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Organizational Research

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Abstract: This chapter focuses on the study of organizations as complex and dynamic social systems. We start our discussion of quantitative organizational research by outlining what organizations are and why we need to study them. We dive into doing research in organizations with specific focus on using theory to guide research methods and three critical organizational dimensions that should inform research design choices: units and levels of analysis, structures and hierarchies, and time and change. We then present and analyze the potential and limitations of descriptive, correlational, and experimental designs in organizational research, using contemporary examples of research to ground our analysis. We also cover data collection considerations, sampling strategies, and sources of organizational data. We close this chapter with discussions of equity issues, in particular ethics, diversity, and inclusion in organizational research.

Keywords: organizations, organizational research, research design, units or analysis, data collection, research ethics

Introduction

Organizations are complex, fascinating beasts, and we must do our best to understand them. Organizations and their processes have been studied by multiple disciplines, including psychology, management, industrial relations, sociology, economics, political science, occupational therapy, ergonomics, architecture, and design, to name a few. Therefore, it is not surprising to find a wide range of definitions of organizations, topics of interests, theories, research designs, data collection and analytical approaches, and applications of knowledge. In this chapter, we will focus on organizational research from a social and behavioral sciences perspective and, as much as possible, we will reference multidisciplinary research.

There are challenges in defining organizations and in describing how they operate. Both lay (Heath & Staudenmayer, 2000) and academic theories vary in their operationalizations of organizations. However, certain commonalities are discernable across definitions. For example, notions of order, cooperation, and interdependence in the actions of people are all common in definitions of organizations (Eldridge & Crombie, 2013). More formally, organizations are types of social systems containing a set of members who more or less share a collective identity, relationships, goals, values, and a program of activities and procedures defined by the members' interactions and roles (Caplow, 1964). Interestingly, teams share all these properties with organizations (Kozlowski & Ilgen, 2006). In organizational research, teams are considered organizational sub-systems. Of course, the nature and strength of the collective identity, whether the creation of the system was deliberate, and the clarity and specificity of the roles, activities, goals, and values are all matters of degree rather than absolute demarcation.

For instance, organizations can emerge organically and be later crystallized by more deliberate actions (e.g., from business idea to venture). The activities, goals, and values of organizations can be numerous, vague, and contradictory, and change over time (e.g.,

organizations with very diversified services). Similarly, organizational membership (e.g., employees, board members, investors), the roles the different members fulfil (e.g., team leader, advisor, individual contributor) and the relationships between them (e.g., colleagues, supervisor, subordinate) are not always clearly defined and are also subject to change.

Therefore, organizations are not consistently coherent and stable entities, but complex and dynamic ones. We must attempt to study organizations and their processes with that in mind.

There are many reasons to research organizations. From a historical and sociological perspective, during the nineteenth and twentieth centuries, large organizations became ubiquitous and started dominating many important aspects of human life. Then, organizations were expected to help humans solve the conflicts between collective and individual interests and needs, by aligning them and helping the world thrive (Reed, 2006). Nevertheless, the impact of organizations on human life goes beyond aligning collective and individual interests and, on many occasions, organizations do not achieve such alignment. Organizations can influence the way we define ourselves (e.g., job involvement), our private lives (e.g., work-family conflict), our relationships with other humans (e.g., our emotions and behaviors towards co-workers), and the physical environment where we live (e.g., the impact of organizational leaders' decisions on communities and the planet). With such a large influence on everything that happens on our planet, organizations are an important topic of study.

Using theory to guide organizational research

Organizational research designs and data collection are informed by theories and hypotheses. In turn, research designs and data collection help us improve the quality of theories and hypotheses in a complimentary and cyclical fashion. Wherever we look in contemporary organizational research, we will find calls for more rigorous research (Cortina & Landis, 2013) that should produce knowledge relevant and useful to individuals,

organizations, and communities around the world (Wickert et al., 2021). We continue to see organizational research that is plagued by issues of weak theory, research design, and measurement (Aguinis, Ramani, & Villamor, 2019; Aguinis & Vanderberg, 2014). This oversight restricts the capacity of organizational research to make meaningful contributions to theory development within the discipline or to organizational policy and practice.

A fundamental objective of scientific research is the development and refinement of valid theories. Given the proliferation of new theories and explanations within organizational research, it is possible to argue that we are making progress in theory development (Aguinis & Vanderberg, 2014). However, we might be failing in the process of *theory refinement*. That is, it is crucial to expose theories to rigorous tests and to continuously refine or discard theories and associated hypotheses that fail these tests (Edwards, 2010).

The question about how to improve the quality of existing theories in organizational research has been addressed in different ways. For instance, a reasonable step in the process of organizational research is asking yourself whether the study you are designing is crucial. That is, has the focal theory of your research been placed in a position to be contradicted or expanded by the findings (Aguinis & Vanderberg, 2014; Campbell & Stanley, 1963)? If the design you are using will not allow you and others to evaluate whether the evidence obtained contradicts or expands the theory, it is necessary to consider a different or more complex research design.

At a more concrete level, the development and refinement of organizational theory requires a strong effort in guaranteeing the validity of the operationalization of variables. This is needed to make sure we are manipulating and measuring meaningful proxies for our constructs of interests (Kerlinger & Lee, 1999). Similarly, if our theories and hypotheses describe dynamic processes that are operating within (e.g., changes across time) and between multiple units of analysis (e.g., individuals, teams, organizations), then the research designs

we are using need to account for this multilevel dynamic process (Cortina & Landis, 2013; Vantilborgh, Hofmans & Judge, 2018).

