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GENDERING DYNAMIC CAPABILITIES IN MICRO FIRMS

Gênero e capacidades dinâmicas em microempresas

Género y capacidades dinámicas en microempresas

ABSTRACT

Gender issues are well-researched in the general management literature, particular in studies on new ventures. Unfortunately, gender issues have been largely ignored in the dynamic capabilities literature. We address this gap by analyzing the effects of gender diversity on dynamic capabilities among micro firms. We consider the gender of managers and personnel in 124 Ukrainian tourism micro firms. We examine how a manager's gender affects the firm's sensing capacities and investigate how it moderates team gender diversity's impact on sensing capacities. We also investigate how personnel composition impacts seizing and reconfiguration capacities. We find that female managers have several shortcomings concerning a firm's sensing capacity but that personnel gender diversity increases this capacity. Team gender diversity has positive effects on a firm's seizing and reconfiguration abilities. Our study advances research on gender diversity and its impact on firm capabilities and illustrates its relevance for staffing practices in micro firms.

KEYWORDS | Dynamic capability, gender, diversity, micro firms, tourism.

RESUMO

As questões de gênero são bem pesquisadas na literatura de administração em geral, especialmente em estudos sobre novos empreendimentos. Infelizmente, as questões de gênero têm sido largamente ignoradas na literatura sobre capacidades dinâmicas. Visando a lidar com este hiato, analisamos os efeitos da diversidade de gênero sobre capacidades dinâmicas entre microempresas. Consideramos o gênero de gerentes e funcionários em 124 microempresas ucranianas do setor de turismo. Examinamos como o gênero de um gerente afeta as capacidades de detecção da empresa. Também investigamos como a composição do quadro de funcionários afeta as capacidades de apreensão e reconfiguração. Concluímos que gerentes mulheres têm várias deficiências relacionadas à capacidade de detecção da empresa, mas que a diversidade de gênero dos funcionários aumenta esta capacidade. A diversidade de gênero nas equipes tem um efeito positivo sobre as capacidades de apreensão e reconfiguração da empresa. Nosso estudo contribui para o avanço da pesquisa sobre a diversidade de gênero e seu impacto sobre as capacidades da empresa, e ilustra sua relevância para práticas de contratação em microempresas.

PALAVRAS-CHAVE | Capacidade dinâmica, gênero, diversidade, microempresas, turismo.

RESUMEN

Los temas de género son bien investigados en la literatura general de gestión, particular en estudios sobre nuevos emprendimientos. Desafortunadamente, los temas de género han sido ampliamente ignorados en la literatura sobre capacidades dinámicas. Tratamos esta brecha analizando los efectos de la diversidad de género sobre capacidades dinámicas entre microempresas. Consideramos el género de gerentes y personal en 124 microempresas ucranianas de turismo. Analizamos cómo el género del gerente afecta las capacidades sensoriales de la empresa e investigamos cómo modera el impacto de la diversidad de género de equipo sobre las capacidades sensoriales. También investigamos cómo la composición del personal tiene impacto en las capacidades de aprovechamiento y reconfiguración. Descubrimos que las gerentes tienen varias deficiencias con relación a la capacidad sensorial de la empresa, pero que la diversidad de género del personal aumenta esta capacidad. La diversidad de género del equipo tiene efectos positivos en las habilidades de aprovechamiento y reconfiguración de la empresa. Nuestro estudio anticipa investigación sobre diversidad de géneros y su impacto en las capacidades de la compañía, e ilustra su relevancia para prácticas de personal.

PALABRAS CLAVE | Capacidad dinámica, género, diversidad, microempresas, turismo.

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INTRODUCTION

Dynamic capabilities aim at matching and creating market change (Eisenhardt & Martin, 2000) and require environmental dynamics that can be treated as routines (Winter, 2003). When these are seen as a fixed response to certain environmental stimuli (March & Simon, 1958), dynamic routines (as conceptualized by Winter, 2003) or dynamic capabilities (as conceptualized by Teece, 2007) are responses to environmental dynamics. Dynamic capabilities are conceptualized in different ways: building upon capacities for sensing and shaping opportunities and threats, seizing an opportunity, and maintaining reconfiguration (Teece, 2007); propensities to sense opportunities and threats, making timely and market-oriented decisions, changing a firm's resource base (Barreto, 2010); capacities for strategic sense-making, timely decision-making, and change implementation (Li & Liu, 2014); or of sensing, seizing, and reconfiguring capacities (Wilden, Gudergan, Nielsen, & Lings, 2013).

