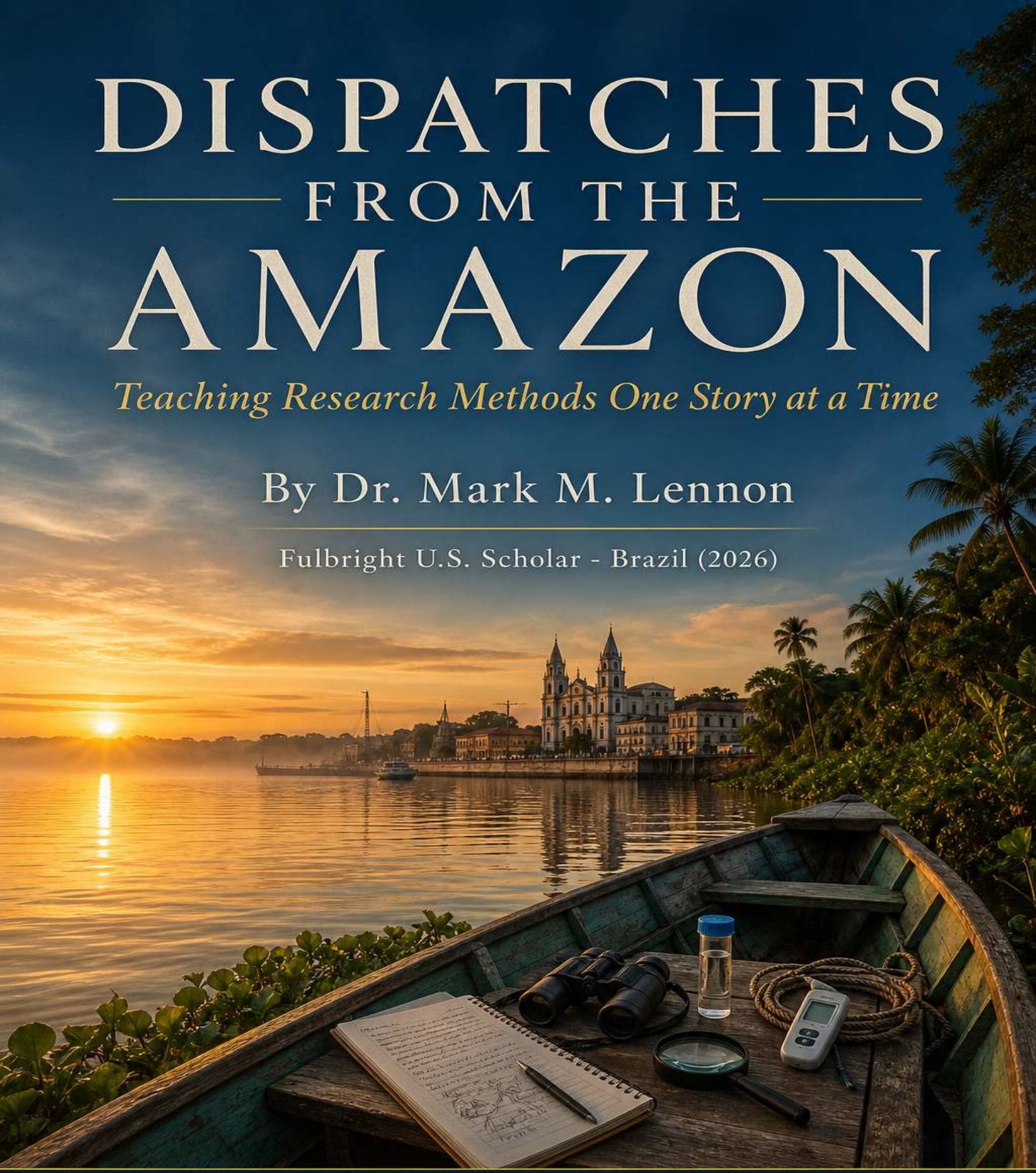
DISPATCHES FROM THE AMAZON

Teaching Research Methods One Story at a Time

By Dr. Mark M. Lennon

Fulbright U.S. Scholar - Brazil (2026)



Observe • Question • Test • Understand

Fulbright AI Initiative | Bear and Cat™

Copyright and Publication Notice

© 2026 Mark M. Lennon. All rights reserved.

