeed abroad. Likewise, although most male colleagues agree that female employees qualify for career development, many assume they are not well-suited for an IA. (e.g., Paik and Vance, 2002; Selmer and Leung, 2002). Empirical research, however, has consistently contradicted these assumptions, showing that women expatriates are as successful as male expatriates or are even better positioned to handle an expatriate assignment (i.e., Altman and Shortland, 2008; Linehan and Scullion, 2004; Selmer and Leung, 2003b; Shen and Jiang, 2015; Tung, 2004). If performance is not the problem, then selection processes might well be crucial in explaining why women are underrepresented in IAs. Indeed, seminal articles in this field (i.e., Bendl and Schmidt, 2010; Hutchings, et al., 2012; Tharenou 2010) have stressed the critical role of managerial biases in these processes.

In our paper we proposed two routes to interrupt the causal loops that sustain women's underrepresentation in IAs and hence in top management boards. One is fast and "easy"; the other is more complex, but also more sustainable. The first alternative refers to affirmative action plans, in that positive steps are taken to increase the representation of women in IAs. However, recent studies argue that these actions can do 'more harm than good' (Folley and Williamson, 2019; Moughalian and Täuber, 2020). We caution, accordingly, that this alternative can be counterproductive and may reinforce negative perceptions about the effectiveness of women. Affirmative action may thus be unable to defeat managerial and corporate reluctance, especially when it increases gender competition instead of cooperation. Future research could expand this debate by examining how much affirmative action is "enough" to create a turning point? For example, is it possible to implement affirmative action practices that are not hindered by negative feedback? Is it possible to raise awareness among employees of the need for such actions beyond legal requirements?

The second route points to the central role of organizational support actions, such as improving women's access to job-training, providing dual-career support, and implementing family-friendly practices, making successful women expatriates more visible and providing them with networking programs (Schoen and Rost, 2021; Shortland and Porter, 2020; Smith, 2020). We develop a dynamic map to capture the positive consequences of these actions, both in the short term and in the long run. In the short term, the availability of female expatriate mentors might result in a positive perception of women's success abroad. This, in turn, can increase the number of female candidates and the likelihood that women will be assigned to IAs. In the long run, women can then acquire the intercultural skills and global capabilities that are critical for their access to senior management levels both in multinationals and in companies seeking international expansion.

Our conceptual model uses a system dynamics approach to highlight the recursive, non-linear, and time delayed consequences of women's underrepresentation in IAs (e.g., system archetypes), as well as the potential turning points that can prevent these vicious loops. This approach has implications both for internationalizing organizations and for women seeking an international career. As to the former, we caution organizations and managers against the perils of persistent gender stereotyping since it harms both organizations and their female employees. The present "war for talent" (Tung, 2016, p. 143) signposts a fundamental strategic concern for the 21st century, in that organizations need to attract and retain key talent. This means that companies must improve their competitive advantage, which can be boosted by creating opportunities for women's careers in the global economy. As noted, when women see IAs as unavailable or unreachable they seek international opportunities outside the company. Thus, women's underrepresentation in IAs increases the risk of wasting women's talent, either because qualified women lack access to career development or because they withdraw from the organization when they realize that, despite their own interest and ability, they are not being considered for IAs. Whenever women have limited access to IAs, they become an untapped resource for companies. Second, "when the more powerful positions in organizations are filled almost exclusively by men, firms' standards for success [are] likely to reflect characteristics stereotypic of men" (Selmer and Leung, 2002, p. 350). Thus, companies will be unable to meet global market demands and sustainable development goals because they lack a diversified pool of female and male expatriates (Varma and Russell, 2016).

The effects on women's own careers are twofold. Firstly, women who have similar skills and abilities to men may not be rewarded to the same degree as men. IAs are usually seen as a career advancement, just as they are often seen as springboards to senior management. If women who are as qualified as their male counterparts are not considered for these promotions, this is likely to lead to feelings of injustice and frustration. Therefore, by increasing the number of women who apply for and engage with IAs (i.e., addressing horizontal segregation), we may be able to contribute to decreasing the gender gap in international professional development (i.e., addressing vertical segregation). Secondly, by increasing organizational support to women, notably to those interested in and capable to go abroad, we contribute to raising their global capabilities and international business knowledge, making women more promotable to top management roles.

