CASE STUDY RESEARCH: A VALUABLE LEARNING TOOL FOR PERFORMANCE IMPROVEMENT PROFESSIONALS

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Although it is sometimes recommended that performance improvement (PI) professionals include experimental research designs in their repertoire of PI tools and methods, it has been long understood that experimental designs can be difficult to implement due to impediments resulting from the complex nature of the organizational settings. However, the utilization of case study research has proven to be an effective alternative to aid in the identification of strengths and opportunities for the improvement of organizational procedures, policies, processes, or programs. Case study research helps managers and practitioners make sense of real world problems. This article presents a summary of steps in the design of case study research and provides examples of how these methods have been used within organizational settings. Implications for PI practitioners are provided.

PERFORMANCE IMPROVEMENT PROFESSIONALS use a variety of processes, methods, and tools to help in the understanding of problems, to help design interventions that address these problems, and to evaluate the effectiveness of the selected interventions to ensure a proper return on expectations. Often these information-gathering methods and tools try to emulate those long-utilized by experimental researchers. However, due to the complex nature of organizational phenomena, true experimental designs often gain little traction as a viable option for performance improvement (PI) practitioners seeking tools that are useful and cost-effective to implement (Mulder, 1999). As the key purpose of any improvement effort is to learn from the past in order to predict or change the future, or to learn from best practices identified in one work unit in order to scale up or replicate in another work unit, it is important to invest in methods that will enable the practitioner to easily capture information from the particular in order to generalize to other relevant work groups. Case study research is an often neglected but useful research methodology that can be utilized to accomplish this. It is an effective tool for managers and practitioners to make better sense of workplace issues, thus further supporting problem solving and PI efforts, and one that all practitioners should have in their PI toolboxes.

The purpose of this article is to briefly summarize the key steps involved in the design of case study research, and to present examples of case studies in which the results were used to inform the design of policies, practices, or other processes to improve performance in organizations. Although it is not the goal of this article to present exemplars in case study design, the reader may be able to identify commonalities between the issues and needs inherent in each of the cases and the reader's own organization, and to extract applications that will help in the translation of case study findings into learning opportunities.

CASE STUDY RESEARCH

In case study research, a case describes a specific activity, event, series of events, or problem (Dooley, 2002) and focuses on making sense of the dynamics in a single case or in multiple cases (Dooley, 2002; Torraco, 2002). Eisenhardt (1989) described case study research as "a research strategy which focuses on understanding the dynamics present within single settings" (p. 534). One of the key advantages of case study research is that it applies to real world situations. This benefit is supported by Torraco's (2002) comment: "Case study research offers significant benefits for those seeking to develop theory in new, largely unexplored areas and for organizational phenomena that are particularly complex and paradoxical" (p. 371).

When designing case studies for understanding the nature of phenomena in organizational settings, the following characteristics of the design, provided by Benbasat, Goldstein, and Mead (1987), should be considered:

- Phenomena are examined in a natural setting.
- Data are collected by multiple means.
- One or few entities, that is, person, group, or organization, are examined.
- The complexity of the unit is studied intensively.
- Case studies are more suitable for the exploration, classification, and hypothesis development stages of the knowledge-building process; the investigator should have a receptive attitude toward exploration.
- No experimental controls or manipulation are involved.
- The investigator is unable to specify the set of independent and dependent variables in advance.
- The results derived depend heavily on the integrative powers of the investigator.
- Changes in site selection and data collection methods could take place as the investigator develops new hypotheses.
- Case research is useful in the study of "why" and "how" questions because these deal with operational links to be traced over time rather than with frequency or incidence.
- The focus is on contemporary events (Table 1, p. 371).

The steps typically used in the design of case study research that are presented in this article comprise the following: (1) articulating a theory; (2) defining the research problem; (3) selecting one or more cases; (4) preparing for and collecting data; (5) evaluating and analyzing data; and (6) preparing a report (Dooley, 2002) or presenting findings to relevant stakeholders.

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ARTICULATING A THEORY

The first step in the case study design process is to articulate a theory. Theories are needed "to satisfy a very human 'need' to order the experienced world. The only instrument employed in the ordering process is the human mind and the 'magic' of human perception and thought" (Dubin, 1978, p. 7). Theories play an important role in our everyday lives (Lynham, 2000). They help us understand the world and assist in predicting what will happen and why (Lynham, 2002). Making sense of the complexity in the workplace helps organizations streamline their processes and allows managers and practitioners to make more informed decisions.