No portion of this publication may be reproduced, distributed, stored, transmitted, or adapted in any form or by any means without prior written permission from the author, except for brief quotations used in reviews, scholarship, or classroom discussion as permitted by applicable copyright law.

This publication is intended for educational purposes. The opinions expressed are those of the author and do not necessarily represent the views of the Fulbright Program, the U.S. Department of State, or any affiliated organization.

Fulbright AI Initiative identifies educational work developed by Mark M. Lennon exploring artificial intelligence through education, research, innovation, international collaboration, and authentic field experience.

Bear and Cat™ identifies educational materials, artificial-intelligence applications, publications, stories, characters, and related creative works developed by Mark M. Lennon.

Dispatches from the Amazon and associated text, teaching materials, exercises, visual concepts, and companion resources are creative works of Mark M. Lennon.

🐻🐱 **Bear and Cat™**

Learning One Adventure at a Time.

Dedication

To every student who has ever asked,

“But when will I ever use research?”

This book is your answer. 🔬🌎

Table of Contents

PART I - LEARNING TO SEE LIKE A RESEARCHER

Chapter 1: The Professor and the Prompt — *Observation and the Birth of a Research Question*

Chapter 2: Never Ignore the 11-Year-Old Expert — *Sampling: Who Knows What You Need to Know?*

Chapter 3: Breakfast in Belém — *Measurement and Operationalization*

Chapter 4: AI Does Not Speak Gíria — *Validity, Coverage Error, and Data Bias*

Chapter 5: Ver-o-Peso Pix — *Ethnography and Participant Observation*

PART II - COLLECTING BETTER EVIDENCE

Chapter 6: All That... and a Bag of Chips — *Quantitative Description and Comparative Research*

Chapter 7: The 2 O'Clock Rain — *Patterns, Time Series, and Prediction*

Chapter 8: Tecnobrega — *Case Study Research and Theory Building*

Chapter 9: One Guy, One Laptop, Thirty Apps — *Design Science and Iterative Prototyping*

Chapter 10: The Boto and the Bot — *Mixed Methods and Triangulation*

PART III - BUILDING BETTER THEORY

Chapter 11: The Brazil Nut Isn't From Brazil - Mostly — *Secondary Data and Source Evaluation*

Chapter 12: The Deposit I Walked Away From — *Behavioral Research and Cognitive Bias*

Chapter 13: Churrascaria — *Cross-Cultural Research and Context*

Chapter 14: Financing Groceries? Welcome to Brazil — *Diffusion, Adoption, and Institutional Research*

Chapter 15: What an Uber Ride Taught Me About AI — *From Anecdote to Grounded Theory*

How to Use This Book

Each chapter begins with a full-length Dispatch from the Amazon: a field story written in an accessible, social-media-ready voice. The story becomes the entry point for a core research-methods concept.

The sections that follow convert the narrative into a research question, explain the method, identify limitations, connect the issue to artificial intelligence and international research, and provide discussion prompts and a practical student exercise.

The goal is not to turn every daily experience into proof. It is to teach the discipline required to move from curiosity to evidence: observe carefully, define concepts, select appropriate participants, collect systematic data, compare explanations, and communicate conclusions with humility.

CHAPTER 1 👀🤖🎓

The Professor and the Prompt

Observation and the Birth of a Research Question



🌴 **DISPATCH FROM THE AMAZON** 🌴

The first clue was not an exam score. It was the silence. I had asked a room full of students to explain what an artificial-intelligence model was doing when it produced an answer. Their screens glowed. Their prompts were polished. Their explanations were not.

They knew how to ask the machine for an answer, but many did not yet know how to interrogate the answer they received. The technology had arrived faster than the habits of mind required to use it well. That gap became the real lesson.

Researchers often imagine that a study begins with a theory, a survey, or a spreadsheet. More often, it begins with a moment that feels slightly wrong. A student copies a fluent paragraph but cannot explain it. A system produces confidence without comprehension. A classroom looks productive while learning may be shallow. The researcher notices the mismatch and asks: What is actually happening here?

That question transformed an ordinary teaching moment into field observation. I began recording what students asked the AI to do, what they accepted without checking, where they hesitated, and when they shifted from passive copying to active questioning. The classroom became a living laboratory - not because the students were treated like specimens, but because teaching itself generated evidence about learning.