Of course, these recommendations are not new. Most organizational quantitative methods textbooks provide some concrete strategies to approach research in the way specified above (Brewerton & Millward, 2001; Campbell & Stanley, 1963; Kerlinger & Lee, 1999; Schwab, 2004). Still, contemporary organizational research is found lacking across many of these areas. Limitations in the training of organizational researchers around theory development and advanced designs, difficulties in data collection, pressure to publish quantity over quality research, lack of funding to engage in programmatic research, and limited time to learn new approaches and refine research ideas are only a few of the culprits mentioned in explanations about the limitations in contemporary research (Aguinis & Vanderberg, 2014; Park, Leahey, & Funk, 2023). In the following section, we outline a series of design considerations that are important to improve the quality of organizational research and their implication for the selection of appropriate research designs.

Research design considerations

Designing organizational research requires us to consider some basic properties of organizations to identify the nature of the phenomena at hand. In this section, we will focus on units and levels of analysis, structures and hierarchies, and time and change as central aspects of organizations that should inform research design choices.

Units and levels of analysis

There are multiple *units of analysis* in organizational research. A unit of analysis is the central entity you are trying to understand or the focus of your study. We can put our efforts into understanding experiences at different levels: at the individual (e.g., personality traits that

moderate the relationship between workplace stress and intentions to leave the organization), at the team level (e.g., the organic distribution of task and social roles within team members over time), or at the organizational level (e.g., the relationship between organizational structures and organizational cultures). Historically, organizational psychology and organizational behavior researchers have prioritized the experiences of individuals and teams within organizations as the focus of their research—typically referred to as micro- and meso-levels of analysis in organizational research (Heath & Sitkin, 2001; Johns, 2018). Meanwhile, researchers in strategy, industrial relations, employment relations, and sociology of organizations have emphasized organization-level process as their unit of analysis, as well as environmental factors impacting organizations (Harley, 2018; Porter, 1991)—often described as a macro-level of analysis.

We can go beyond studying processes within specific entities (e.g., individuals, teams, organizations) and focus on the *relationships between entities* as our unit of analysis. For instance, we can study dyads (e.g., spirals of abuse between pairs of workers; Aquino, & Lamertz, 2004), social networks (e.g., positive and negative gossip communication within and between teams; Grosser, Lopez-Kidwell, & Labianca, 2010) or relations between teams or organizations (e.g., changes in the interactions between procurers and vendors; Gulati, Lawrence & Puranam, 2005).

Researching relationships *across levels of analysis* is also important. For instance, we can explore the relationship between individual- and team-level processes (e.g., leadership behaviors and patterns of incivility among team members; Sojo & Roberts, 2019), between organizational processes and stakeholder behaviors (e.g., investors reactions to the appointment of black CEOs; Jeong, Mooney, Zhang & Quigley, 2022) or between organizational processes and industry/national processes (e.g., the impact of government legislation on human resources discriminatory practices; Trzebiatowski, Wanberg, &

Dossinger, 2020). In brief, organizational researchers need to make deliberate decisions about their units and levels of analysis, taking into consideration the nature of the problems or research questions in front of them. This is a path to designing studies that validly capture the nature of organizational life.

Organizational structures and hierarchies

Within organizations, there are specific configurations of relationships between individuals and teams, including hierarchies. Organizations of any size can have complex organizational structures. This complexity can emerge because of the different operational needs across organizational divisions, informal structures that are allowed to emerge in different units (often only partially formalized), and many other reasons. Even in organizations that describe themselves as flat and nimble, it is possible to identify situations in which specific individuals become leaders and where teams are nested within larger units, thus establishing dependency relationships (Osis, & Donins, 2017). Therefore, it is critical to remember that there might be differences between prescribed, embraced, and actual organizational structures.

These differences are meaningful and should be included as research considerations. Also, there is no good reason to assume that, in an organization with diversified products and services, we will find a single, coherent hierarchical structure encompassing all levels and work units. In fact, the opposite is more likely the case. This degree of variability makes it vital for researchers to first familiarize themselves with the organizations where they are conducting studies and to consider how they will incorporate and account or control (experimentally or statistically) for the attributes of organizational structures in their research designs.

Time and change

Arguably, one key concern of social and behavioral science research in general, and organizational research in particular, is the need to study processes with full consideration of their dynamic features. That is, organizational processes are called *processes* because they are not static phenomena; they are events or steps, linked in a series with an onset and offset. The series of steps or events lead to change or transformation over time and follow some principles or rules (Roe, 2008; Wang, Zhou & Zhang, 2016). Even micro-organizational variables once construed as stable, such as personality, are now recognized to vary across contexts (Beckman et al., 2020) and over time (McAdams & Olson, 2010). In short, organizational processes are dynamic in nature because they “emerge, evolve, and dissolve over time” (Vantilborgh et al., 2018, p. 1045).

Despite the dynamic nature of processes, the late twentieth century saw the surge of cross-sectional surveys as the default tool to conduct organizational research (Roe, 2008). While cross-sectional surveys can be useful to identify patterns of experiences across populations and associations between variables, they have severe limitations in helping us understand stages in organizational processes, the changes that might emerge from these processes or, importantly, in establishing causation (Aguinis & Vanderberg, 2014). This lack of fit between process and measurement has prompted innumerable calls for research procedures that better account for the dynamic nature of organizational processes in terms of the validity of measures, research designs (Vantilborgh et al., 2018), and statistical models (Cortina & Landis, 2013). Ultimately, if we are to theorize about organizational processes, our research designs must afford us the possibility of ascertaining the emergence, fluctuations, and changes produced by these processes over time.