The research stream on dynamic capabilities initiated by Teece and his followers stresses the role of organizational capabilities. Alternative streams stress the role of routines (e.g., Winter, 2003; Pentland, Feldman, Becker, & Liu, 2012), heuristics or simple rules (Eisenhardt & Martin, 2000), or managers (e.g., Sirmon & Hitt, 2009; Zott & Huy, 2012). The latter stream has led to the formulation of dynamic managerial capabilities, a sub-concept of dynamic capabilities. Introduced by Adner and Helfat (2003), the dynamic managerial capabilities concept focuses on managers' resource-related decisions (Sirmon & Hitt 2009) involving the activities of sensing, seizing, and reconfiguring, underpinned by managerial cognitive capabilities (Helfat & Peteraf, 2015). Adner and Helfat (2003) recognized that managers might have dynamic managerial capabilities with which they build, integrate, reconfigure, and reposition organizational resources and capabilities to obtain certain goals. They observed that these capabilities depend on managerial cognition and showed that, within a single industry where managers are facing similar external challenges, corporate effects associated with corporate-level managerial decisions are statistically significant. However, the cognitive underpinnings of dynamic capabilities and dynamic managerial capabilities that would help explain why some top managers have more capabilities than others in responding to the demands of an evolving environment have been largely unexplored (Eggers & Kaplan, 2013).

Apart from cognitive underpinning, several other related predictors of dynamic capabilities remain undiscovered. Gender diversity in teams is one of these variables. In her recent work, Kämmerer (2015) stressed the role of gender diversity in relation to dynamic capabilities. Peteraf and Helfat (2015) provide a list of

cognitive underpinnings for a dynamic (managerial) capability, in which most of the proposed concepts can be directly connected to gender and gender diversity. In this work, we provide empirical evidence of the importance of team gender diversity for the dynamic capabilities of micro firms.

The rest of this study is organized as follows: In the next section, we introduce theoretical arguments on gender diversity in teams and manager gender in relation to dynamic capabilities; we also develop a theoretical model and propose a set of hypotheses. Next, we describe our methodology, explain how the hypothesized relationships can be approached, and propose a relevant sample; we also introduce the study's measurement method, variables, and reliability and validity tests for our measurement. In the third section, we provide the results of statistical tests supporting or rejecting our hypotheses. We then describe the limitations of our study. Finally, we discuss the role of team gender diversity in the dynamic capabilities of micro firms, propose possibilities for future research, and conclude the study.

THEORETICAL BACKGROUND

Dynamic capabilities and their underpinnings

Strategic management has a long tradition of studying top management (Hambrick & Mason 1984). Introduced in 1994 by Teece and Pisano, the dynamic capabilities concept became one of the most popular and important topics in the field of strategic management. Although still in its infancy and needing further conceptualization (Di Stefano, Peteraf, & Verona, 2014), dynamic capabilities serve as an indirect predictor of a firm's success, by reflecting the firm's changing capabilities (Chatterji & Patro, 2014). More recently, the resource-based view highlighted the importance of managerial skills (Castanias & Helfat, 1991; Maritan, 2001). Asset configuration is a central component of dynamic managerial capabilities and resource management (Sirmon & Hitt, 2009); the selection of a specific resource combination may have far-reaching effects on the entire corporate organization (Liebersohn & O'Connor, 1972; O'Connor, 1978; Weiner, 1978; Thomas, 1988; Bowman & Helfat, 1981). The ability to orchestrate assets reflects the importance of integrating resource investment and deployment decisions (Sirmon & Hitt, 2009). Peteraf and et al. (2013) point out that the scholarly discussion on dynamic capabilities has led to two seemingly irreconcilable schools of thought. One is based on Teece et al. (1997) and sees dynamic capabilities as a way to explain the sources of a firm's competitive advantage. The other is rooted in Eisenhardt and Martin (2000) and sees dynamic capabilities as a best practice, both as complex

routines and simple rules. Regardless of whether dynamic capabilities are seen as complex routines or simple rules, they are always defined by the degree of environmental dynamics. Teece initiated a discussion on the microfoundations of dynamic capabilities that attracted many scholars and produced a set of concepts. This discussion is clearly related to the construct of dynamic capabilities. We add to this discussion by examining the influence of gender on management and personnel composition. In addition to the cognition logic inherent in strategic adaption processes, Hodgkinson and Healey (2011) demonstrate that the dynamic capabilities of sensing, seizing, and reconfiguration require cognitive and emotional abilities from both individuals and groups. Wilden et al. (2013) posit that, for large established firms, dynamic capabilities are contingent on the organizational structure of the firm and the competitive intensity in the firm's industry. In this work, we concentrate on micro firms and examine how a team's gender diversity and the leader's gender influence dynamic capabilities.