The lesson was not that students were lazy or that AI was dangerous. The lesson was methodological: observation comes before explanation. Before deciding why something happens, we must describe what happens carefully enough that another person could recognize the same pattern.

In Pittsburgh, we prepare for snow because experience teaches us to notice the sky, the temperature, and the sudden disappearance of bread and milk from store shelves. In Belém, the signals are different: humidity thickens, clouds gather, and the afternoon rearranges itself around rain. Good researchers learn the signals of their setting before they claim to understand it.

AI can generate a thousand hypotheses in seconds. It cannot decide which classroom moment matters unless a human observer has learned to see. The professor's most important research instrument is sometimes not a survey or software package. It is attention. 👀

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How do students move from merely obtaining AI-generated answers to critically evaluating and explaining them?

📊 The Research Method

Naturalistic observation captures behavior in the setting where it normally occurs. The researcher records actions, language, context, and recurring patterns without immediately reducing them to numbers. These observations can later support interviews, surveys, experiments, or theory development.

🧠 Why It Matters

Without disciplined observation, researchers risk testing the wrong explanation. Careful field notes distinguish what was seen from what was inferred.

🎓 Classroom Discussion

- What did the professor directly observe, and what did he infer?
- How could observer expectations influence the field notes?
- What evidence would show genuine learning rather than successful prompting?

✏️ Student Exercise

Observe a familiar learning environment for 20 minutes. Record only visible or audible behavior. Then write a separate paragraph containing your interpretations. Compare the two.

🤖 AI Connection

Use an AI assistant to propose five explanations for the observed behavior. Label each as a hypothesis, not a finding. Identify what additional evidence would be needed.

🌎 International Perspective

Classroom participation, deference to authority, language proficiency, and access to technology vary across cultures. The same visible behavior may carry different meanings in different settings.

📚 Key Terms

- **Naturalistic observation**
- **Field notes**
- **Inductive reasoning**
- **Research question**
- **Observer bias**
- **Reflexivity**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 2 👩🏽🍧🎯

Never Ignore the 11-Year-Old Expert

Sampling: Who Knows What You Need to Know?



🌴 DISPATCH FROM THE AMAZON 🌴

The most important expert in the room was eleven years old. That is not the person most researchers would have selected first.

I was talking with a colleague in Belém about açaí - not the sweetened smoothie version familiar in the United States, but the deep-purple staple that people in Pará debate with the seriousness western Pennsylvanians reserve for football, pierogies, and pizza. We were discussing where to find the best açaí ice cream when his son interrupted. Politely, but decisively.

We had the wrong place.

The adults had credentials, professional experience, and years of travel. The eleven-year-old had something more useful for this question: current, local, repeated experience. He knew which shop his friends preferred, which flavors were authentic, and which place adults recommended because it had a reputation rather than the best product.

That moment captures one of the central problems of sampling. Researchers often confuse status with information. We select senior managers because they have titles, longtime residents because they have age, or easily available respondents because they answer our messages. Yet the best participant is the person whose experience most directly matches the research question.

A random sample is powerful when we want to estimate characteristics of a population. But not every research problem is an election poll. Sometimes we need an information-rich case: the nurse who actually uses the hospital software, the student who navigates the bus system every day, the street vendor who sees payment behavior hour by hour, or the child who knows every ice cream shop within cycling distance.

This is purposive sampling. It does not pretend that one eleven-year-old represents every child in Belém. Instead, it recognizes that expertise is situated. The credibility of the source depends on the fit between the person's knowledge and the question being asked.

The broader lesson is simple: never ask only, 'Who is important?' Ask, 'Who would notice this first?' 🎯

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How should researchers select participants when the goal is deep local knowledge rather than statistical representation?

📊 The Research Method

Purposive sampling deliberately selects information-rich participants because of their experience, role, knowledge, or position. Expert and key-informant sampling are forms of purposive sampling. They improve relevance but do not automatically support population-wide generalization.

🧠 Why It Matters

A large sample of poorly matched respondents can be less useful than a small sample of people who directly experience the phenomenon.

🎓 Classroom Discussion

- Why was the child an expert for this question?
- What claims could not be made from his recommendation?
- How might the researcher triangulate his advice?

✏️ Student Exercise

Choose a campus or community problem. Identify three different key informants and explain what unique evidence each could provide.

🤖 AI Connection

Ask an AI system to recommend participant categories for the study. Then identify which suggestions reflect generic stereotypes rather than contextual knowledge.