Lewin (1945) stated that there was "nothing quite so practical as a good theory" (p. 129). In response to this notion, Whetten (2002) reminds the reader that theory is useful in guiding practice, and that only good theory is practical. Multiple definitions and explanations for what constitutes a "theory" can be found in the literature. Van de Ven (2007) identified theory as "the mental image or conceptual framework that is brought to bear on the research problem" (p. 19). Jaccard and Jacoby (2010) defined theory as "an explanation of relationships among concepts or events within a set of boundary conditions" (p. 112). Simply stated, theory can best be represented by Sutton and Staw's (1995) belief that "theory is about the connections among phenomena, a story about why acts, events, structure, and thoughts occur" (p. 378). To further define the term theory, Whetten (1989) asserted that any good theoretical contribution must contain the following elements: (1) *what*, (2) *how*, (3) *why*, and (4) *who, where, when*. The *what* relates to the conceptual system, that is, the concepts, constructs, and variables that comprise the phenomena being studied. The *how* relates to the relationships between the concepts, constructs, and variables that make up the conceptual system. The *why* relates to the explanation of the relationships that comprise the conceptual system. Whetten (1989) explained that a good theory "includes a plausible, cogent explanation for why we should expect certain relationships" (p. 491). Lastly, *who, where, when* represent the boundaries, barriers, and limitations to the explanations describing the phenomena.

To further clarify what constitutes good theory, it is useful to demonstrate what theory is *not.* Sutton and Staw (1995) asserted that references are not theory; data are not theory; lists of variables or constructs are not theory; diagrams are not theory; and hypotheses or predictions are not theory. Lynham (2002) also contributed that theory must be useful, and identified the following false assumptions about the role of theory in practice:

- Theory is disconnected and removed from practice.
- The process of theory construction happens in isolation of the real world.
- Those who engage in theory building or development are not the same as those who engage in practice or in the real world (p. 221).

These assumptions make the critical points that theory must be related to the phenomena being studied. Additionally, any theory developed should be practical to the workplace, to the situation, and to those who are impacted by the phenomena being studied. The theory also needs to be easily operationalized and economically sound so that it can be implemented and tested in the workplace in a timely and efficient manner. Whetten (1989) stated that theory should challenge and extend existing knowledge, not just rewrite it. Theory makes new connections between concepts, constructs, and variables with supporting literature, data, observation, and logical reasoning. Theories should be able to discover "the mechanisms that cause the outcomes managers care about" (Christensen & Raynor, 2003, p. 9).

Theories represent associations between specific concepts, constructs, and variables that take place while phenomena are being observed. Concepts are abstract ideas and are often organized into different clusters, representing higher-order cognitive processes called "constructs" (Jaccard & Jacoby, 2010). Variables can be physically measured and are composed of different levels or values (Jaccard & Jacoby, 2010). When relationships between concepts, constructs, or variables are identified, a conceptual system is defined (Dubin, 1978; Jaccard & Jacoby, 2010). These conceptual systems can be investigated to explain why certain relationships are present. Relationships within these conceptual systems can be either explanatory or predictive (Dubin, 1978; Jaccard & Jacoby, 2010). Explanation provides insights into a phenomenon, whereas prediction offers a means of predicting a future event or behavior (Jaccard & Jacoby, 2010).

The work by Bates and Holton (2002) represents an example of a case study in which the necessity arose to articulate a theory at the onset of the information-collection process. Recognizing that the "performance

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improvement field has been criticized for being too atheoretical" (p. 112), the study utilized a discovery-oriented information collection process to identify issues that multiple relevant participants believed could be contributing to low performance. Once these comments were aggregated, a *theory* was identified, and then relevant research and literature were consulted in an effort to corroborate the existing theory. Bates and Holton also revealed additional variables that were related to the identified themes, as well as a list of research-based measures that could be used to further assess participants' team performance.

DEFINING THE RESEARCH PROBLEM

Once a theory has been articulated, the research problem becomes the primary focus of the research project. The research problem statement must clearly define the case. The object of the case can be a program, a group or team, a person (Dooley, 2002), or a process. Van de Ven (2007) provided four basic activities for formulating a research problem:

1. Recognizing and situating a problem,
2. Gathering information to ground the problem and its setting,
3. Diagnosing the information to ascertain the characteristics or symptoms of the problem, and
4. Deciding what actions or questions to pursue to resolve the research problem (p. 72).

