

# Small-Data Analytical Culture Analytics in ERP

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## INTRODUCTION

*[C]ulture is an important factor at the policy and strategy levels. The ability to understand and appreciate the role and impact of culture on policy and strategy is increasingly seen as a critical strategic thinking skill. Cultural proficiency at the policy and strategic levels means that ability to consider history, values, ideology, politics, religion, and other cultural dimensions and assess their potential effect on policy and strategy.... [Culture as a framework] includes the following dimensions: cultural considerations at the individual level; cultural considerations in tactical and operational level...; and cultural considerations at the [policy] and strategic levels. Kim, J. (2009, p. vii).*

People can improve their performance in key business domains, even if they are inadequate with analytics (Gray, 2012; Terry, 2012a, 2012b). An approach to develop the analytic skill can start with small-data analytical culture analytics.

For instance in an “obligation to dissent” analytical culture, employees regard themselves as decision makers, participate actively to generate solutions to problems, express their dissenting views through debates or dialogues, and open themselves for convergence of opinions toward positive solution (Davenport *et al.*, 2010). Such culture encourages people in the organization to challenge hidden assumptions and convey their perspectives.

But *what if the country’s culture (Hofstede, 2010) becomes a barrier for the analytical culture to exist?* In the context, a solution designed to improve analytical mindset implies that human

performance needs improving; that the system is not optimal; and that practice and performance need to be scrutinize from top management down to line workers. The idea can run counter to the culture (Johnston, 2005)

This research examines the analytics of analytical culture. It explores, examines and analyzes people based on their attributes, biases, and behaviors. The intention is to understand executives’ and employees’ beliefs and their reactions to stimuli, such as the deployment of Enterprise Resource Planning (ERP) and to discover meaningful patterns. The ERP is the software used to execute business process.

Imagine an inverted triangle. The first domain on top is the local setting, which is the company in Kazakhstan. Below is the second domain. It is the phenomenon about the challenges of accountants and other people involved in the ERP project. Further below is the third domain with the issues about (a) the culture and the post-soviet mind-set, (b) reasons for action or no action, and (c) expected behaviours when action or no action occurs. This paper delimits itself to three issues. (Refer to 3.1 in Table 1 for the 3 domains.) The negative bias of accountants is the issue in the context of adopting and implementing a new ERP in Kazakhstan. The purpose of the research is to identify and describe the conditions (constructs) that create challenges experienced by accountants and other stakeholders and to develop testable theory based on these findings.

The methodology uses the case study. It involves interviews, observations, and examination of archival documents. The analyst utilized a one-page guide (Table 1) to gather and analyze the data. Both the detailed and big picture perspectives

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Table 1. The analytical culture guide

	Practice		Theory
1.	Topic. Challenges of accountants and other stakeholders during the ERP implementation in (a Kazakhstani firm)	1.3	The theory. The concept of innovation resistance (negative bias) of Diffusion of Innovations (DOI) theory
1.1	Argument. To understand challenges of accountants and other stakeholders is to understand (a) how they think and act, (b) how they assign meaning to the implementation, and (c) what their actual or perceived work conditions are.	1.4	Why is the theory right as the lens to the problem? The post-Soviet mind-set (e.g., attitude, habit, and risk-adverse tendencies) affects innovation resistance.
1.2	The purpose of the research is to identify and describe the conditions (constructs) that create challenges experienced by accountants and other stakeholders and to develop testable theory based on these findings.	1.5	Why is the study important to theory? Innovation resistance is less developed in the DOI research (Laukkanen <i>et al.</i> , 2007; Sheth, 1981).
1.3	- 1.5. Theory. Refer to second column.		
2.	Why is the study important to practice? Adoption of ERP is becoming popular in (the country). The accountants are among the stakeholders facing the challenge.		Methodology
2.1	Question 1. What should be the right action to solve innovation resistance of accountants and other stakeholders?	3.	The right research design. Why is the case study appropriate to the research problem?
2.2	Q2. How do they define their situations? (How do the situations mean to them?)	3.1	Three-domain inverted triangle
2.3	Q3. What are the reasons for their actions or no actions?		Domain 1: The local setting (the Company) in Kazakhstan Domain 2: The phenomenon. The challenges of accountants and other people involved in the ERP project. Domain 3: The issues in the case. The culture and the post-soviet mindset; reasons for the action/no action; and expected behaviors when action or no action occurs
2.4	Q4. What are the expected and consequential behaviors?	3.2	Permissions for the study. Ethical clearance
2.5	Q5. How do they perceive the effects of the ERP implementation to their works, careers, or future?	3.3	Data to gather. Refer to Questions 2.1 to 2.11.
2.6	Q6. What causes the behaviors, actions, or no actions?	3.4	Methods. How appropriate are the methods to use?
2.7	Q7. What is the basis for defining the identity and its linkage to individual's interests?	3.5	Protocol is a set of rules or a set of questions to guide in data gathering during in-depth interviews, focus group discussions, or observations. Crafting Level-2, Level-3, or Level-n protocol ensures responsiveness to the situation.
2.8	Q8. What defines the power and decision-making?		Level 1 protocol covers generally broad and open ended questions 2.1 to 2.11. Level 2 protocol adapts from Level 1 protocol. It reflects characteristics inherent to the respondents, their positions, and the context at the time of data gathering. Level 3, or even Level n, protocol is further developed for each time a respondent is interviewed again.
2.9	Q9. How does culture impact on the resilience to resist, adapt, or succumb to the mandate?	3.5	Procedures for analysis and coding. The transcribed interviews should be evaluated and analyzed on the basis of the three issues (refer to 3 <sup>rd</sup> domain in Question 3.1), five barriers (e.g., usage, value, risk, tradition, and image), and characteristics of people with innovation resistance or pro-innovation bias.
2.10	Q10. What triggered the deployment of the ERP?	3.6	Has the research reached a saturation point?
2.11	Q11. What are the perceived positive and negative attributes of the ERP?		
3.	- 3.6. Methodology. Refer		
4.	What has been discovered during the		
4.1	Exploration phase?		
4.2	Data collection phase?		
4.3	Data analysis phase?		
5.	What are the implications of results and analyses to practice?		
6.	What are the implications of results and analyses to theory?		
7.	How do the practice and theory align?		

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