🌍 International Perspective

Age, hierarchy, and professional status affect who is permitted to speak in different societies. Researchers must create ways for less powerful but knowledgeable participants to be heard.

📚 Key Terms

- **Purposive sampling**
- **Expert sampling**
- **Key informant**
- **Information-rich case**
- **Sampling frame**
- **Transferability**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 3 ☕🥖🔪

Breakfast in Belém

Measurement and Operationalization



🌴 DISPATCH FROM THE AMAZON 🌴

Breakfast looked inexpensive until I tried to compare it. A plate of fruit, bread, eggs, coffee, and juice arrived in Belém for a price that seemed remarkably low in U.S. dollars. The temptation was immediate: declare Brazil cheaper and move on.

But cheaper than what? A Pittsburgh diner? A hotel buffet? Breakfast cooked at home? And measured by menu price, calories, labor time, portion size, nutritional value, or the percentage of a worker's daily income? The answer changed every time the unit of comparison changed.

That is operationalization: turning an abstract idea into something observable. 'Affordability' sounds obvious until we must measure it. A R$30 breakfast may feel inexpensive to a visitor paid in dollars and expensive to a local worker paid in reais. A large portion may lower the cost per calorie while raising the cost per meal. A restaurant with table service may seem cheap only because labor is valued differently.

The same problem appears everywhere in research. We say we want to measure innovation, happiness, productivity, trust, inclusion, or AI literacy. None of those concepts arrives with a built-in ruler. Researchers choose indicators, and those choices shape the findings.

A poor measure can be precise and still be wrong. Counting how many prompts a student writes does not necessarily measure AI competence. Counting patents does not capture every form of innovation. Counting restaurant customers does not reveal whether the business is profitable.

Breakfast taught me to slow down before comparing countries. The menu is data, but it is not the entire explanation. Wages, exchange rates, taxes, ingredients, rent, service expectations, and household habits all sit behind the number printed beside the eggs.

Research begins when 'That seems cheap' becomes 'Cheap according to which measure, for whom, and compared with what?' 🔪

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How can researchers measure affordability in a way that is meaningful across different economic and cultural settings?

📊 The Research Method

Operationalization specifies how a concept will be observed or measured. Strong measures align indicators with the conceptual definition, identify the unit of analysis, and make comparisons explicit.

🧠 Why It Matters

Measurement choices determine what becomes visible. Ambiguous operational definitions produce misleading comparisons and weak replication.

🎓 Classroom Discussion

- List three ways to operationalize affordability.
- Which measure would matter most to a local resident?
- How can exchange rates distort international comparisons?

✏️ Student Exercise

Operationalize one abstract concept - trust, stress, innovation, belonging, or AI literacy - using at least three indicators. Explain the limitations of each.

🤖 AI Connection

Ask AI to create a measurement scale. Audit every item for ambiguity, cultural assumptions, and mismatch with the construct.

🌍 International Perspective

Measures developed in one country may not carry the same meaning elsewhere. Translation alone does not establish measurement equivalence.

📚 Key Terms

- **Construct**
- **Operational definition**
- **Indicator**
- **Unit of analysis**
- **Reliability**
- **Measurement equivalence**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 4 🗣️🌎🤖

AI Does Not Speak Gíria

Validity, Coverage Error, and Data Bias



🌴 DISPATCH FROM THE AMAZON 🌴

The AI spoke Portuguese. It did not always speak Belém.

That distinction matters. Standard Portuguese can get a visitor through an airport, a hotel, or a textbook exercise. Local speech carries a different layer of meaning: rhythm, humor, shortcuts, references, and words that signal whether someone belongs to the conversation or merely translated it.

When I tested familiar AI tools with Amazonian expressions, the systems often produced answers that were grammatically clean and culturally thin. Sometimes they guessed. Sometimes they replaced a local meaning with the nearest standard-language equivalent. Fluency created the appearance of validity.

The problem was not simply translation. It was coverage. Training data contains some voices far more often than others. National newspapers, formal websites, and published books are easier to collect than conversations at markets, bus stops, family tables, and neighborhood shops. A model can perform well on the language most visible online while failing on the language people actually use around it.

This is a research-methods problem disguised as a technology problem. A dataset is a sample. If the sample underrepresents a region, class, age group, occupation, or speech community, the resulting model inherits the omission. More data does not solve the problem when the missing data comes from the same missing people.

