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# THE INFLUENCE OF ENVIRONMENTALLY SUSTAINABLE PRACTICES IN INTERNATIONAL SALES INTENSITY: THE MODERATING ROLES OF OPEN INNOVATION AND RULE OF LAW

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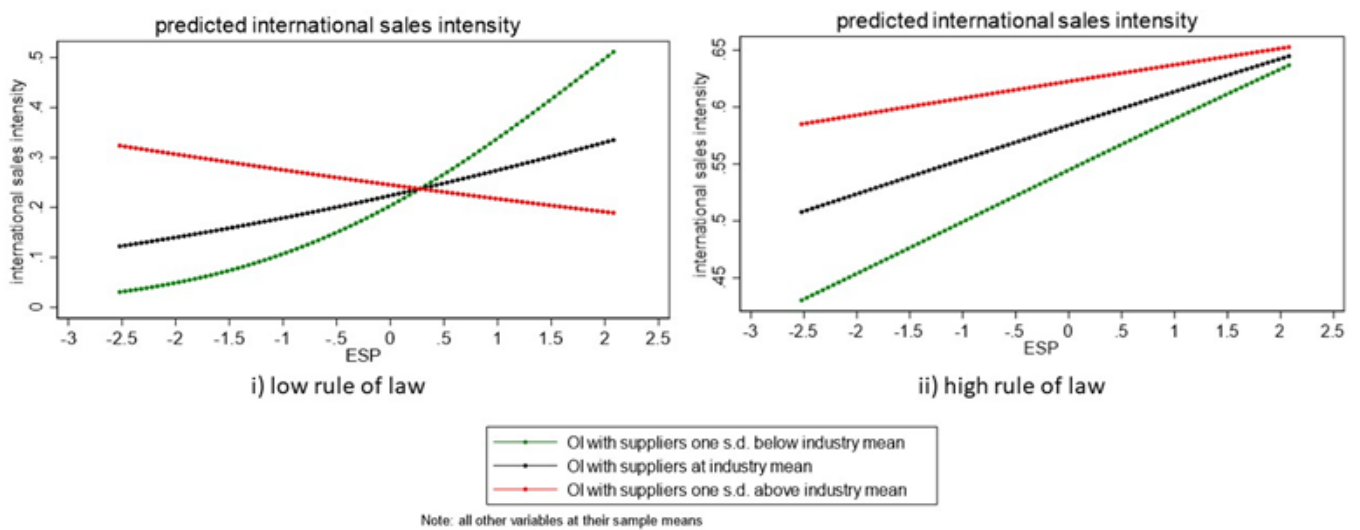
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Influenced by the need to meet increasing environmental requirements, manufacturers are compelled to reevaluate their value-creation processes, adopt a network-oriented approach, reallocate available resources, and foster innovation (Doh et al., 2021). To meet the shifts in policies and consumer behavior towards the environment across the globe (Bogers et al., 2018; Obradović et al., 2021), firms often adopt environmentally sustainable practices with their suppliers to drive international sales. In doing so, manufacturers resort to open innovation (OI) activities with their suppliers (Gonçalves et al., 2024). Open innovation is increasingly used to foster the generation of 'creative' solutions for complex problems that require many highly interdependent choices, as the associated risk is shared among the collaborators. Moreover, the moderating role of exploratory and exploitative organizational learning through open innovation influences the connection between environmentally sustainable practices and international sales intensity. Essentially, suppliers and customers highly value enhanced transparency and trust-building with stakeholders (Cheng & Huizingh, 2014; Spithoven et al., 2011). Additionally, as internationally operating firms must navigate a complex dynamic value creation process, they face the challenge of dealing with varying customer perceptions towards the environment and national and international regulatory frameworks and standards (Montiel et al., 2021). Thus, the drive for introducing environmentally sustainable practices varies significantly based on regional differences. Specifically, while customers in some regions prioritize environmental aspects of products, customers in other regions focus

mainly on their primary utilities and core features. Moreover, different governmental regulations and institutional settings shape the decisions of internationally operating firms towards developing specific environmentally sustainable capabilities and approaches for mobilizing and managing resources (Cuervo-Cazurra et al., 2019).