Research design in organizations

Our research designs establish the procedures we will use to obtain valid and reliable data about the units of analysis we will investigate to answer our research questions (Schwab, 2004). Based on our research questions, we need to make decisions about what units of analysis we will study (e.g., individuals, teams, organizations), whether to focus on the relations, differences or changes over time of these units of analysis, the specific conditions where and when we will conduct our studies, the steps we will follow to collect data about the units of analysis, and the instruments we will use to collect our data. A logical first step in this process involves elucidating the nature of our research questions. What is it exactly we are trying to understand? Do we want to know the *what*, *when*, *where*, *how*, and/or *why* of an organizational process?

At a descriptive level, we can explore the *what*—understanding the ways in which an organizational process manifests, including its different dimensions (e.g., what types of workplace sexual harassment are more prevalent?; Charlesworth, McDonald & Cerise, 2011). We might want to know the *when* and *where*. In other words, we can look at the conditions under which an organizational process is more likely to emerge (e.g., what type of employees, and in what industries and situations, are more likely to experience workplace sexual harassment?; Cortina, Fitzgerald & Drasgow, 2002). Finally, we can be interested in the *how* or *why*. We might want to understand the mechanisms through which an organizational phenomenon emerges, how it changes under certain conditions, and how it dissipates (e.g., what processes enable, motivate, and precipitate workplace sexual harassment?; Sojo & Roberts, 2019).

Our research questions must inform our decisions on whether we design our research procedures to *observe* or to *manipulate* organizational phenomena. A simple distinction we can make on how to investigate a phenomenon is whether we will observe it as it naturally

occurs or attempt to actively manipulate it and test its effects (Hedrick, Bickman & Rog, 1993). Here, we are making decisions about what to do with the variables we are measuring in our units of analysis. Research questions about *what*, *when*, and *where* an organizational process is/emerges often lead us to observe this phenomenon as it is, without active manipulation of independent variables. Here, we have the options of conducting exploratory/descriptive studies or correlational studies (Black, 2002). Research questions about *how* and *why* an organizational process emerges/unfolds can be answered by observing phenomena as they naturally occur. However, these questions are better addressed via research that manipulates conditions to evaluate the impact of such changes. We can use correlational (with some limitations) and experimental research to answer these types of questions (Black, 2002). Below, we discuss the potential and limitations of exploratory/descriptive, correlational, and experimental designs as approaches to investigate organizational processes. After that, we focus on data collection.

Exploratory/descriptive studies

Exploratory/descriptive studies allow for an in-depth examination of a particular organizational process, providing new insights, or generating new research questions. While exploratory/descriptive studies should have clear objectives informed by current theories and evidence, they do not require outlining hypotheses to be tested. These studies are typically cross-sectional, concerned with the current state of organizational processes—the information that we have here and now (Brewerton & Millward, 2001). In organizational research, exploratory/descriptive studies can present an in-depth quantitative exploration of the situation of a particular unit of analysis (e.g., evaluating perceptions of ethicality of dubious practices among workers in the finance sector; Wheeler, Wood, Sojo & McGrath, 2016).

One significant risk of exploratory/descriptive studies is the potential for multiple variables, that have not been experimentally or statistically controlled, to impact the study results without the researchers being aware. This problem can be partially prevented by using previous research and theories to guide the objectives and approach to the exploratory research. While it is rare to see entirely descriptive/exploratory research published in mainstream organizational studies journals, producing this kind of study can help expose contradictions and missing elements in current theories (Aguinis & Vandenberg, 2014); this is both intrinsically valuable and can help generate new hypotheses to be tested.

Correlational studies

Correlational studies comprise the largest set of studies in contemporary organizational research, and this has been the case for a long time (Mitchell, 1985). When properly designed, correlational studies have the capacity to help us elucidate very complex relationships taking place in different organizational contexts, while preserving external validity. Often, correlational studies use statistical coefficients to estimate the magnitude of the association between the variables of interest by focusing on differences *between* units of analysis. There are three basic properties of the associations between variables in correlational studies: their strength (i.e., how closely two variables are correlated), direction (i.e., whether the correlation is positive or negative), and shape (i.e., what rate of change exists between the correlated variables, which creates linear or non-linear relations; Brewerton & Millward, 2001). Perfect linear correlations are rare in real world organizations. However, correlations are too often *assumed* to be linear. Researchers should instead evaluate the shape of the relationships they are studying, starting with a basic bivariate scatter plot, and identify which function better describes the nature of the relationship they are investigating, before making decisions about appropriate inferential statistical analyses to conduct or drawing conclusions.

While cross-sectional studies can be used to identify associations and provide insights for future research, they have severe limitations in their capacity to help us ascertain whether changes are occurring in the organizational processes we are studying or whether there are causal relationships between the variables. That is, they have several threats to internal validity (Campbell & Stanley, 1963). Because of these limitations, most high impact, mainstream journals publishing quantitative organizational research are less likely to accept cross-sectional correlational studies by themselves (e.g., Antonakis et al., 2019; Bono & McNamara, 2011). This practice is not due to an inherent bias against cross-sectional research. The concern here is that there is a mismatch between the nature of the organizational phenomena we are researching (i.e., the fact that they are processes with changes over time) and the selection of a cross-sectional design (Bono & McNamara, 2011), and the well-known *endogeneity problem*—the potential for reverse causation or when a third variable explains the relationship between our variables of interest (Schwerdt & Woessmann, 2020).