Construct validity asks whether our measurement captures the concept we claim to measure. If an AI benchmark tests only formal Portuguese, can we conclude that a model understands Portuguese? Perhaps it understands a particular sampled version of Portuguese.

The lesson extends beyond language. Surveys that exclude people without internet access, workplace studies that hear only managers, and health datasets drawn from one population can all generate polished but incomplete conclusions.

AI does not fail silently. It fails fluently. That is why researchers must ask who is present in the data - and who has been translated out of existence. 🗣️

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How does underrepresentation in training data affect claims that an AI system understands a language or culture?

📊 The Research Method

Coverage error occurs when members or forms of the target population are absent or underrepresented in the sampling frame. Construct validity is weakened when a test captures only a narrow version of the intended concept.

🧠 Why It Matters

A model can appear reliable within a narrow benchmark while failing in real contexts that the benchmark omitted.

🎓 Classroom Discussion

- What population does “Portuguese” refer to?
- How could regional language competence be tested?
- When does standardization erase meaningful variation?

✏️ Student Exercise

Collect ten examples of regional or occupational language. Test how two tools interpret them, and code the errors by type.

🤖 AI Connection

Use AI as the object of evaluation, not the authority. Build a small test set and document correct, partially correct, and misleading outputs.

🌎 International Perspective

Language technologies often privilege high-resource languages and dominant varieties within those languages. Local participation is necessary for valid evaluation.

📚 Key Terms

- **Coverage error**
- **Construct validity**
- **Representation**
- **Benchmark**
- **Dataset bias**
- **Ecological validity**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 5 🐟📱👣

Ver-o-Peso Pix

Ethnography and Participant Observation



🌴 DISPATCH FROM THE AMAZON 🌴

At Ver-o-Peso, the future of money sits beside baskets of herbs, fish on ice, fruit from the forest, and generations of bargaining. The market is old. The payment sound is new: a phone confirms a Pix transfer.

From a distance, digital payments can be studied through adoption rates and transaction totals. On the ground, the story is richer. A vendor holds up a laminated QR code. A customer checks the name before sending. Someone has a weak signal. Another person prefers cash for a small purchase but uses Pix when change is inconvenient. Technology is woven into routines rather than replacing them cleanly.

Ethnography asks the researcher to spend enough time in a setting to understand practices in context. Participant observation goes further than watching. The researcher moves through the environment, buys something, asks questions, makes mistakes, and learns which actions are ordinary and which are exceptional.

That does not mean every impression is evidence. Good ethnographic notes separate description, dialogue, interpretation, and reflection. What did the vendor do? What words were used? What was happening around the transaction? How might my presence as a foreign visitor have changed the interaction?

A survey might ask, 'Do you use Pix?' The answer is yes or no. Observation reveals when, why, with whom, under what constraints, and with what degree of trust. It shows that adoption is not a switch. It is a negotiated practice.

In research, context is not background decoration. It often explains the behavior. The same QR code means something different in a formal bank branch, a food truck in Pittsburgh, and a centuries-old Amazonian market.

Ver-o-Peso taught me that digital transformation does not always arrive looking futuristic. Sometimes it is taped to a wooden stall between a bowl of açaí and the day's catch. 📱

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How do vendors and customers integrate Pix into established market routines?

📊 The Research Method

Ethnography studies culture and practice through prolonged engagement, observation, conversation, and interpretation. Participant observation produces evidence about what people do, not only what they say they do.

🧠 Why It Matters

Behavior is embedded in physical spaces, relationships, routines, and constraints that standardized surveys may miss.

🎓 Classroom Discussion

- What could observation reveal that transaction data cannot?
- How might a foreign researcher affect behavior?
- What ethical issues arise when observing public transactions?

✏️ Student Exercise

Conduct a short observation of a public service interaction. Create four columns: description, direct quotation, interpretation, and researcher reflection.

🤖 AI Connection

Ask AI to code field notes, then compare its categories with your own. Identify where contextual meaning was lost.

🌎 International Perspective

Researchers must avoid treating unfamiliar practices as deficiencies. Ethnography requires cultural humility and attention to local meanings.