We do not claim that our arguments are entirely new. The barriers for women that we discuss are well-known in the gender and diversity literature, as is the role of organizational support and mentoring to address some of these problems. For instance, previous research has highlighted the absence of mentors as a major obstacle for women to be assigned abroad (Hutchings et al., 2010; Linehan, 2001; Linehan and Scullion, 2004b; Selmer and Leung, 2002; 2003a; Shortland, 2011). However, the key contribution of our model is to draw out the systemic and recursive root causes of women's underrepresentation in IAs. We argued that the lack of action to counteract this phenomenon causes its own reinforcement, which in turn undermines women's career progression and firms' international capabilities.

There are several avenues for further research that could be advanced by adopting a system dynamics approach, such as examining (i) how effective are other organizational support practices (e.g., diversity and inclusion measures) at increasing women's participation in IAs, with an emphasis on those that may have the largest synergy with other supportive actions; (ii) how the organizational climate can frame these actions; (iii) which mentoring opportunities are more effective; (iv) how diversity management and inclusion practices can be systematically transferred to subsidiaries. Another overarching issue that needs to be addressed by future research is the impact that cultural and social variables have on women's underrepresentation, such as how the broad social and legal systems can facilitate (or hinder) change.

Other opportunities for future research include the study of family-friendly practices in unique cases, such as women expatriates who give birth while abroad, or who are single mothers going abroad, and/or who are the sole breadwinner of the family. The use of this approach can also help depict the causal loops that might explain women's underrepresentation in "male" industries (such as mining, oil, and gas) including other recursive effects that may be specific to these industries.

Finally, it should be noted that a system dynamics approach deemphasizes individual behaviors, including women's agency. Future research examining women's underrepresentation abroad could combine our high-level system dynamics lens with a finer-grained approach to expand our knowledge not just of the importance of individual agency, but also of the personal consequences of women's underrepresentation in IAs, such as its impact on their engagement, job satisfaction and professional identity.

Conclusion

A company that excludes women from IAs is reducing its pool of global skilled candidates. Since today's globalized context has turned global talent into a strategic asset, companies that reduce their chances of developing this talent are ultimately limiting their options for exploiting competitive advantage. In this context, our paper offers a system dynamics perspective of women's underrepresentation in IAs, including its recursive consequences for women's underrepresentation in the top management teams. Our model consists of a set of recursive and self-reinforcing relationships that have sufficient strength to ensure this problem persists over time.

This approach adds to our existing knowledge through (i) a systemic explanation of the recursive reasons *why* women are underrepresented in IAs; (ii) showing *how* this outcome ignites a self-reinforcing loop that maintains this underrepresentation; and (iii) explaining *why* women end-up being underrepresented in the top management. Our system dynamics approach further stresses the potential turning points for transforming the negative resistance loops into virtuous loops that can increase both women's presence in IAs and their representation in senior management. The measures we discuss are simple and cost-efficient, provided they are accompanied by a change in organizational mindset. The persistent managerial reluctance to send women abroad decreases gender diversity both in IAs and in top-management teams, which in turn reinforces gender stereotypes and ignites a vicious cycle. Instead, increasing the number of women expatriates through women's recruitment, selection, and preparation for IAs, improving women's access to job-training, as well as supporting their postings abroad through specific training, dual-career support, and family friendly practices, are key measures to overcome this problem. Furthermore, these changes reinforce each other, as any minor change can ignite a self-reinforcing cycle leading to much bigger effects. By doing so, companies send a positive message to qualified women that they can access global careers and gain benefit from them, both for themselves and for their employing firms.