Longitudinal correlational studies also evaluate the relationship between organizational variables without manipulating them. However, they go a step further by separating measurements of key variables across time points. In these designs, the predictors are measured at an earlier time relative to the intervening variables (e.g., mediators or moderators) and criteria, to mimic the hypothesized temporal dynamic relations between these variables. The simplest form of longitudinal study preserves the concern with differences *between* units of analysis and temporally separates the measures of predictors and mediators or moderators from the criteria (e.g., evaluating the mediating role of job self-efficacy and job demand in the ethnicity-depression relationship; Adamovic, Sojo, Schachtman & Vargas, 2022). This type of design is also common in studies dedicated to measurement development

and validation to establish criterion-related validity and test-retest reliability (Brewerton & Millward, 2001).

Other organizational longitudinal studies focus on *within-unit* differences. Researchers have recognized that evaluating changes within units of analysis across time, in the short- and long-term, is critical to understanding dynamic organizational processes. To model a dynamic process, researchers take multiple samples of the same units, such as individuals, teams, organizations, or inter-unit relations across time. These studies can help evaluate how intra-individual changes are systematic and predict other organizational processes (e.g., evaluation of temporary task-contingent personality changes as a predictor of adaptive job performance; Minbashian, Wood & Beckmann, 2010) or how change over time in our units of analysis can both be predicted by and predict organizational processes (e.g., evaluation of the impact of patterns of growth over the years in female representation within organizations on collective employee turnover; Maurer & Qureshi, 2021), among many other dynamic processes.

Some of the designs used in these longitudinal studies, such as experience sampling methods, have the potential to reduce memory bias when surveys are used. That is, the errors in recollection that occur when participants are asked to report on events that happened a long time ago or to engage in mental aggregation are less likely to occur with multiple measures of contemporary events (Beal, 2015). Similarly, by taking multiple measures of the set of relevant variables, investigators can reduce bias due to responses impacted by events (e.g., momentary negative affect at an individual level, seasonal effects in spending behavior at the firm level) that took place at a specific point in time (Spector, 2006). Finally, by using different sources (e.g., supervisor, subordinates) and types of data (e.g., survey responses, permanent records, biological markers via wearable devices) we can prevent common-method bias in our measurement process and reduce the risk of inflated correlations.

There are many ways to improve the quality, including internal and external validity, of correlational studies. As indicated earlier, using sound theories as the guide for the selection of constructs to measure and the kind of relationships to explore is a necessary first step. Theory should also guide the inclusion of control variables to rule out potential alternative explanations to the associations you might find. However, the way we use control variables can impact Type I and Type II errors. For instance, control variables can increase Type II errors if they partial out true variance from the substantive relationship being studied (e.g., Spector, Zapf, Chen, & Frese, 2000). Also, excluding control variables that are not correlated with the dependent variable is necessary to prevent reductions in statistical power or increased chances of Type I error via a spurious suppressor (Becker, 2005). Finally, researchers need to make sure the measures they are using are valid and reliable and must articulate a clear explanation of why specific variables and measures were selected (Aguinis & Vandenberg, 2014).

Longitudinal correlational studies represent an improvement in the match between the research design and the nature of the phenomena that are typically studied in organizations, relative to cross-sectional research. Yet, the risk of test reactivity due to multiple exposures to the measurement instruments impacting how people might respond to subsequent measures remains. Also, longitudinal organizational studies are hard to execute with time-poor workers who are often volunteering to participate in the research. Similarly, these studies still lack the rigor of experimental research, increasing risk to internal validity. Nevertheless, when properly designed and executed, longitudinal correlational designs can help us understand organizational processes as they occur and achieve better external validity by allowing us to make inferences about the populations, contexts, and measures to which we can generalize our findings (Campbell & Stanley, 1963).

Experimental studies

Experimental research is still considered the pre-eminent way to test hypotheses in organizational research and beyond (Eden, 2017; Van Quaquebeke, Salem, van Dijke, & Wenzel, 2022). The push for experimental research in organizations is based on (i) a clear understanding of organizational phenomena as processes emerging from precipitating events, producing changes, and somehow ending and (ii) the need to develop and refine theories in a way that allow us to establish causal relationships (Eden, 2017; Aguinis & Vanderberg, 2014). Notions (i) and (ii) above underpin the logic of experimental research:

- the active manipulation of independent variables;
- use of randomization in the creation of experimental groups and allocation of their treatments to help ensure pre-experimental equivalence;
- evaluation of how the independent variables impact mediators and dependent variables in a temporal sequence;
- isolation of the potential impact of extraneous variables that can hinder internal validity (Campbell & Stanley, 1963; Kerlinger & Lee, 1999).