📚 Key Terms

- **Ethnography**
- **Participant observation**
- **Thick description**
- **Reflexivity**
- **Field setting**
- **Emic perspective**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 6 🌭🛒📊

All That... and a Bag of Chips

Quantitative Description and Comparative Research



🌴 DISPATCH FROM THE AMAZON 🌴

Five brands. Fifteen bags. R$58.58. It was not the most important purchase I made in Brazil, but it became one of the most useful datasets.

I wanted to compare snack prices and flavors, partly out of curiosity and partly because supermarkets reveal a surprising amount about an economy. Imported ingredients, local brands, package sizes, taxes, transportation, wages, and marketing all meet on a shelf.

The first mistake would have been to compare the total receipt with a U.S. shopping trip. Fifteen bags are not a standardized unit. Some were larger. Some were promotional sizes. Some were premium brands. A proper comparison required variables: price per bag, grams per package, price per 100 grams, brand origin, flavor, and perhaps the share of a daily wage required to buy each item.

Quantitative research is not created by adding numbers to a story. The numbers must be organized so that the comparison answers a defined question. Descriptive statistics summarize what was observed: minimum, maximum, average, median, and distribution. They do not automatically explain why the prices differ.

The shelf also raised a sampling question. One store on one day is not Brazil. It is one retail environment at one point in time. A stronger study would sample multiple neighborhoods, store formats, dates, and product categories. Replication would show whether the pattern persists.

Still, a small dataset can teach disciplined thinking. The receipt is a trace of behavior. The packages are units of analysis. The labels provide attributes. The researcher decides what to record before the snacks disappear.

Sometimes research begins with a grant. Sometimes it begins because a professor bought far too many chips and refused to waste the data. 🌭📊

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How should snack prices be standardized for meaningful comparison across brands, stores, and countries?

📊 The Research Method

Descriptive quantitative research summarizes observed variables without claiming causation. Comparative designs require common units, consistent coding, and attention to sampling boundaries.

🧠 Why It Matters

Raw prices are often incomparable. Standardization reveals whether apparent differences are caused by package size, currency, wages, or product category.

🎓 Classroom Discussion

- Which denominator is most useful: package, gram, calorie, or wage?
- What can one receipt legitimately represent?
- Which confounders affect international price comparisons?

✏️ Student Exercise

Collect prices for one product category from two stores. Standardize the prices and produce a short descriptive table.

🤖 AI Connection

Use AI to suggest coding categories, but verify calculations independently and document any assumptions it introduces.

🌎 International Perspective

Purchasing power and local wage structures often matter more than currency conversion when comparing affordability.

📚 Key Terms

- **Descriptive statistics**
- **Standardization**
- **Unit of analysis**
- **Comparative design**
- **Replication**
- **Confounding variable**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 7 🌧️⏰📈

The 2 O’Clock Rain

Patterns, Time Series, and Prediction



🌴 DISPATCH FROM THE AMAZON 🌴

In Belém, people talk about rain as if it keeps appointments. Around two o'clock, the sky darkens, the air shifts, and plans become conditional.

After enough afternoons, a pattern becomes a belief: it rains at two. But research begins by asking what that sentence actually means. Every day? Within thirty minutes? Somewhere in the city? Enough rain to stop traffic? During every season?

Human beings are pattern machines. We remember the dramatic downpour that began at 2:03 and forget the dry afternoon when nothing happened. This is why a time series needs repeated observations collected at consistent intervals. Memory is not a dataset.

A weather clock I built turned the local saying into a testable idea. Record whether rain occurred, when it started, how long it lasted, and how intense it was. Add humidity, cloud cover, temperature, and season. Now 'the two o'clock rain' becomes a probabilistic claim rather than folklore.

Prediction does not require causation. A model may forecast rain accurately from pressure and cloud patterns without explaining the full atmospheric mechanism. Conversely, a plausible explanation can fail to predict a specific event.

The same distinction matters in management research. Employee turnover may be predictable from attendance patterns, but prediction alone does not establish why someone leaves. Sales may rise with social-media activity, but correlation does not prove that posts caused purchases.

Belém's rain teaches humility. A pattern can be real without being certain. The responsible conclusion is not 'It always rains at two.' It is 'Under these conditions, rain becomes more likely during this period.' Probability is not weakness. It is accuracy. 🌧️

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How accurately can afternoon rain in Belém be predicted from repeated observations and weather conditions?

📊 The Research Method

Time-series research collects observations across ordered time points. Researchers examine trends, cycles, seasonality, lagged relationships, and forecast error.

