International business (IB) research focused on practical insights requires analytical techniques that come closer to reality by embracing complexity. In this article, we discuss Qualitative Comparative Analysis (QCA), a configurational technique researchers can leverage to study complex causal patterns in IB phenomena. We briefly review the basics of QCA, provide an example of how it can be applied to study practical IB issues, and outline the first steps for researchers situated at the intersection of IB practice and scholarship. Employing such techniques may make applied IB research even better positioned to make impactful contributions to practice and society.

Accordingly, in this article, we discuss Qualitative Comparative Analysis (QCA), a useful tool IB researchers can leverage to better understand IB phenomena. QCA enables inquiry into IB issues for which traditional techniques, such as regression, might not be well suited, and it can help uncover previously overlooked complex causal patterns in core IB phenomena.

In the following sections, we briefly review the tenets of QCA, particularly highlighting how these tenets help bring empirical analysis closer to reality. We acknowledge there are inherent weaknesses to QCA; hence our purpose here is not to claim QCA as superior to other approaches. Rather, we seek to support the extension of the methodological toolkit of IB researchers in a way we believe can make such research even more reflective of reality. Further, we provide an example of how the suggested approach can be applied to study practical IB issues. Our exposition highlights the versatility of QCA, explicating that it can be applied across multiple scientific strategies. Overall, we aim to propel the adoption of fresh methodological approaches for researchers situated at the intersection of IB practice and scholarship.

QCA: SOME BASICS

Management and IB scholars increasingly apply QCA to study organizational phenomena (Fainshmidt et al., 2020; Furnari et al., 2020). What makes QCA unique and valuable? In Table 1, we present a summary of key features and how they compare to traditional regression techniques. Although providing a primer on QCA is not our goal, we believe a few key features are worth mentioning. We refer readers to numerous existing publications on that front for more details (e.g., Fiss, Marx, & Cambré, 2013; Greckhamer, ...
Table 1. Brief Comparison between QCA and Regression Analysis

|                     | Regression                                                                 | QCA                                                                 |
|---------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------|
| **Explanatory Approach** | - Explain variance in an outcome<br>- Example: Differences in profitability among multinational firms | - Explain the presence or absence of an outcome condition<br>- Example: A subsidiary exhibiting a broad stakeholder orientation (e.g., Crilly, 2011) |
| **Nature of relationships between causes and outcomes** | - Statistical: Assess the average effect of variables on an outcome<br>- Example: When the R&D investment to sales ratio goes up by 1%, firm profitability goes up by 0.5% | - Set-theoretic: Identify the conditions or configurations of conditions consistent with the outcome<br>- Example: Combinations of human resource management practices associated with high subsidiary performance |
| **Operates on** | - Variables<br>- Example: Return on assets | - Conditions or sets<br>- Examples: High performance, very high performance, not low performance |
| **Ability to accommodate complexity** | - Limited, usually via lower-order interaction terms<br>- Example: The effect of a one-unit increase in R&D investment on firm performance is larger as the size of the firm increases | - Inherent<br>- Indicates potential complementarities, and multiple configurations can be associated with the outcome (see practical example in the text) |

Furnari, Fiss, & Aguilera, 2018; Misangyi et al., 2017; Ragin, 2008; Schneider & Wagemann, 2012), including one focused on IB research (Fainshmidt et al., 2020).

QCA is rooted in Boolean Algebra and operates on conditions, not variables. Conditions are sets in which cases can be members or non-members to different degrees. Conditions can capture differences in kind (presence versus absence) and in degree (extent of presence/absence). By comparison, variables capture differences in values (continuous) or degree (categorical). Hence, multiple distinct conditions can be calibrated from the same variable. For instance, return-on-assets is a variable that can be calibrated into conditions such as high performance, very high performance, not poor performance, and normative performance (Fiss, 2011).

In traditional regression analysis, the goal is estimating the average change in the value of the outcome variable when the explanatory variable changes by one unit. In QCA, the goal is assessing the extent to which membership of cases (e.g., countries) in configurations of causal conditions (e.g., high state expenditures, developed equity markets, prevalent collective bargaining) is consistent with membership in a given outcome (e.g., equitable wealth creation) (Judge et al., 2014).

The output of QCA (solution) typically contains the configurations of conditions that are associated with the outcome, if the data imply such configurations. This is usually referred to as the sufficiency analysis – in the sense that, based on the data and counterfactuals (i.e., configurations that are logically possible but not exhibited by the data) considered in the analysis, the outcome is in place when the causal conditions are in place. QCA can also identify necessary conditions in the sense that the condition is in place when the outcome is in place.