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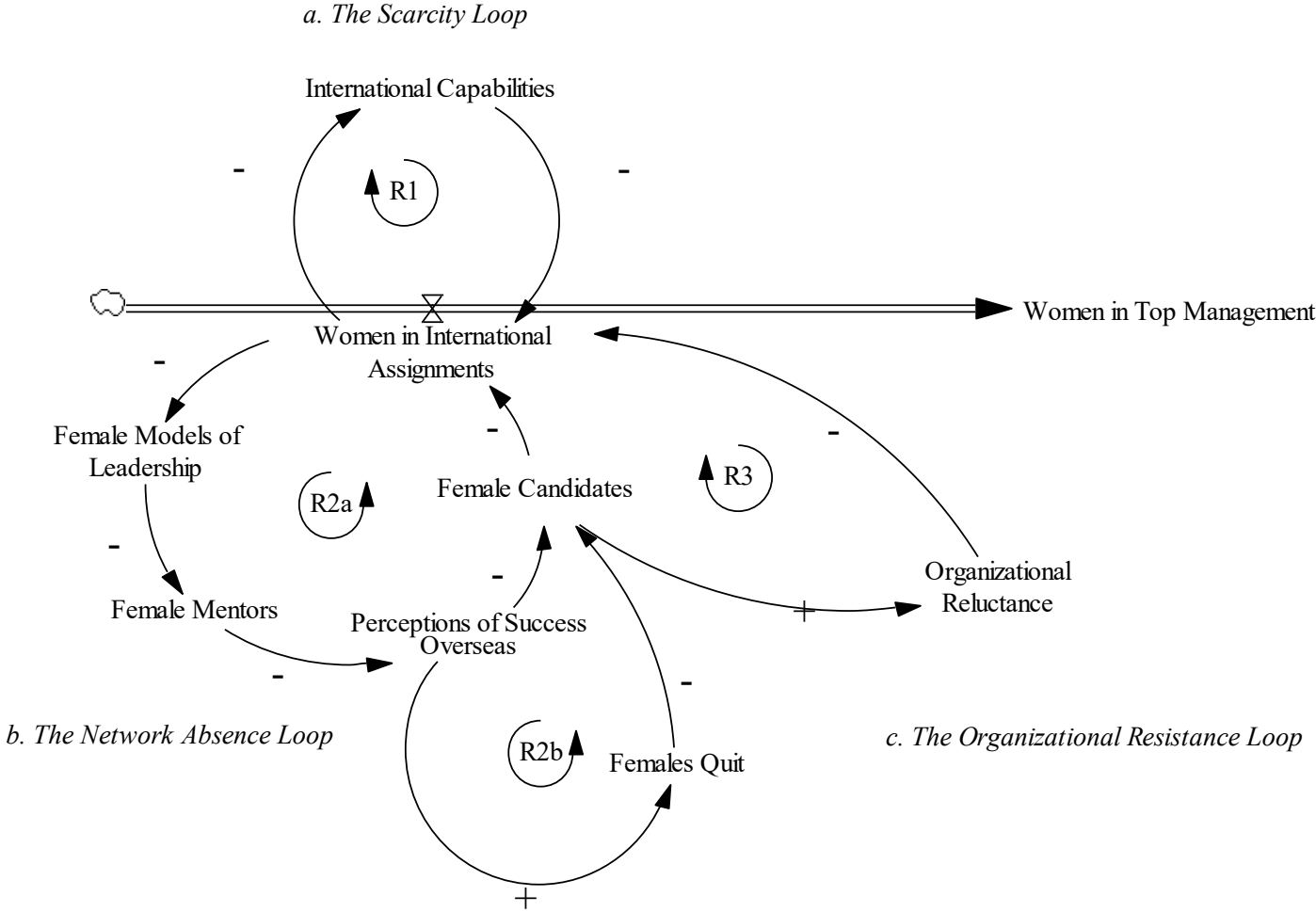Hutchings, K., Lirio, P., & Metcalfe, B. D. (2012). Gender, globalisation, and development: A re-