🧠 Why It Matters

Repeated measurement reduces reliance on vivid memory and allows probabilistic predictions to be evaluated against actual outcomes.

🎓 Classroom Discussion

- How would you define a “two o’clock rain”?
- What time interval should be sampled?
- How do seasonality and missing data affect conclusions?

✏️ Student Exercise

Track one repeated behavior or environmental event for seven days. Graph the observations and describe patterns without claiming causation.

🤖 AI Connection

Ask AI to forecast the next observation using your small dataset. Evaluate the prediction and explain why the sample is inadequate for confidence.

🌎 International Perspective

Local ecological knowledge often contains useful patterns. Formal research can test these observations without dismissing the cultural knowledge that generated them.

📚 Key Terms

- **Time series**
- **Trend**
- **Seasonality**
- **Forecast**
- **Correlation**
- **Prediction error**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 8 🎶💿🚀

Tecnobrega

Case Study Research and Theory Building



🌴 DISPATCH FROM THE AMAZON 🌴

Belém's tecnobrega scene once appeared to violate the rules of the music business. Artists and producers distributed inexpensive or free recordings, tolerated copying, and earned money through live performances, sound systems, parties, and local networks.

From the perspective of a traditional record label, giving away music looked irrational. From inside the ecosystem, the recording was not always the final product. It was marketing, circulation, reputation, and an invitation to the event where revenue was created.

This is why case studies matter. A case allows researchers to investigate a phenomenon within its real context, especially when the boundary between the phenomenon and the context is difficult to separate. Tecnobrega cannot be understood by examining a song file alone. The case includes producers, DJs, vendors, venues, audiences, technology, informal distribution, and regional identity.

A weak case study is merely an interesting story. A strong case study is bounded, systematic, and connected to a theoretical question. What is the case - one artist, one production network, or the entire regional ecosystem? What period is being studied? Which evidence will be combined: interviews, contracts, recordings, attendance records, media reports, and observation?

The value of the case is not that every industry should copy tecnobrega. Its value is theoretical. It challenges the assumption that controlling copies is always the primary source of value. It shows how business models can shift revenue from ownership to access, experience, and community.

Pittsburgh steel and Amazonian music seem unrelated, but both remind us that industries are systems. When technology changes one part of the system, value may migrate somewhere unexpected.

The best cases do not merely illustrate theory. They make existing theory uncomfortable enough to improve it. 🎶

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How did the tecnobrega ecosystem create value despite widespread low-cost distribution of recorded music?

📊 The Research Method

Case study research investigates a bounded contemporary phenomenon using multiple sources of evidence. It is especially useful for “how” and “why” questions and for developing or refining theory.

🧠 Why It Matters

Unusual or revealing cases expose assumptions that are invisible in more conventional settings.

🎓 Classroom Discussion

- What are the boundaries of this case?
- Which sources would support triangulation?
- Can findings from an unusual case contribute to general theory?

✏️ Student Exercise

Select an organization or industry practice that appears to contradict conventional wisdom. Define the case boundaries and propose three evidence sources.

🤖 AI Connection

Use AI to propose rival explanations for the case. Treat these as competing hypotheses to investigate, not conclusions.

🌎 International Perspective

Business models are shaped by institutions, infrastructure, informality, culture, and local networks. A model successful in one context may not transfer unchanged.

📚 Key Terms

- **Case study**
- **Case boundary**
- **Multiple sources**
- **Triangulation**
- **Theory building**
- **Rival explanation**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 9 💻🛠️🚀

One Guy, One Laptop, Thirty Apps

Design Science and Iterative Prototyping



🌴 DISPATCH FROM THE AMAZON 🌴

I arrived in Brazil with one laptop and a growing list of small problems. How do I practice Portuguese immediately before an Uber ride? How do I explain AI without hiding the mathematics? How do I capture field notes, local expressions, classroom exercises, and research ideas before they disappear?

The answer was not one grand platform. It was a stream of small applications: language tools, weather clocks, quiz systems, field-note prototypes, translators, and experiments. Some were useful. Some were ugly. Some solved a problem for one afternoon and then taught me what to build next.

Traditional research often asks, 'What is true?' Design science also asks, 'What can we build that improves the situation?' The artifact - an app, model, process, dashboard, or framework - is part of the research contribution.