The roles of gender as a microfoundation and of team gender diversity are virtually unexplored. A promising work by Kämmerer (2015) focuses on the role of team diversity in the dynamic capabilities of a firm. Building on the work of Richard (2000), the scholar shows how diversity in teams can turn organizational capabilities into VRIN (Valuable, Rare, Inimitable, and Non-substitutable) resources. Although gender diversity was proven to be positively related to performance (e.g., Hoogendoorn, Oosterbeek, & Van Praag, 2013), most organizations seek to fulfill merely the minimum legislative requirements for diversity (Avery, McKay, & Wilson, 2008). Kämmerer (2015) investigated diversity as an opportunity that firms need to sense and shape, thus shifting from diversity as a microfoundation of a dynamic capability toward diversity as a goal for dynamic capability implementation.

Helfat and Peteraf (2015) proposed a concept of managerial cognitive capabilities underpinning dynamic managerial capabilities through a set of psychological concepts. The scholars structured their propositions according to Teece and argued that perception and attention (for a managerial sensing capacity), problem-solving and reasoning (for a managerial seizing capacity), and language and communication as well as social cognition (for a managerial reconfiguration capacity) are of greatest importance. Interestingly, the scholars did not mention gender in this relation, although perception (e.g., gender stereotypes, as discussed by Hoffman and Hurst [1990], or self-perception, as described by Fischlmayr [2002]), attention (e.g., Feng, Spence, & Pratt, 2007), problem-solving (e.g., Jeppesen & Lakhani, 2010), reasoning (Kuhn & Holling, 2009), language (e.g., Kuhn & Holling, 2009), as well as social cognition (Greenwald & Banaji, 1995), are constructs

largely influenced by gender. Consequently, the inclusion of gender in investigations of dynamic capabilities seems to be just a matter of requiring more time and depth as the academic discussion progresses.

Gender diversity

We see two ways to introduce gender into research on dynamic capabilities: first, as a development of notions by Kämmerer (2015) concerning a firm's VRIN resource base; second, as a development of ideas by Adner and Helfat (2003) concerning dynamic managerial capabilities. In the first case, the focus is on teams and their congruence, which we call "gender diversity in teams." In the second case, the focus is on a manager's gender. In micro firms where the manager is the single decision-maker, the manager's gender may drastically influence the firm's dynamic capabilities.

In their study on school behavior among male and female students, Crosnoe et al. (2007) found that female students felt bad about their performance when it did not reach the level achieved by their peers and subordinates; they also differed from males students in their internalization of feedback on their academic abilities. In the field of management, assertive women are perceived positively by men (Mathison, 2010) who can be their peers or competitors. Consequently, female managers might feel more pessimistic concerning their performance when not meeting the expectations of male colleagues or competitors. This negative feeling might make them reserved, and thus reduce their ability to notice opportunities and threats.

Female managers might also suppress their emotions and sensibilities. A qualitative study by Metcalfe and Linstead (2003) described the case of "Nia," a female factory manager. The researchers argued that Nia reconstructed her identity in order to conform to the traditional (masculine) interpretations of effective management. This act of conformation might have restricted her innate abilities, including additional personal capacities to notice opportunities and threats. These relationships would become important, especially in micro firms where each member is involved in decision-making and where the leader's gender would have a direct impact on all employees due to the firm's simple hierarchy relationships. Therefore, we propose the following:

H1: Female managers reduce a micro firm's sensing capacity.

As mentioned, assertiveness and other managerial characteristics may be socially desirable for female managers. To meet expectations, female managers have to attempt to behave more assertively, which may in turn lead to a backlash and reduce

their likability (Amanatullah & Tinsley, 2013). This process might be intensified if a female-managed team's working relationships are perceived as being less desirable than those of a male-managed one (Metcalfe & Linstead, 2003). Non-assertive female managers tend to suffer from a leadership backlash (Amanatullah & Tinsley, 2013); this is supported by Jackson and Joshi (2004), who found that the manager's gender had a moderating effect on the team and that female managers had problems managing diverse teams, leading to a decline in performance. The researchers assumed this happened due to the higher complexity of diverse team management but pointed out that it could also have occurred due to the leadership backlash. Teece (2007, p. 1323), stresses the importance of "management by walking about" as a way to prevent management from becoming isolated from information away from the "front-line" of the firm. This is arguably an important source of information that is necessary for sensing opportunities and threats. The communication difficulties faced by female managers of diverse teams might restrict this mechanism. We thus hypothesize as follows:

H2: Team gender diversity restricts (negatively moderates) the female manager's impact on the sensing capacity of a micro firm.