In organizational research, we find a continuum between laboratory and field experiments. At one end, we find *laboratory experiments* that allow for the manipulation of independent variables, randomization of participants and treatment, and measurement of mediating and dependent variables in a controlled environment, reducing the impact of threats to internal validity (Campbell & Stanley, 1963). Laboratory experiments are particularly useful to test the underlying mechanisms for organizational processes (e.g., manipulating participant affect and perceived power to test their impact on focus and yield during dyadic negotiation simulations; Overbeck, Neale & Govan, 2010). At the other end, we have *field experiments*, where we are still manipulating independent variables, using randomization in the allocation of treatments and creation of treatment groups, to test their effects on dependent

variables in otherwise largely unaltered settings (e.g., randomization of nurses to treatment conditions based on the experimental manipulation of type of reward, visibility of the reward, and contact with service beneficiary to test their effect on the number of correct surgical kits assemblage; Bellé, 2015). For an overview of field research, see Chapter 5 in this volume by Sherry Wu.

The distinction between lab and field experiments is one of forms and degrees of control of variables that can impact the internal validity of the study and the creation or use of settings and sampling procedures that help enhance external validity (Eden, 2017). For instance, we can find experiments where interventions are delivered in controlled environments but where there is clear interest in increasing external validity. This can be accomplished by manipulating organizational practices or having organizational operations as dependent variables, with the objective of providing validated practical tools to organizational agents (e.g., a randomized control trial to evaluate the impact of an unconscious bias training program on the self-efficacy of workers to prevent bias in recruitment and selection; Stratemeyer et al., 2018).

Historically, lab experiments in organizational research have had a micro-focus, with behavioral disciplines dominating the field. Research focused on individual and team units of analysis afford the possibility of experimental manipulation of variables in artificially created environments, as well as randomizations of participants and experimental treatments, as ways to reduce the impact of potentially confounding variables. However, the processes are different in terms of selecting control conditions (e.g., it might be impractical for organizational purposes), as well as accounting for or eliminating all factors that might impact internal validity. This can be seen when we need to test interventions with large units of analysis, such as organizations. Then, field experiments allow for controls of independent and confounding variables to preserve internal validity, while enhancing our capacity to

generalize findings to similar organizational conditions as those where the study was conducted (Eden, 2017).

Cluster randomized controlled trials (CRCT) are a promising approach to field experiments that target large units of analysis such as teams, sites, or organizations. CRCT are useful in situations where investigators want to preserve the benefits of randomization, yet they are researching real organizational units of analysis where randomization of individuals into treatment groups is not feasible or desirable (Hunter, Miles, Paddock & D'Amico, 2013). In these experiments, participants remain in groups they already belong to, and the group is randomized into treatment conditions (Vetter & Chou, 2014). CRCT allow for some level of pre-experimental equivalence and the potential to statistically control for variables that may moderate the effect of the intervention at the individual- and cluster-level of analysis (e.g., a CRCT to evaluate the impact of a mental health intervention among workers using an intervention-wait list design across multiple hospitals; Mulfinger et al., 2019).

When complete experimental designs are not possible, researchers can use quasi-experimental designs, making the most of naturally occurring interventions to test their effects on dependent variables, in otherwise largely unaltered settings (e.g., testing the impact of government legislation on human resources discriminatory practices across two jurisdictions; Trzebiatowski et al., 2020). While quasi-experiments do not use randomization and restrict our capacity to establish pre-experimental equivalence, in many settings they provide the best approximation to a test of our hypotheses and treatment effects. In summary, organizations are complex systems, with multiple goals, interests, and logics operating at the same time. Those conditions could limit investigators' capacity to execute perfect experimental research designs. Nevertheless, you should not feel discouraged or assume that field experiments are impossible or too hard (for a broader discussion of field experiments in organizations, see Eden, 2017). Instead, use negotiation skills, networking, and plain language to explain to

relevant organizational stakeholders the value in achieving research conditions as close to pure experiments as possible, and present a plan with specific requirements to achieve those conditions.

Data collection

There are several aspects of organizational data collection worth discussing. We start this section with some key considerations. Then, we focus on sampling strategies and sources of data, including getting access to organizations.

Conceptual and contextual considerations

The process of data collection in organizations starts with theorizing. One of the most important ways in which theories are meant to guide our research approach is by providing us with clearly defined constructs to explore. This process involves using previous research to both define our concepts and differentiate them from related constructs (MacKenzie, 2003). In organizational measurement, we want to capture all relevant aspects of the construct, while avoiding capturing elements that are not part of it. However, most of the words we use to define the constructs of interest are regularly used by lay people (e.g., groups, culture, negotiation), and in many cases refer to internal cognitive and affect processes (e.g., personality, values, problem-solving). Therefore, we need to make sure we use unambiguous definitions of the concepts we are studying before we select or develop measurement tools (Aguinis & Vandenberg, 2014). Part of this specification process is defining with clarity at what unit of analysis the construct is operating.

For instance, are we interested in understanding *individual experiences* of being a target of workplace sexual harassment or are we researching *perceptions* of sexually predatory *organizational cultures*? These questions do not deal with the same concepts (i.e.,

personal experiences versus perceptions), and they are not concerned with the same units of analysis (i.e., individual versus organizational; Sojo, Wood & Genat, 2016). We need to define the construct of interest (e.g., workplace sexual harassment) for a unit of analysis (e.g., individuals, teams, organizations, dyads, networks) that is relevant to our research question before proceeding to define our sampling strategy or select measures for it. Once we know what we want to measure, we can focus on selecting or developing data collection protocols that are valid and reliable (for a discussion on these topics, see Chapter 9 on reliability by Tenko Raykov and Chapter 10 on validity by John Skowronski in this volume), as well as decide where we would obtain relevant data.