Typically, research questions are used in case study research, as opposed to hypothesis testing, due to the inductive nature of case study research. However, hypothesis testing could be incorporated as one type of analysis within a single case, in addition to other types of analysis. Research questions are to be related to the research problem; the case, or cases being studied; and any relationships between the identified program, group, person, or process. A full understanding of the objects relating to the case should be made known to the researcher, which might be performed by a thorough search of the literature. The research questions should address critical aspects of the problem that have been identified (Van de Ven, 2007). In their study of performance measurement dynamism, Korhonen, Laine, and Suomala (2013) clearly recognized that performance measurement dynamism has been understudied as a key concept that managers need to understand in order to better oversee strategy in organizations. Once this problem of a lack of understanding around performance measurement dynamism was recognized (i.e., step 1), more information was gathered from the extant literature to better define the problem (i.e., steps 2 and 3), and formal research questions were proposed (i.e., step 4).

SELECTING CASES

The third step in the case study research process is to select a single case as the chief evaluand of the investigation, or to select multiple cases if the study warrants a multi-case study. A case is found in real-life situations and consists of the setting, individuals involved, events, problems, and conflicts (Dooley, 2002) that provide case study research that is ideal for making sense of workplace issues. Merseth (1994) provided three essential elements of cases: "(a) they are real, (b) they rely on careful research and study, and (c) they foster the development of multiple perspectives by users" (p. 2). Cases vary from one situation to another. Five different types of cases have been identified by Yin (as cited in Bryman, 2008): (1) the critical case, (2) the extreme or unique case, (3) the representative or typical case, (4) the revelatory case, (5) and the longitudinal case. The critical case is when the practitioner already has a theory developed and selects a case that best tests the practitioner's hypothesis (Bryman, 2008), such as Yeh, Lai, and Ho's (2006) selection of critical companies that had already exhibited evidence of a fully implemented knowledge management strategy for over 5 years. The extreme case is presented by Bryman (2008) as a specific case of interest to the practitioner, compared to the representative case that identifies an everyday situation. The revelatory case occurs when a new area becomes available for study (Korhonen et al., 2013); and the longitudinal case involves collecting data over a period of time (Bryman, 2008), such as Ford and Angermeier's (2004) longitudinal evaluation of patient satisfaction scores over the course of multiple years.

The following list presents examples of how some cases have been defined and reported in the literature: eight microcomputer firms, eight project groups with deadlines, 10 technical innovations (Eisenhardt, 1989), factories, mass media reporting, communities (Bryman, 2008), eight companies chosen on similar characteristics, one U.S. city, and one information services development team (Benbasat et al., 1987). If multiple cases are selected, Dooley (2002) highlighted that each case must be treated as an individual case. Once each individual case is analyzed, then and only then should the cases be analyzed together to identify common themes and categories among the cases. For example, in Kennerly and Neely's (2002) multi-company case study evaluating the factors that affect the evolution of performance measurement systems, each company was first analyzed for its specific findings and was reported as individual cases; then overall themes from all of the companies (i.e., all cases) were assessed.

PREPARING FOR AND COLLECTING DATA

One advantage of case study research is that multiple methods of data collection methods can be used in the same study. By utilizing data collected using multiple methods, the researcher can triangulate the data. This triangulation provides "stronger substantiation of constructs and hypotheses" (Eisenhardt, 1989, p. 538). Incorporating additional sources of data to a case study research project also enhances its validity (Dooley, 2002).

Case study research can be supported using data from either quantitative, qualitative, or mixed methods techniques (Bryman, 2008; Dooley, 2002; Torraco, 2002). A number of data collection methods can be applied to case study research, including document analysis; surveys; questionnaires; Delphi processes (Dooley, 2002); observations; interviews (Dooley, 2002; Eisenhardt, 1989); archive analysis (Eisenhardt, 1989); and physical artifacts such as devices, outputs, and tools (Benbasat et al., 1987). Ford and Angermeier's (2004) case study of a large hospital demonstrated how multiple data sources such as qualitative sources of archival records that included meeting minutes, internal memos, external diagnostic surveys, and retrospective interviews—as well as a quantitative source of patient satisfaction surveys—were used to identify management principles that create an environment supportive of knowledge sharing and creativity. Because

it provides a large number of potential data collection options, case study research is a flexible tool for managers and practitioners who want to make sense of specific issues or problems in the workplace.

A researcher can begin with one type of data collection method and then decide to add additional data collection methods while the research progresses. The researcher may require additional data to increase understanding of a particular case. Eisenhardt (1989) described altering the data collection schedule by adding additional sources of data due to the emergence of new themes as being a form of "controlled opportunism" (p. 539). Case study research is similar to grounded theory in the sense that the researcher can incorporate additional data collection methods as new themes emerge and as the theory development progresses.

EVALUATING AND ANALYZING DATA

Evaluation of the data is conducted to identify relationships between the program, group, person, or process that had been identified in the problem statement. These relationships should address the research questions by shedding new light on the questions at hand. If more than one data collection method was used, the identified themes should be checked to see if the same or similar themes were identified using each data collection method. This triangulation method provides further support to the researcher's findings.