Teece (2007) discusses possible bias in decision-making caused by bounded rationality in a section on seizing capacity and its microfoundation. Decision-making errors might be especially damaging in turbulent environments. Eisenhardt and Martin (2000) referred to different types of environmental dynamism when they proposed two types of dynamic capabilities: complex routines in the domain of moderate dynamics and simple rules (heuristics) in the domain of high dynamics. Decisions amid high dynamics might be subject to a high degree of error, whether due to bounded rationality as mentioned by Teece (2007) or oversimplification due to simple rules, following Eisenhardt and Martin (2000). One way to avoid misinterpretation might be team diversity. Indeed, gender-diverse teams were positively associated with innovation and creativity (Jackson, May, & Whitney, 1995; O'Reilly, Williams, & Barsade, 1998). Consequently, we propose the following:

H3: Team diversity in micro firms is positively associated with seizing capacity.

Concerning reconfiguration capacity, Teece (2007) stresses the role of path dependencies in organizational processes. Successful firms create positive feedback, which causes a routinization of processes. To remain flexible, a firm must be able to overcome such path dependencies, even if doing so is costly. As argued by Avery et al. (2008), firms usually just try to

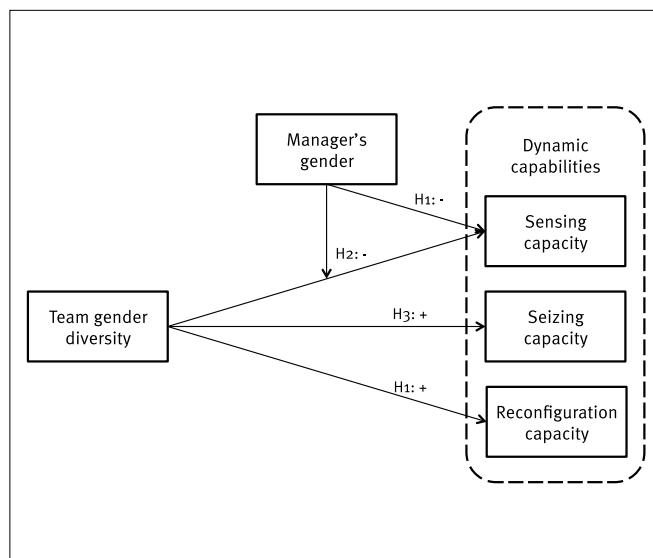
fulfill the minimum requirements. Team diversity would indicate the firm's willingness to break away from the existing gender path. Such firms might also be capable of breaking away from other paths, such as those restricting their reconfiguration capacity.

Teece (2007) mentions monitoring as an important aspect of reconfiguration capacity. Schreyögg and Kliesch-Eberl also stress the monitoring of a system's (i.e., a firm's) capabilities. Gender-diverse boards are associated with more intense monitoring practices (Adams & Ferreira, 2009). The employees of highly gender-diverse firms might be able to better monitor available skills and resources. In turbulent domains, diverse teams might become a useful tool for improved resource monitoring and subsequent resource-base reconfiguration for firms. Such reconfiguration requires high internal performance. Jackson and Joshi (2004) found no significant direct effects of team gender diversity on performance, but this could have been due to several other demographic variables and complex interrelations included in their model. Hoogendoorn et al. (2013), for example, found evidence that firms with an equal gender mix enjoyed better sales and profit performance. Assuming that diverse teams are better at resource monitoring and overall performance, we hypothesize as follows:

H4: Highly gender-diverse micro firms have a stronger reconfiguration capacity.

Figure 1 summarizes the study's hypotheses: H1 relates to the impact female managers have on a firm's sensing capacities; H2 concerns team composition and manager gender on a firm's sensing capacity; H3 concerns the impact of team diversity on seizing capacity; and H4 tests gender diversity's impact on reconfiguration capacity.