Building upon Gonçalves et al. (2024), this study investigated the role played by the institutional context, namely, the rule of law in the country of location of the manufacturing firm and the adoption of open innovation (OI) with suppliers (e.g., the implementation of joint decision-making with key suppliers), in shaping the link between the adoption of environmentally sustainable practices (ESP) (e.g., obtaining environmental certification or engaging in energy and water consumption reduction programs), and international sales intensity (i.e., the ratio of foreign sales over total sales). We did so by surveying 514 manufacturers in 21 countries. Interestingly, while scholarly research and empirical evidence suggest that adopting ESP and participating in OI are expected to enhance international sales intensity, our assessment highlights variations in the interplay between OI, ESP, and a firm's international sales intensity. These variations are contingent on the location of the internationally operating firm, specifically its manufacturing plant. In particular, our findings revealed that the link between ESP and international sales intensity crucially depends on the country's rule of law (World Bank, 2018)<sup>1</sup>. Specifically, we compared the relationships and interplay among the variables in 'high rule of law' countries (i.e., countries whose rule of law indicator is above 0) and 'low rule of law' countries (i.e., countries with a rule of law below 0). Focusing primarily on these differences in the rule of law, the predicted international sales intensity of firms as a function of the ESP and OI is presented in Figure 1. The red line represents the relationship between ESP and international sales intensity for manufacturers that engage in OI with suppliers intensely (one standard deviation above the industry mean); by contrast, the green line looks at the same relationship but for manufacturers that do not engage in OI with suppliers to a significant extent (one standard deviation below the industry mean).



**Figure 1 – Predicted international sales intensity for firms located in i) 'low rule of law' and ii) 'high rule of law' countries as a function of the ESP index and OI with suppliers.**

The assessment revealed two key observations. Firstly, for 'low rule of law' countries, the impact of ESP on international sales intensity was more pronounced than for the overall sample. Secondly, the predicted international sales intensity for these countries was lower than in the overall sample. This implies that in countries with a 'low rule of law,' ESP serves as a more potent mechanism in driving international sales intensity when compared to the overall sample. We submit that this occurs because of two reasons. First, as shown in Figure 1, the starting point for firms in these countries regarding current internationalization levels is lower than in 'high rule of law' countries, providing low-hanging fruits. Second, in 'low rule of law' countries, proper contract enforcement may be challenging, causing customers of firms based there to view ESP efforts as a suitable substitute for ensuring environmental sustainability along the supply chain. However, this mechanism can only be successful if these firms do not 'dilute' that perception by engaging in OI with suppliers within the same country (Figure 1). This suggests that a high level of OI with suppliers dampens the impact of ESP on internationalization. Therefore, to thrive in the international arena, firms in 'low rule of law' countries must

ensure that dominant value generation practices originate primarily from within the firm, rather than via collaboration with suppliers.

Intriguingly, a different pattern emerged for firms with their primary operations in 'high rule of law' countries. In these countries, the relationship between ESP, or between ESP and OI with suppliers, and international sales intensity was not statistically significant. Therefore, in 'high rule of law' countries, attempts to improve a firm's ESP index are unlikely to affect international sales intensity substantially. However, the firm's efforts regarding OI with suppliers positively contributed to increased international sales intensity (Figure 1). Thus, the mechanisms in 'high rule of law' versus 'low rule of law' countries differ significantly concerning the effects of ESP and OI with suppliers. Overall, our findings align with those of Freitas et al. (2023) in suggesting that national institutions in each country play a significant role in a firm's success on the international stage. Therefore, firms must adopt different collaborative arrangements and internationalisation strategies to leverage a country's national institutions to their advantage. Indeed, outcomes may vary in the domestic and international markets, depending on the manufacturers' countries of location. As highlighted in Freitas et al. (2023), a one-size-fits-all strategy is likely to fail and may have a disadvantageous impact on a firm's international sales.<sup>ii</sup>

<sup>i</sup> The rule of law indicator has been widely used in the literature as a proxy for the regulatory and institutional context of firms. It "reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence" (World Bank, 2018). Its estimates range from -2.5 (weak governance) to 2.5 (strong governance), and the indicator is designed so that the average (across countries) is 0.

<sup>ii</sup> Authors' note: The views expressed in this policy note are those of the authors and do not necessarily represent the views of the institution(s) they work for.

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