If multiple cases were tested, the analysis should first be conducted for each case. Eisenhardt (1989) recommended first analyzing data within cases, followed by cross-checking data between cases. Once each individual case has been analyzed, similar themes and/or conflicts between cases can be identified. Multiple themes can also be used to detect potential causal patterns (Dooley, 2002).

Dooley (2002) provided two types of analysis common in case study research: structural analysis and reflective analysis. Structural analysis focuses on identifying patterns; reflective analysis utilizes the researcher's personal judgement to infer conclusions (Dooley, 2002). When reflective analysis is used, triangulation is recommended to add validity to the researcher's inferences. Without triangulation, a researcher's inferences can be validated through their background, knowledge, and experience as a researcher.

Theory development is conducted from the interchanges between the within case analyses with the between case analyses. An iterative process is used throughout the theory-building process. The researcher looks for common themes, concepts, and events—along with identifiable relationships between variables (Eisenhardt, 1989). The researcher is constantly comparing any emerging

themes from the data, similar to constant comparison procedures. This iterative process presents a new theory that is supported by the data representing the case or cases studied in the research. For example, in a case study seeking to understand staff perspectives on collaborative quality improvement efforts in the intensive care unit, Dainty, Scales, Sinuff, and Zwarenstein (2013) used a constant comparative method to analyze codes and themes from interviews conducted among 15 hospitals. Codes were continually reviewed to "verify their descriptive content and to confirm that they were grounded in the data" (p. 319). This iterative process may continue up to the point when saturation is encountered. Eisenhardt (1989) identified saturation as the point when minimal to no incremental improvement is discovered. Additional criteria, provided by Lincoln and Guba (as cited in Dooley, 2002), are exhaustion of sources, saturation of categories, emergence of regularities, and overextension.

PRESENTING FINDINGS

Regardless of the final format for presenting the findings of a case study research project, the presentation needs to be a clear progression of the steps taken to provide the audience with a comprehensive description of how the theory and inferences were made. These inferences should be traced back to the original research questions, providing supporting literature or data when answering the research questions. Sutherland's (2004) case study investigation of the factors that contribute to a culture of data use in school change efforts demonstrates how findings should relate back to the original research questions and literature. For each component of the theorized conceptual framework, that is, school reform environment, motivation, institutional structure, and organizational learning, findings were reported and results were presented to confirm the original framework.

Theories must be practical and applicable to the situation that they represent. These issues should be made apparent when presenting a new theory, and the theories' practicality should be demonstrated with supporting evidence from the research. Case study research provides evidence of new emerging theories. Recommendations for continuing research on this emerging theory should be made so that more knowledge can be developed beyond the initial research. In addition, recommendations including how to operationalize the variables so that future theory testing can be conducted; situations in which the theory may not be applicable, along with situations in which the researcher feels the theory is most applicable; and gaps identified in the original study that need to be addressed should all be identified.

No single research method can be utilized to address all of the issues and problems identified in the workplace. However, adding case study techniques can aid managers and practitioners as they seek to make sense of work-related issues and needs.

CONCLUSION

This article summarizes how the case study method can be utilized by managers and practitioners in the workplace to inform opportunities for organizational improvement. No single research method can be utilized to address all of the issues and problems identified in the workplace. However, adding case study techniques can aid managers and practitioners as they seek to make sense of work-related issues and needs. Benbasat et al. (1987) explained that these techniques can be used to capture the knowledge from managers and practitioners in order to develop theories and gain new and valuable insights.

By first consulting the related research and other theories as a way to remain informed about the themes that emerged during the needs assessment, Bates and Holton (2002) were better able to articulate their own theories, as well as use more reliable and effective methods to conduct their assessment. Korhonen et al.'s (2013) efforts to clearly articulate research questions better informed their methodological considerations as well, specifically the choice to use interview questions to collect information. The careful selection of cases to study allowed Yeh et al. (2006) to illustrate strong knowledge management practices in companies with developed processes. A creative use of multiple data sources enabled Ford and Angermeier (2004) to shed new light on management practices that best contribute to knowledge sharing within the organization. Finally, Sutherland's (2004) method of referencing the original framework to inform the presentation of findings supported the reader's efforts to make sense of the factors that contributed to a culture of data use. Without the use of the case study methods described here, the information seekers from each study would not have been able to accurately understand issues present in their respective environments. Case study research allowed them to make more informed decisions about appropriate actions for growth or improvement.

By including case study research methods to the toolbox for managers and practitioners, practitioners will be more capable of making sense of their working environment, resulting in better decisions, the generation of real world solutions, and the distribution of new knowledge to their employees. ✎

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