Figure 1. Research model for micro firms



METHODOLOGY

Sample

One of the challenges of this study was identifying a suitable sample. The nature of the study's hypotheses restricted our choices of firms and industries. First, the data had to be collected from firms operating in dynamic environments. Second, the data had to allow testing for decision-maker effects and team diversity. We collected data from Ukrainian firms operating in the tourism industry. Ukraine has a very dynamic economy despite the recent economic and political crises. The threat of terrorism and the negative economic consequences of warfare have forced tourism firms to be very adaptive in their product strategy. Most tourism firms are micro, small, or medium-sized (State Statistics Services of Ukraine, 2016). Therefore, it is fair to assume that their employees are more informed about the firm's strategic goals and familiar with strategic decision-making than are the employees of larger firms. In mid-November 2016 (the start of the tourism season and thus of increased environmental dynamics), we sent our questionnaire to approximately 3,000 Ukrainian tourism firms. Four hundred and forty responded. However, we were interested only in answers from decision-makers or those familiar with the firm's strategic decision-making process. We therefore ended up with only 220 participants. The final response rate was 7.17% (whereas the initial response rate was 14.67%). To address possible issues concerning gender diversity (which could be unevenly distributed across the firms' departments) and the role of manager gender, we retained only the data drawn from micro firms (i.e., firms with 10 employees or fewer). Such restrictions reduced the generalizability of our results but also enhanced the reliability of the tests.

After data cleaning (e.g., deleting the cases with the highest number of missing values), 124 useful cases remained. Seventy-one participants said they were decision-makers; 53 said they were not but were informed about the strategic decision-making processes of their firms. The gender of participants was unevenly distributed (consistent with the data in Krupskyi [2014]): 93 participants were female and 31 male. The mean working experience of participants was 7.92 years ($SD = 8.71$), whereas it was 4.1 years ($SD = 4.7$) in this particular firm. The mean age of participants was 32.45 years ($SD = 15.95$).

Measurement

Dependent variables

To measure dynamic capabilities, we used the questionnaire proposed by Wilden et al. (2013). The researchers suggested

reflective measures with four items for each of three dimensions of dynamic capabilities: sensing, seizing, and reconfiguration. All items were measured using 7-point Likert scales ranging from "very rarely" (1) to "very often" (7).

Independent variables

We used two independent variables: gender diversity and manager gender. For the latter, the item "Our CEO/Director is" had two response options "female/male" (0/1). We asked participants about the number of male and female employees in their firms. Based on this answer, we calculated a proportion of diversity and recoded it to an ordinal variable, "gender diversity," with three levels: 1 ("low" for 0–20% female or male employees), 2 ("medium" for 21–40% female or male employees), and 3 ("high" for 41–60% female or male employees).

Control variables

Since some studies show that the gender of a leader is an important predictor of a family firm's success (e.g., Harveston, Davis, & Lyden, 1997; Cromie & O'Sullivan, 1999; Smith, Smith, & Verner, 2006), we included information on whether the firm was a family firm as a control variable (dummy variable coded 0 for normal firm and 1 for family firm).

Reliability, validity, and common method bias

To test for the reliability and validity of our latent variables, we performed a confirmatory factor analysis. We created a model with three latent factors (sensing, seizing, and reconfiguration) and ran the model in IBM AMOS. We obtained a very good model fit of $\chi^2/df = 2.432$ ($\chi^2 = 124.032$, $df = 51$). The comparative fit index (CFI) was 0.897, and the adjusted goodness-of-fit index was 0.783, which can be considered "traditional" values (Hair, Black, & Babin, 2010). The standardized root mean square residual was 0.0862, indicating a good model fit.

Then, we performed reliability and validity analyses (see Table 1). We discovered several discriminant validity issues with the sensing dimension: the root square of the average variance extracted (AVE) was less than the absolute value of the correlation with another factor and the AVE was less than the maximum shared variance (MSV). We also found that one of the initially proposed items (Item 1: "People participate in professional association activities") had too low a loading (0.363) on the proposed factor. Consequently, since the items are reflective, we deleted this item and recalculated the statistics.

The newly calculated model produced a better model fit of $\chi^2/df = 2.311$ ($\chi^2 = 94.747$, $df = 41$). The comparative fit index (cfi) became 0.921 and the adjusted goodness-of-fit index 0.816, which can be interpreted as “good” (Hair et al., 2010). The standardized root mean square residual was 0.0865, indicating a good model fit. The results of the subsequent reliability and validity analyses can be found in Table 2. We discovered no validity concerns.

Table 1. Reliability and validity statistics of the initial model

	α	CR	AVE	MSV	MaxR (H)	Seizing	Sensing	Reconf-n
Seizing	0.818	0.833	0.561	0.450	0.866	0.749 [†]		
Sensing	0.689	0.728	0.417	0.450	0.911	0.671	0.646 [†]	
Reconf-n	0.888	0.889	0.666	0.359	0.948	0.599	0.317	0.816 [†]

Notes: α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; MSV = maximum shared variance; MaxR(H) = maximum reliability; (H) and [†] = average factor loadings.

