The Case Study as Research Method

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n the data interpretation stage, the investigator’s creativity and imagination come into play. Researchers must harness their intuitive understanding to explain the phenomenon of interest. To do so, they should review the evidence at a higher level of abstraction and interpret it to extract the meanings they have deduced from the characteristics and patterns identified in the data analysis stage (Bardin 1996; Yin 2003). There is an important distinction between the preceding stage, data analysis, in which coding, classification and analysis techniques were applied to the content of the texts, and the more conceptual data interpretation stage, in which theoretical approaches to reality are applied (Richards and Richards 1994).

The interpretive process pursues reality but can never fully reveal it. What it can do is to mine knowledge that is potentially translatable into action (Wacheux 2002). It draws analogies with a view to producing tested, plausible theoretical explanations of the phenomenon under study. These explanations are developed gradually through a complex effort of idea generation, comparison and verification. The three activities are conducted simultaneously as part of an interconnected, incremental, iterative process (Hlady Rispal 2002a, b).

**STEP 7.1 Generate proposed explanations**

Coming up with possible explanations is probably the most delicate and demanding part of the case study, for it relies primarily on the investigator’s creativity and intuition. The challenge is to find a
plausible conceptual explanation for the phenomenon of interest (Eisenhardt 1989; Glaser and Strauss 1967; Hlady Rispal 2002a, b; Stake 1994).

As we have said, using the case study as a research method can shed new light on a phenomenon by developing or testing a theory. The final product may therefore be a concept, such as Mintzberg and Waters’ (1982) “deliberate” and “emergent” strategies, or theoretical proposals (Eisenhardt and Bourgeois 1988; Hlady Rispal 2002a, b). These novel ideas are referred to as new theories but they are developed by incorporating, exploring and building on existing theories, particularly when the aim of the study is to test one theory in particular (Richards and Richards 1994). The core of the interpretation process is an ongoing comparison of the new theory with the evidence for the purpose of producing a theoretical explanation of each case in its local context (Eisenhardt 1989; Wacheux 2002; Yin 2003).

To generate these ideas, concepts, hypotheses or theoretical proposals with the potential to explain the phenomenon under investigation, researchers have two main approaches available to them. First, they can revisit the preliminary stages of the process: they can go back to the definition of the research problem produced in the “assessing appropriateness” stage, review the definition of the research question in the “preparation” stage, reread the conclusions they drew at the time, or turn for inspiration to their original explanatory hypotheses and assumptions.

It is often possible to refine these concepts and constructs in the interpretation stage. The investigator may wish to review relevant indicators for each case. More often than not, the definitions of the constructs and particularly their measurement emerge from the data analysis and interpretation process. In a case study, factorial analysis can be used to combine several indicators into a single measure of a construct. Many researchers therefore use tables to systematically summarize the underlying data (Miles and Huberman 1984; Sutton and Callahan 1987; Yin 2003).

The second – and probably most important – approach available to researchers for generating explanatory ideas, particularly if the purpose of the case study is theory-building, is to apply their creativity and intuition. To do so, the researcher can start from the detailed description of each case and ponder its deeper meaning, consider the collected data and the associated patterns from a more
conceptual point of view, develop his or her impressions of these points, summarize them, and produce an overview (Richards and Richards 1994). This process prompts the investigator to search the evidence for new meanings and ideas, achieve a better understanding of a perception, behaviour or situation, and arrive at a description or explanation of the phenomenon of interest (Hlady Rispal 2002a, b).

To apprehend the phenomena and the causal relationships at a more abstract level, it is often useful to distinguish the particular from the general in order to subsume the former under the latter, and to identify the dependent, independent and moderating variables to determine possible relationships among them. The investigator may also attempt to establish causal relationships to help explain the phenomenon of interest, although these are fairly complex and difficult to measure with precision when working with qualitative data (Wacheux 2002; Yin 2003).

In my study of business executives and technology adoption, a number of important points emerged from the process of defining the research problem. First, market demand and the inherent attraction of the technology worked together to motivate businesses to migrate to new technologies. But the decision-makers faced structural, technical and human barriers to making the change. Secondly, there was a management model for the technology adoption process that provided managers with tools to help them overcome these barriers and successfully introduce the new technology at the company. Thirdly, this model was based on a planning approach and assigned the executive a critical role. Fourth, the case studies found in the literature showed that the executives were more inclined to use a trial-and-error approach to managing the technology adoption process. Fifth, executives could take two quite different approaches to the technology adoption process: entrepreneurial or administrative. Sixth, executives of small and medium-sized businesses were more likely to take an entrepreneurial approach and the rate of technology adoption was lower at those firms. Seventh, Stevenson had found significant differences between entrepreneurial and administrative behaviour in terms of five core dimensions: strategic orientation, commitment to opportunity, the resource commitment process, control over resources and management.

The development of the research question was informed by these points. It became clear to me that the question was two-pronged. First, given that there was a motivation to migrate to new
technologies and a technology adoption management model capable of overcoming the barriers to adoption was available, why was the rate of new technology penetration at the companies still relatively low? Second, why was it that in practice the executives managed the technology adoption process by trial and error when there was a well-documented planning model available that could guarantee a smoother and more successful migration, enabling the company to leverage the full potential of the new technology?