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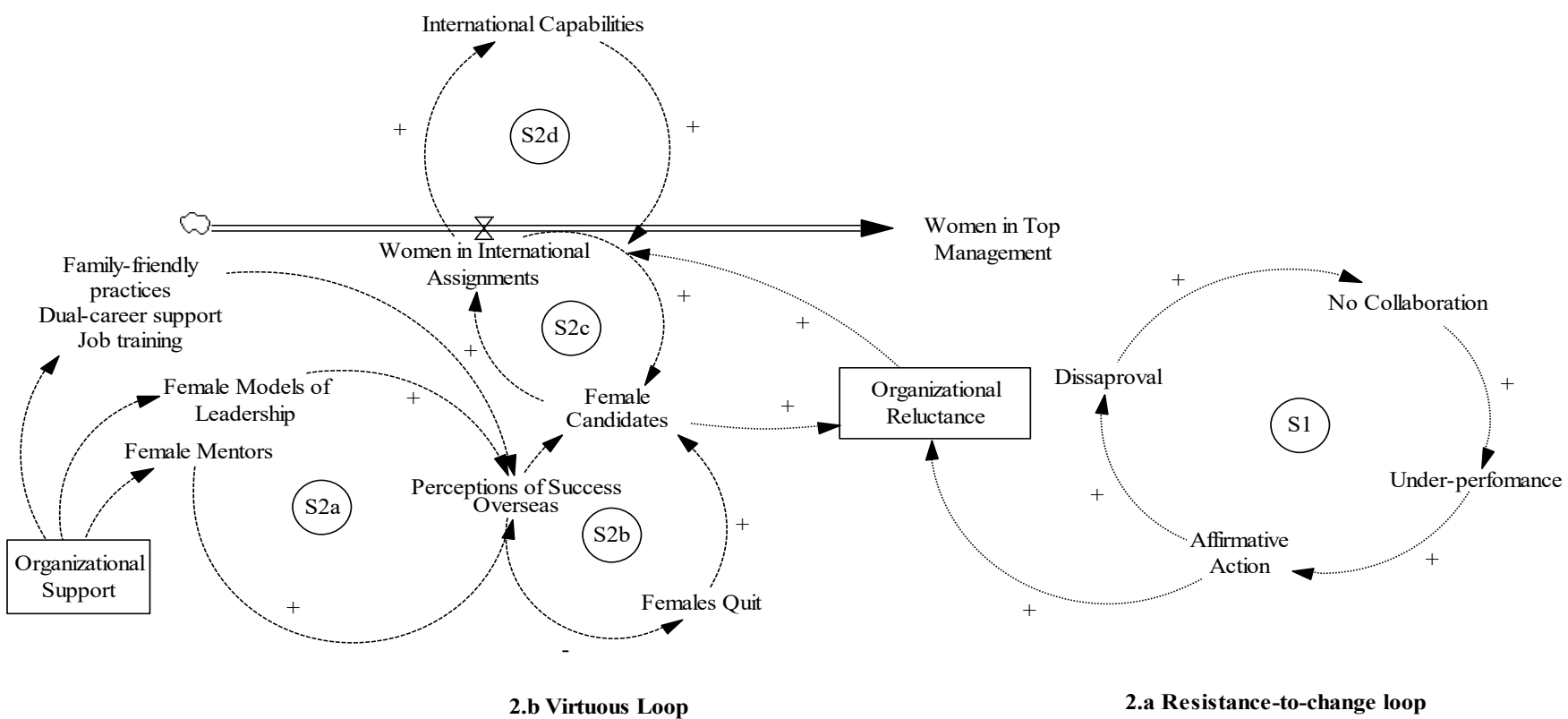
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Figure 1. The Cascading-Effect Archetype

a. The Scarcity Loop

International Capabilities

R1

Women in Top Management

Women in International Assignments

Female Models of Leadership

R2a

Female Candidates

R3

Female Mentors

Organizational Reluctance

Perceptions of Success Overseas

R2b

Females Quit

b. The Network Absence Loop

c. The Organizational Resistance Loop

Note. In the loops, R denotes reasons.

Figure 2. Fostering change in organizations

International Capabilities

S2d

Women in Top Management

Family-friendly practices
Dual-career support
Job training

Women in International Assignments

S2c

No Collaboration

Female Models of Leadership

Female Candidates

Organizational Reluctance

Dissaproval

S1

Female Mentors

Under-perfomance

S2a

Perceptions of Success Overseas

S2b

Organizational Support

Affirmative Action

Females Quit

2.b Virtuous Loop

2.a Resistance-to-change loop

Note. Turning points are identified by rectangles. In the loops, S denotes solutions.