Table 2. Reliability and validity statistics for the adopted model

	α	CR	AVE	MSV	MaxR (H)	Seizing	Sensing	Reconf-n
Seizing	0.818	0.833	0.561	0.371	0.867	0.749 [†]		
Sensing	0.729	0.767	0.532	0.371	0.918	0.609	0.729 [†]	
Reconf-n	0.888	0.889	0.666	0.358	0.951	0.598	0.275	0.816 [†]

Notes: α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; MSV = maximum shared variance; MaxR(H) = maximum reliability; (H) and [†] = average factor loadings.

Finally, we performed Harman's single factor test as a common method variance test (Podsakoff & Organ, 1986). We ran the factor analysis using the maximum likelihood procedure, whereby we restricted the number of produced factors by 1. The variance explained by this one factor was 40.18%, which is below the cutoff of 50% and indicates insignificant variance produced by the common measurement method.

RESULTS

We performed several tests to legitimize the MANOVA procedure. We aggregated the reflective items on sensing, seizing, and reconfiguration according to super-variables using the SPSS dimension reduction procedure with a maximum likelihood algorithm, which is closest to the one produced by AMOS. Since several differences might have appeared after aggregation, we first calculated Pearson correlations among three dimensions of dynamic capabilities (see Table 3). The results were similar to those shown in Table 2. Prior to conducting the MANOVA, we ran the Box's M value test. It produced a value of 30.105 ($p = 0.053$), which was interpreted as non-significant based on Huberty and Petoskey's (2000) guideline (i.e., $p < 0.005$). Thus, the covariance matrices between the groups were assumed to be equal and sufficient for the purposes of the MANOVA.

Table 3. Pearson correlations, means, and standard deviations associated with dynamic capabilities dimensions

	Sensing	Seizing	Reconf-n	M	SD
Sensing	-			0.000	1.0
Seizing	0.449**	-		0.122	0.97
Reconf-n	0.209*	0.521**	-	0.007	1.02

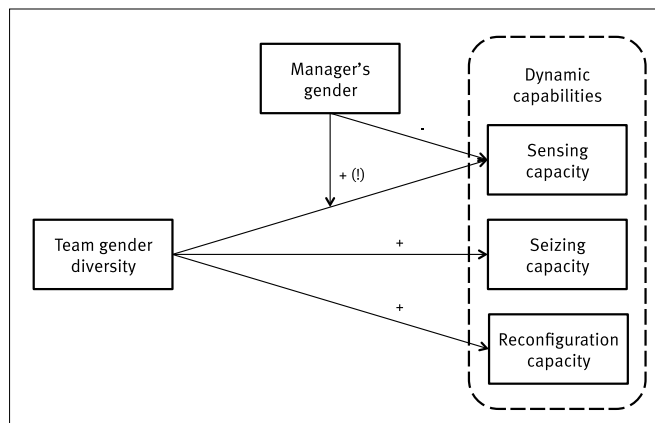
Notes: N = 124, all correlations are significant at * - $p < 0.05$ or ** - $p < 0.01$.

We conducted a one-way MANOVA using manager gender and family firm as independent variables and diversity as a covariate. We also included the proposed moderation between manager gender and diversity in the model. We obtained several statistically significant MANOVA effects. Manager gender produced a Pillai's trace of 0.114, $F(3,117) = 5.021$, $p = 0.003$; diversity produced a Pillai's trace of 0.092, $F(3,117) = 3.930$, $p = 0.010$; and the moderation variable produced a Pillai's trace of 0.081, $F(3,117) = 3.419$, $p = 0.020$. Our control variable, “being a family firm,” did not produce a statistically significant result ($p = 0.213$). The multivariate effect size was estimated at 0.114, 0.092, and 0.081 respectively, implying that 11.4%, 9.2%, and 8.1% of the variance in the canonically derived dependent variable was accounted for by manager gender, diversity, and the moderation variable.

Prior to conducting a series of follow-up ANOVAs, we tested the homogeneity of variance in the proposed model. Based on a series of Levene's tests, the homogeneity of variance test