Sampling strategies

An important aspect of quantitative scientific research is being able to generalize our findings from the samples we study to the populations they belong to. Effective sampling requires defining the units of analysis that are relevant to our research questions (e.g., individuals, dyads, organizations). The next step is engaging in a process to either include all the relevant units that exist in the population or select a subset of them that matches the most relevant properties of the population (i.e., a representative sample). Therefore, sampling requires a good understanding of the distribution of attributes of the population that are relevant to our research questions (Black, 2002).

There are many ways to conduct sampling in organizational research. Random sampling, where each member of a population of units of analysis has an equal chance of being selected, is considered the gold standard of sampling. There are different forms of this strategy. For instance, some involve stratification by specific attributes (e.g., gender, region, industry) to guarantee similar representation of those attributes in our sample relative to the population. We can also sample clusters of units (e.g., workers nested in hospitals,

organizations nested in regions). This process can be staged by first selecting regions, then specific organizations in those regions and then specific workers or clients in those organizations (Black, 2002; Kerlinger and Lee, 1999). In all these cases, we require a complete enough list of potential units of analysis (i.e., the population), and means to contact them, to be able to effectively do random sampling.

Therefore, it is unsurprising that non-random samples are very common, if not the norm, in organizational research (Fisher & Sandell, 2015). Sometimes investigators use purposive sampling, handpicking units they believe are representative of the most study-relevant attributes of the population. Usually, investigators default to convenient samples, by conducting their research on units of analysis that are available to them (Black, 2002; Kerlinger and Lee, 1999). A critical problem with this approach is that organizations can have a variety of specific dynamics that are not found elsewhere, limiting our capacity to generalize findings from non-random samples (Landers & Behrend, 2015). There are different ways to tackle this conundrum. We can use probabilistic sampling, when possible, and provide accurate and systematic descriptions of the context where our studies were conducted, the relevant attributes of their population, and characteristics of the sample obtained. Transparent reporting of sample limitations is required for others to accurately replicate research findings. Similarly, the potential and limitations of the sample must be discussed, and findings should be interpreted in that context.

Sources of organizational data

Knowledge about and access to sources of data impact the sampling strategies researchers use. The most basic distinction in types of organizational data we can make is between primary and secondary sources. *Primary data* are collected via direct surveying, evaluation, or observation of organizational stakeholders (e.g., employees, managers, clients)

and stages of organizational processes. *Secondary data* include stakeholder and administrative information related to organizational processes that has already been collected, and more or less systematized, by an organization or third party.

Primary organizational data

Primary data in organizations can take many forms. If your research question requires collecting data about the internal cognitive and emotional processes, experiences and behaviors of individuals and teams in organizations, then psychometric questionnaires, surveys, implicit measures, reaction time, physiological instruments (both wearables and in the laboratory), and observation protocols can all be useful tools to gather primary data.

Getting access to organizations may be a necessary step to gather primary data. You will need a level of clarity about your project that makes it possible for you to explain to any organizational stakeholder the *what, why, how, when, and where* of your research. Vagueness about what you are trying to achieve can increase the likelihood of being shut down by time-poor, risk-averse stakeholders in the initial stages of getting access to an organization. Ambiguity in your explanation can also allow organizational actors (e.g., executive team) to shape your project in a way that does not help you answer the research questions (Brewerton & Millward, 2001).

Before you can brief organizational stakeholders to secure their buy-in, you need to be invited to do so. There are many ways to get there. A bottom-up approach would include making lists of private-sector peak bodies (e.g., chambers of commerce, professional associations), government agencies, and firms that might be interested in your research, either to partner with you and promote the research among their networks or to directly participate in your research. Once those lists are created, you need to decide how you will approach them. You can think of your personal and professional contacts inside and outside academia who can put you in touch with organizations, or you can do a cold call/email. Sometimes

talking to junior employees among your personal networks can be the first step in this process.

At this point, your research design might be an important consideration. For instance, if your research question requires the use of a cluster randomized controlled trial, you might need access to several organizations from a sector or region (e.g., all the hospitals in a specific jurisdiction to investigate the longitudinal impact of employee engagement on patient outcomes and insurance costs; Garud, Pati, Sojo, Bell, Hudson & Shaw, 2022). In this situation, it would be too cumbersome to reach out to each individual organization. Putting your efforts into connecting with private-sector peak bodies and government agencies that will help you reach out to the target organizations might be a more sensible approach.

Another way to get access to organizations requires playing a longer game. Regular engagement with public and private sector entities can help you develop your own network of organizations. This network can be enhanced by attending and presenting at industry and government conferences and events, publishing popular media articles based on your research, making submissions to government inquiries into issues directly relevant to your research, and when possible, volunteering your time to advise government and not-for-profit organizations. If your research is excellent and has direct relevance to organizational decision-making, creating these networks will allow you to have real-world impact and get access to organizations for future research projects. You might even find yourself in a situation where organizations *come to you* with resources and opportunities to do research.

Once you have a foot in the door, you need to think about how to persuade stakeholders to come on board. In previous research projects we have conducted, we have produced plain-language two-page briefs for senior leaders about our proposed projects. In these briefs, we cover the applied and scientific needs to conduct the research, how we would do it, what we would need from the organization (e.g., access to documents, spaces,

employees, funding) and its stakeholders (e.g., attending briefings, answering surveys, wearing devices), and the direct (when they exist) and indirect benefits to the organization. (See Appendix A for an example).