As the top executive plays a critical role in the technology adoption process, Stevenson’s distinction between entrepreneurial and administrative behaviour appeared relevant. It would have been logical to assume that both the executives’ motivations and the planning model for managing the technology adoption process would fall into the administrative category. However, my hypothesis was that technology adoption proceeded according to the entrepreneurial model. It was therefore to be expected that the executives would not be governed by administrative-type motivations for the adoption of new technologies and would not follow the technology adoption management model – all the more so as we were looking at medium-sized businesses, where we can expect to find entrepreneurial behaviour.

All these proposed explanations, and particularly the as-yet untested constructed dimensions in Stevenson’s model, had to be checked against the evidence.

**STEP 7.2 Check the proposed explanations against the data**

The development of explanatory schemes in the data interpretation stage yields explanations through a back-and-forth movement between generating ideas and checking them against the data. In this process, a series of cases is treated as a set of experiments in which each case serves to confirm or disconfirm the researcher’s proposed interpretations (Eisenhardt 1989; Yin 2003). The process of testing the explanations against the evidence should therefore be performed using embedded units of analysis, i.e., for a single case at a time. The evidence for all the cases should never be assembled and considered as one unit.

The purpose here is to determine to what extent the data on a case supports the researcher’s proposed explanations. In addition to a thorough and focused review of the evidence, asking informants...
to comment on the possible explanations the researcher has arrived at by studying their case can be a highly effective strategy at this stage (Yin 2003).

A proposition that is not supported by the evidence must be rejected. A proposition that is not fully supported should be revised accordingly. An explanatory scheme that fits one case can then be tested against another case, and so forth. Examining cross-case differences can be highly revealing. Useful methods for testing proposed explanations include establishing differences and similarities, probing the meaning of atypical cases, and examining extreme cases. We should also consider whether opposed interpretations and alternative explanations might also be supported by the evidence, and look for counter-evidence (Stake 1994; Yin 2003).

At what point should the investigator end the back-and-forth movement between generating explanations and testing them against the evidence? This can be done when theoretical saturation appears to have been reached, i.e., when the new proposed explanations are adding little or nothing of theoretical value (Eisenhardt 1989). We must also make sure that the process of iteration and review not make us lose sight of the original aim of the study. To avoid being sidetracked, we should always bear the research question in mind (Yin 2003).

As has been seen, theory building is no simple mechanical task: it is a creative endeavour. Checking the theory against the facts is an integral part of the process, not a subsequent stage (Richards and Richards 1994).

In my study of medium-sized business executives, I began the process of checking my explanations against the evidence by considering whether I had measures for each construct of the dimensions in Stevenson’s entrepreneurial/administrative behaviour model. If the results were positive for one case, I proceeded to the next until I had covered the 11 cases in my sample. This test supported my first hypothesis that Stevenson’s model fits the behaviour of medium-sized manufacturers, and my second hypothesis to the effect that this model could be applied to specific activities of business executives – to wit, the adoption of new technologies in the cases under examination.

I then tested my central hypothesis, that medium-sized business executives behave as entrepreneurs in the technology adoption process, against my data. For each case, I performed a fit analysis for all five dimensions of Stevenson’s model. I then located each case on the overall entrepreneurial/administrative behaviour continuum.
As Chart 4 below shows, while they did not all fall at the far end of the scale, 10 of the 11 medium-sized business executives were on the entrepreneurial side of the chart and the other was very close to the administrative end of the scale. Therefore, the evidence only partially supported my hypothesis; I had to adjust it and conclude that in medium-sized businesses migration to a new technology is an entrepreneurial act in the vast majority of cases but it is entirely possible to find administrative behaviour as well.

### Chart 4

**Positions of All Cases in Terms of Stevenson’s Model**

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<thead>
<tr>
<th>A</th>
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Entrepreneurial  Administrative

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**STEP 7.3**  
**Compare the proposed explanations that pass the evidence test with the existing literature**

When a proposed explanation passes the reality test and is found to fit the evidence, it should then be compared with what is found in the literature. The purpose here is to make a contribution to theory by identifying and analyzing any differences between the proposed explanation and existing theory.

It is very important, at the outset, to compare the concepts, constructs and theoretical propositions we are testing with those that already exist in the literature on the phenomenon of interest. If we find some support in the literature, this buttresses the internal validity of the study and makes it possible to generalize the results. The literature review should include not only studies that are consistent with the proposed explanations that emerge from our research but – just as importantly, if not more so – texts that contradict our own interpretations (Eisenhardt 1989).
One must also make sure there are no alternative explanations for the phenomenon. If any can be found, they too must be tested against the data and, if they pass the test, they should be used to enhance the proposed theoretical framework (Eisenhardt 1989; Stake 1994).

In my study of medium-sized business executives, I found no literature reporting findings or even musings about executive behaviour in the technology adoption process. Our results therefore made a contribution to the existing body of knowledge, but they were hardly generalizable.

I should point out that Stevenson’s model was described in the literature but there was no indication that it had been tested. My research therefore made a contribution to validating the model.

However, the data interpretation process will serve little purpose if the results are not disseminated to the scientific and professional community. This is the goal of the final stage.