assumption was considered satisfied: sensing produced an F-value (3,120) of 1.183, $p = 0.319$; seizing produced an F-value (3,120) of 1.010, $p = 0.391$; and reconfiguration produced an F-value (3,120) of 0.718, $p = 0.543$. The ANOVA tests revealed that manager gender had a statistically significant impact on sensing ($F(1,119) = 5.587$, $p = 0.020$, $\eta^2 = 0.045$, post hoc tests produced a B-value of 1.159), indicating that female managers negatively influence the sensing capacity of a micro firm. Being a family firm had a weakly significant impact on sensing capacity ($F(1,119) = 3.867$, $p = 0.052$, $\eta^2 = 0.031$, post hoc tests produced a B-value of 0.356), indicating that family firms tend to have a lower sensing capacity. We will discuss this finding in the Discussion section. Gender diversity played a significant role in the reconfiguration capacity of micro firms ($F(1,119) = 11.673$, $p = 0.001$, $\eta^2 = 0.089$, post hoc tests produced a B-Value: 0.471, $p = 0.007$), whereby higher diversity positively impacted their resource reconfiguration ability. Gender diversity had a weakly significant effect on seizing capacity ($p = 0.092$), indicating an increasing trend in seizing capacity among gender-diverse micro firms. We also found a significant moderation effect of gender diversity and manager gender on sensing capacity ($F(1,119) = 4.455$, $p = 0.035$, $\eta^2 = 0.037$, B-Value: 0.555), whereby female managers leading gender-diverse teams produced a higher sensing capacity in micro firms. We concluded that hypotheses 1, 3, and 4 were supported, although hypothesis 3 was supported at a weakly significant level ($p < 0.1$). Surprisingly, the result for hypothesis 2 was significant and contrary to the expected one (see Figure 2).

Figure 2. Results of the tests



Finally, to check whether female managers prefer teams with a higher percentage of female workers, we ran an additional ANOVA test in which we used manager gender as an independent variable and the percentage of female workers as a dependent variable. The Levene's test of homogeneity of variance did not indicate any problems with the homogeneity of variance (F

(1,122) = 0.018, $p = 0.892$). The ANOVA produced a statistically significant result ($F(1,123) = 35.519$, $p < 0.001$), indicating that female managers prefer teams with more females. This result is important for the interpretation of our results.

LIMITATIONS OF THE STUDY

Before we start our discussion, we would like to point out the main limitations of our study. It was conducted in a very specific domain, and the results should not be overgeneralized. Any further generalization of the findings requires a thorough theoretical argumentation and additional empirical tests. Ukrainian tourism firms are a very special case. For example, tourism is seen as “female work” in Ukraine and is predominantly performed by female workers (Krupskyi, 2014).

An additional limitation of our study was the sample. We considered only micro firms (i.e., firms with fewer than 10 employees). Such an approach restricts the generalizability of our findings but also produces less theoretical complication. For example, our approach could be criticized for conducting the analysis on differing levels: dynamic capabilities are an organizational-level construct, yet we surveyed managers as well as those who were not decision-makers. In micro firms, however, each person is involved in strategic decision-making. We thus asked whether each participant was involved in strategic change processes and selected only those personnel who indicated that they were.

Similarly, one could object that we investigated the role of manager gender by surveying people who were not in managerial positions. In micro firms, this might not be an issue since, in a firm with fewer than 10 employees, a manager's gender has a direct impact on each employee as well as on strategic decision-making. Consequently, although our sample has restricted generalizability, it enhances the reliability of our findings.

Finally, we should mention the cultural issue. We conducted our research in Ukraine. Although Ukraine is an European country, it has several cultural differences from other European countries caused by, for example, its communist past, as was shown by Bogodistov and Lizneva (2017); they also showed that gender might play a moderating role while choosing a specific model of relationships in firms. Before one extrapolates from our findings to another domain of investigation, therefore, cultural differences, which are important in the domain of relationships, should be taken into account.

Despite these limitations, the findings of our work are highly significant and rooted in a theory that is not domain-specific. Consequently, we interpret our results cautiously in relation to other domains in the next section.

DISCUSSION AND FUTURE RESEARCH

First, H1 was supported. Micro firms led by female managers showed a lower degree of sensing capacity. Female managers still have to prove their competence, unlike male managers, and must behave differently in order to survive in contemporary business. Instead of using their innate resources, they often strive to restrict them by complying with desirable social conditions. We see this as a grave disadvantage, since these resources become lost. We did not investigate the reasons for this result in detail. We assumed that female managers might behave non-innately due to social pressure. Other factors may influence these relationships, and we encourage researchers to perform further studies to reveal the nature of the impact of manager gender on the sensing capacities of a firm.

Second, based on [Jackson and Joshi \(2004\)](#), we assumed that female managers would be less successful in managing diverse teams. However, the results for H2 were contrary to our expectation: when moderated by a female manager, diverse teams increased their sensing capacity. This finding is very important because, first, it changes the traditional view of the management of diverse team by female managers, and, second, it points to a solution to the issue discussed in H1. When female managers restrict the sensing capacity of a micro firm, a gender-diverse team positively moderates this relationship. At the end of our analysis, we performed an additional test to check whether female managers hire more females than males. We found that they do: Female managers have, on average, teams that are approximately 85% female, whereas male managers have teams that are, on average, only 65% female. Since leaders are usually responsible for business planning (e.g., human resources acquisition) in micro firms ([Shrader, Mulford, & Blackburn, 1989](#)), we can assume a certain path of dependence whereby female managers hire more females than males, with negative consequences for the sensing capacity of a firm.