The configurational nature of the output accommodates several important aspects of complex IB phenomena. For instance, “a given outcome may follow from several different combinations of causal conditions” (Ragin, 2008: 124).

This possibility allows for conjunctural causation and equifinality. The former means that relevant causal conditions jointly explain an outcome, while the latter means that more than one combination of conditions can bring about the outcome (Furnari et al., 2020). Considering conjunctural causation implies that conditions may combine in complementary ways. Equifinality may allow for functional substitution to be identified, either at the condition or configuration level, such that a condition or combination of conditions act as an alternative pathway to the outcome vis-à-vis other conditions(s) (Fiss, 2011).

These notions are not captured well by traditional statistical techniques, and they make QCA highly flexible. It can work with large (Witt & Jackson, 2016) and small samples (Ragin, 2008); inductive and deductive studies (Fainshmidt, Wenger, Pezeshkan, & Mallon, 2019; Schneider & Wagemann, 2012); typological and taxonomical approaches (Fiss, 2011); and multilevel data (Andrews, Fainshmidt, Gaur, & Parente, 2021). Although our focus is on quantitative techniques, QCA originated to complement qualitative designs, so it is useful in such studies as well (Crilly, 2011).

PRACTICAL EXAMPLE: DIVESTMENT FROM CHINA

Suppose that an IB researcher wanted to know why multinational firms might divest their foreign subsidiaries operating in China. It is plausible that the subsidiary’s poor performance makes a divestment decision more likely, but on its own, it is probably insufficient to explain the decision because MNC managers are likely to take a more holistic approach in making such strategic decisions. If the Chinese market’s importance within the MNC’s global revenue portfolio is high and the relations between the MNC’s home country and China are amicable, poor subsidiary performance alone might not lead to a divestment decision. However, if the Chinese subsidiary accounts for a trivial share of the MNC’s global revenue portfolio and intercountry re-
Figure 1. Hypothetical Scenarios for Subsidiary Divestment

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stance, if prior research indicates that MNE managers make subsidiary divestment decisions based on return on investment (ROI) relative to industry peers, poor subsidiary performance can be calibrated as follows: Subsidiaries with ROI at the 25th industry percentile or worse can be full members of the poor performance set (1), subsidiaries with median or better ROI can be full non-members of the set (0), and subsidiaries with ROI between the 25th percentile and the median can be partial members of the set (calibrated between 0.5 and 1), proportionally. This is simply an illustration of the concept of calibration. Please consult the primers referenced earlier for proper guidelines on how to calibrate raw data.

Once data is calibrated into conditions, it is possible (and usually desired) to conduct a necessity analysis, which indicates any necessary conditions. Further, to identify the configurations associated with the outcome – the sufficiency analysis – the calibrated data are mapped onto a truth table. A truth table contains all logically possible configurations of conditions as well as “how consistently empirically observed configurations are linked to the outcome” (Grechhamer et al., 2018: 489). The researcher then specifies a consistency threshold (how consistent a configuration must be with the outcome to be retained) and a frequency threshold (how many cases are needed to retain a configuration), among other important specifications detailed in the primers. Based on these specifications, a minimization process ensues, resulting in solutions and fit indicators to evaluate them. Again, there is excellent guidance on evaluating, interpreting, and reporting QCA procedures and findings in the literature cited in this article.

CONCLUSION

The reality is that many IB phenomena are complex, but traditional IB research methods are usually not. As Fainshmidt et al. (2020: 455) succinctly note, “The mismatch between the nature of the empirical phenomena studied on the one hand, and hypothesis formulation and empirical methods deployed on the other, explains why many quantitative empirical studies in IB are overly reductionist, relying on hypotheses that assume linear (or simple, curvilinear), unifinal, and symmetrical effects.”

We hope that this article stimulates more applied IB research, leveraging QCA to bring scholarly efforts closer to the reality of IB. The flexibility of QCA and its ability to accommodate complexity make it a particularly useful tool for studying Grand Challenges tied to the United Nation’s Sustainability Development Goals, which are “broad based and not necessarily capable of solution” (Buckley, 2020: 2). For instance, agricultural sustainability is of increasing importance to IB scholars. At the same time, pandemics are disturbing MNE operations (Delios, Perchtold, & Capri, 2021; Menzies & Raskovic, 2020), shaping global migration (Hajro, Caprar, Zikic, & Stahl, 2021), and propelling populist movements (Hartwell & Devinney, 2021). While such issues are transforming the global landscape (Zahra, 2021), they are highly complex and difficult to simplify for analytical purposes (Bazel-Shoham & Shoham, 2020). Employing a wider range of methodological tools that come closer to the reality of such phenomena may make IB research even better positioned to make impactful contributions to practice and society.

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