Online panels

An efficient way to collect data about organizational processes is using online panels. Online panels are electronic databases of individuals who have registered their interest to participate in web-based research studies (Callegaro et al., 2014). Access to these prospective participants is brokered by online panel platforms (e.g., Qualtrics, StudyResponse, MTurk). There are several advantages to using these panels of participants. For instance, researchers can reach participants from across the world, in specific industries or occupations, in a relatively affordable and efficient manner (Porter, Outlaw, Gale & Cho, 2019). Similarly, these platforms can be useful to access minority populations who might be hard to reach (e.g., LGBTIQ+ or low socio-economic status workers; Smith et al., 2015).

However, the use of online panels for organizational research has been called into question (Porter et al., 2019). For instance, these participants might have experience with widely used experimental paradigms that rely on deception, biasing their responses and reducing the strengths of experimental manipulations (Chandler, Mueller & Paolacci, 2014). Also, the representativeness of the samples can be a problem if platforms do not use probability-based methods for sampling, the researchers do not specify relevant attributes to stratify samples on, or you need access to difficult to access samples such as leaders or high-paid workers. Finally, online participants' inattentiveness has been presented as a problem. However, the levels of participants' attention and psychometric properties of instruments are comparable across online panels and standard samples of university students and traditional participant pools (Goodman & Paolacci, 2017; Hauser & Schwarz, 2016). Similarly, meta-analytic research has shown, across a range of applied psychology studies, that results based

on online panels are not different from results based on samples of university students, workers, and members of the community collected via direct approaches (Walter, Seibert, Goering & O'Boyle, 2018).

Secondary organizational data

Many important research questions require the use of secondary data. For instance, studies about the relationship between macro-processes (e.g., organizational strategies, the link between government regulation and firm processes) or cross-level processes (e.g., organizational processes impacting team and individual level processes and vice versa) can be conducted relying on secondary data. The richness of these databases cannot be underestimated. You can get access to annual reports, remuneration for company directors and executives, general and financial company announcements, products and services, key personnel, and more for publicly listed companies (e.g., Connect 4, D&B Hoovers, MarketLine, Mint Global). These sources will allow you to conduct longitudinal research about organizational, economic sector, and region variables. Your university might already have access to them. Ask your librarian.

Similarly, national bureaus of statistics around the world often enter partnerships with academics or have protocols to facilitate access to databases of organizational information. For instance, the Australian Bureau of Statistics (2022) grants access to the Business Longitudinal Analysis Data Environment (BLADE), a database system that contains information about business characteristics, trade, investment in research and development, intellectual property, tax, and many other organization-level variables that allows for rich longitudinal analysis of firms and the environment where they operate. These datasets can be objective and reliable when institutions have safeguarding mechanisms in data collection and storage; they also facilitate multi-source research. Finally, linking individual-level survey responses and independently collected administrative data about organizations can allow for

the testing of multi-level hypotheses, yet not without addressing methodological and ethical complexities (for a review, see Calderwood & Lessof, 2009).

Ethical considerations

Researchers should operate with integrity and follow the ethical guidelines of the discipline and jurisdiction where they are conducting research. Ethical guidelines, more broadly, are described in detail in Chapter 2 within Volume 1 of this Handbook. Below, we focus on three ethical risks that are specifically relevant to organizational research.

Reputational risks

Companies can be exposed to reputational risks if participants from de-identified organizations share facts that others may be able to recognize, and thus detect the identity of the unnamed organization. There is also a risk to employees, even when their names and identities have been masked. For instance, certain circumstances may be too particular to one individual so that a colleague or supervisor might be able to pinpoint the de-identified participant, who in turn may suffer reputational damage and other consequences, such as loss of employment. This risk often results in an unwillingness from employees to participate in organizational research. Aggregated, quantitative research in organizations minimizes the risks of the disclosure of such information, but this reputational risk is important to keep in mind for mixed-methods research that contain open-ended responses.

Privacy risks

The use of secondary sources can also lead to privacy risks. For example, when matching administrative data on organizations to supplement your primary organizational data, it is vital to ensure that consent to match data has been secured (Calderwood & Lessof, 2009) and that *de-identified* organizations cannot be recognized and identified via the secondary organizational data you have incorporated. Having these discussions with partner

organizations before commencing the research is an important step for ensuring transparency and facilitating a relationship based on trust.

In longitudinal designs, where employees are sampled at multiple points in time, researchers must decide how to guarantee participants' privacy, as some identifying feature is needed to match anonymized responses across assessments. Instead of requesting a name or an email address from participants at each time point, allocate to each participant a unique identifier that they must include in surveys they submit. If email addresses must be included due to the logistics of your study design, storing identified data securely and separately from participants' responses is required. Participants also need to be informed of confidentiality, privacy, and data storage procedures.

Risk of coercion

Dependent relationships can lead to risk of coercion when recruiting participants in organizational research. Using personal contacts comes with the risk of dependent relationships, where there can be an unequal distribution of power and influence (Clark & McCann, 2005). If the researcher is in a position (or a perceived position) of higher power or seniority, or if organizational leaders agree to take part in a study, employees may feel coerced to participate (Brewerton & Millward, 2001); this is a violation of people's rights to autonomy and to their option to withdraw at any time (or within a specified time). Existing relationships need to be disclosed and risks associated with dependent and unequal relationships mitigated by, for example, having an independent researcher or recruitment service send out invitations to participants and explaining with clarity that participation is completely voluntary, to reduce the risk of coercion.