However, male managers also have, on average, more females on their teams. We assume this happens not because our assumption about path dependency does not hold but rather because tourism in Ukraine is perceived as “female work” ([Krupskyi, 2014](#)). Consequently, the fact that male managers strive to form more diverse teams due to the social perception of their field of work indicates that they really try to hire more males.

This finding partially contradicts previous findings in the field ([Jackson & Joshi, 2004](#)). Our suggestions about the reasons for our findings are not derived from theory and can be considered speculative. The reasons may also lie in the specific samples (micro firms), culture (Ukrainian firms), sphere of business (tourism firms), and other factors. Another reason could be the

dependent variable, since we tested for sensing capacities rather than overall team performance, as was investigated by [Jackson and Joshi \(2004\)](#). We therefore suggest that further research be carried out in order to provide alternative explanations or replicate our findings and define boundary conditions for such relationships.

Third, H3 is supported, though weakly. Diverse teams seem to tend toward stronger seizing capacity. It is already known that diversity is related to decision-making (e.g., [Johnson & Powell, 1994](#); [Powell & Ansic, 1997](#)) and creativity ([Jackson et al., 1995](#); [O'Reilly et al., 1998](#)). In this study, we showed that gender-diverse teams are also better at the routines and processes underlying a firm's capacity to seize an opportunity. We assume that including other types of diversity in further studies might make the effects stronger and more significant.

Fourth, we showed that gender diversity has a positive impact on reconfiguration capacity. As mentioned, we assume that this finding indicates that more diverse teams possess more varied resources that allow for better resource-base reconfiguration. Interestingly, we noticed that female managers tend to be better at reconfiguration capacity than male managers. This relationship was not significant but was close to a $p < 0.1$ significance level ($p = 0.129$). Researchers should pay special attention to diversity's role in reconfiguration processes and include other aspects of diversity such as race, age, and minority status in their analyses. If our theory on the role of diverse resources in reconfiguration capacity holds, including other aspects of diversity will, first, reveal higher impacts on reconfiguration capacity and, second, reveal the role of different aspects of diversity in the formation of firms' reconfiguration capacity.

Finally, we would like to briefly describe the findings concerning our control variable. Though the result was only weakly significant, family firms were less successful in sensing capacity than were normal firms. Other researchers have found that family firms tend to invest in innovation less intensively ([Classen, Carree, Van Gils, & Peters, 2011](#)), possibly due to conservativeness and risk-aversion among many family firms. Risk-aversion and conservativeness may restrict the capacity of family firms to sense and shape new opportunities. We would like to mention a conflicting finding by [Lichtenthaler and Muethel \(2012\)](#), who found a positive relationship between family involvement and a firm's sensing capacity. These results may conflict due to the fields of analysis: the researchers focused on German medium-sized manufacturing firms, whereas we concentrated on Ukrainian micro firms in the service sector. The researchers also investigated different levels of family influence on the business (i.e., using a ratio variable), whereas we used a single nominal variable (i.e., being a family firm or not). This restricted our ability to explain the finding;

also, in contrast to Lichtenthaler and Muethel, we had no theory concerning the role of family involvement and thus wanted to avoid further speculation. Nevertheless, our finding partially rejects the researchers' main hypothesis and indicates the need for further investigation that would include firms of different sizes, types, and cultural backgrounds, as well as non-family firms.

To conclude, we return to the dynamic managerial capabilities concept proposed by Adner and Helfat (2003). These scholars posited three underlying dimensions of dynamic managerial capability: managerial human capital, managerial social capital, and managerial cognition. We showed that gender, which is connected with each of the proposed dimensions, played a small but significant role in the dynamic capabilities of micro firms. Moreover, manager gender played an important direct and moderating role. Our research reveals that several important variables, such as manager gender and team gender diversity, should be incorporated into the model. We investigated their direct impact on a micro firm's dynamic capabilities. Since many of the dimensions proposed by Adner and Helfat (2003) represent psychological factors (e.g., Peteraf & Helfat, 2015) related to gender (as has been shown in psychology studies), future research on dynamic capabilities should consider gender as a mediator. Our study has thus opened new avenues that urgently require further conceptual and empirical work.

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