Diversity, equity, and inclusion in organizational research

As scholars of organizational research, it is important to observe and challenge the lack of diversity in the theories, methods, researchers, and participants within the discipline. To provoke a discussion on this topic, Cunliffe (2022) argues that not only is theory generation in organization and management studies done by men, but there is also a requirement for all contributors to theorize and write more like men. That is, there are norms for the academic writing of ‘good theories’ to be based on a *masculinized rationality* that is devoid of people’s rich experiences of how they engage with work, life, and self. Interesting enough, it does not stop at theorizing. Bibliometric research indicates that journal articles about research methods are predominantly written by male academics (Aguinis et al., 2019) from wealthy developed economies. While Cunliffe’s critique comes from a qualitative research methodology, the ethical considerations of the lack of inclusion, or the mandate to assimilate to successfully publish, is also applicable to quantitative research and the foundational theories that support organizational research.

To illustrate a practical way to address the lack of diversity in the authors of organizational research and theory, we all have the power to decide who we cite in academic publications (Holman, 2022). We should critically reflect on the authors we cite in our manuscripts and consider replacing antiquated citations with high-quality studies by contemporary and, both disciplinarily and demographically, diverse authors who may be otherwise overlooked. Reviewers also have a role to play as gatekeepers of which papers successfully make it through the peer-review process and are published in academic journals. Researchers and reviewers can acknowledge Cunliffe’s (2022) and Cortina & Landis’ (2013) perspectives by genuinely being more open to novel and innovative ways of theorizing and designing organizational research.

PhD programs have a big responsibility too. By both improving the quality of teaching in organizational theory and methods, and actively recruiting PhD candidates that are more diverse across several demographic characteristics, paying particular attention to protected attributes in their jurisdiction. It is easier to address calls for more diverse participants in organizational research when we collaborate with researchers that are also more diverse. For instance, the authors of this chapter do not conduct research about gender, sexuality, ethnicity, or disability without having diverse collaborators across those demographic dimensions. This approach does not guarantee eliminating all our *blind spots*, but it is a useful strategy to consider lived experiences and learn from different academics. Similarly, when studying industries or roles that are male- or female-dominated, such as mining or nursing, researchers must decide if it is more appropriate to recruit a sample that represents the current demographics of the role, or one that aims for a more balanced representation of men and women. In the first instance, we would capture the attitudes and behaviors of those who predominantly make up the role. Yet, a more balanced sample can help to ensure that minority voices are heard, and traditional views of gendered roles are challenged, giving researchers a better understanding of all individuals in a workplace or industry – not just of those who comprise the majority.

Another practical solution of relevance to the field of organizational research is avoiding (both in planning and attending) academic panels on research methods that are made up of only men, or in some cases, only white men, colloquially referred to as ‘manels’. You can simply start by asking the organizers whether they have considered the diversity of the panelists. Finally, joining other minority voices in online communities for support, amplification, and the sharing of opportunities, such as social media groups that bring together underrepresented groups who are passionate about research methods.

Conclusions

Given the ubiquity of organizations, organizational research has the potential to contribute significantly to understanding and positively impacting human life. Improving the quality of our approaches, including diversifying our collaborators, theories, questions, designs, and samples, has the potential to provide a more comprehensive look at what is happening in and around organizations worldwide. Doing organizational research is a privilege, and we can give back to organizations and the community by making sure we conduct our research and peer-review with a developmental mindset (e.g., no gatekeeping), ethically, rigorously, and prioritizing the welfare of all our stakeholders.

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[Project title – make it descriptive and in plain language]

[Researchers' titles, full names, and academic/industry affiliations]

Research background:

[Explain why the research matters using scientific evidence of the existence of an organizational problem.]

[Provide relevant industry data to support your claims.]

[Explain why you need to do the research in order to help the stakeholders solve an organizational problem.]

[Describe a process model of the problem you are investigating – *500 to 800 words.*]

[Insert a figure with a diagram depicting the process model you described above – *1/3 of a page.*]

1. Project objectives:

[Explain in plain language the objectives of the project; no more than three to keep it simple – *100 words.*]

2. Research Strategy:**2.1. Research Procedure:**

[Explain the core aspect of your research design that stakeholders need to understand to agree to participate – *100 words.*]

2.2. Participants:

[Describe what kind of participants you are aiming to recruit and that you will seek their consent first – *50 words.*]

3. Benefits to Partner Organizations:

3.1. **Reports:** [Explain all the reports and briefs they will receive and why they will be useful – *100 words.*]

3.2. **Capability building:** [Describe any organizational process changes or upskilling of staff that will result from your program of research – *100 words.*]

4. Funding model (required commitment from participating organizations): [150 words in total]

4.1. **Cash contribution:** [If any is needed, explain how much money the organization would have to contribute, the instalments, and why the cash contribution is needed - make a business case for it.]

4.2. **In-kind contribution:** [If any is needed, explain the type of non-cash material and staff support you expect to get from the organization in order to successfully complete the project and why this support is needed.]

4.3. **Note:** [Explain whether and how the cash and in-kind contributions can be negotiated.]

4.4. **University contribution:** [Explain what kind of contribution you and your university will be making to the project.]

5. **Contact:** [Provide title, full name, email address and phone number of the main contact with authority to discuss the project – *10 words.*]