But building something is not automatically research. The artifact must address a clearly defined problem, be grounded in relevant knowledge, and be evaluated. Did the Portuguese tool improve recall during real errands? Did the quiz app reduce grading time? Could another instructor use it? What failed, and why?

Iteration is evidence. Version one reveals requirements that users could not articulate in advance. A confusing button, missing phrase, or slow workflow becomes feedback. The artifact changes, and the evaluation continues.

The thirty apps were not thirty finished products. They were thirty conversations with reality. Each prototype asked the world a question: Is this useful? The answer came through use, abandonment, revision, and occasionally delight.

Research does not always end with a paper describing a problem. Sometimes it ends with a tool that makes the problem smaller - and a paper explaining what was learned while building it. 🛠️

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How can rapid prototypes generate both practical value and generalizable design knowledge?

📊 The Research Method

Design Science Research creates and evaluates artifacts intended to solve identified problems. Knowledge emerges from requirements, design decisions, implementation, use, and evaluation.

🧠 Why It Matters

Artifacts make assumptions visible. Users reveal needs through interaction that interviews alone may not uncover.

🎓 Classroom Discussion

- What makes a prototype a research artifact?
- How should usefulness be evaluated?
- When does rapid iteration become undisciplined feature creation?

✏️ Student Exercise

Identify a recurring problem and sketch a minimum viable artifact. Define one measurable criterion for utility and one for usability.

🤖 AI Connection

Use AI to accelerate prototyping, but maintain a design log documenting human decisions, generated components, failures, and revisions.

🌍 International Perspective

Artifacts must fit local infrastructure, language, cost, accessibility, and cultural practice. Technical functionality is not equivalent to contextual usefulness.

📚 Key Terms

- **Design Science Research**
- **Artifact**
- **Prototype**
- **Iteration**
- **Utility**
- **Evaluation**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 10 🐬🤖🔺

The Boto and the Bot

Mixed Methods and Triangulation



🌴 DISPATCH FROM THE AMAZON 🌴

The boto - the Amazon river dolphin - lives simultaneously in biology, folklore, tourism, memory, and warning. Ask a scientist, a child, a boat operator, and an AI system to explain the boto, and you will receive different kinds of truth.

A purely quantitative study might count sightings, map habitat, or measure public recognition. A qualitative study might collect stories about the boto appearing as a mysterious man at night. Neither approach is automatically superior. They answer different questions.

Mixed-methods research combines quantitative and qualitative evidence so that one form of data can extend, explain, or challenge the other. A survey may reveal that a large share of respondents knows the legend. Interviews can show what the story means, how seriously it is taken, and when people choose to tell it.

Triangulation does not mean forcing every source to agree. Contradiction can be the most informative result. An AI model may summarize the legend confidently while local narrators emphasize details the model omits. Official tourism materials may celebrate folklore that some residents treat with ambivalence. Biological data may protect the animal while saying nothing about its social meaning.

The bot is useful because it exposes the difference between retrieving information and participating in culture. It can combine texts. It cannot replace the people for whom the story carries memory, humor, identity, or caution.

A mixed-methods design respects both pattern and meaning. Numbers show scale. Narratives show texture. Observation shows practice. Documents show institutional representation. Together they create a fuller account - not a perfect one.

The river dolphin reminds researchers that reality is often too wide for a single method. 🐬🔺

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How do biological knowledge, local narratives, and AI-generated accounts differ in their representation of the boto?

📊 The Research Method

Mixed-methods research intentionally integrates quantitative and qualitative approaches. Triangulation compares multiple sources, methods, investigators, or theories to deepen interpretation and assess convergence or divergence.

🧠 Why It Matters

Complex phenomena contain both measurable patterns and contextual meanings. Integration can reveal where one method alone would be incomplete.

🎓 Classroom Discussion

- What would each method contribute?
- How should contradictions be handled?
- Does combining methods always improve a study?

✏️ Student Exercise

Design a sequential mixed-methods study: begin with either a survey or interviews, then explain how the second phase would build on the first.

🤖 AI Connection

Compare AI summaries with interviews or locally produced sources. Code omissions and distortions rather than assuming machine output is neutral.

🌎 International Perspective

Folklore should not be treated as failed science. It is cultural evidence with different purposes, standards, and meanings.

📚 Key Terms

- **Mixed methods**
- **Triangulation**
- **Integration**
- **Convergence**
- **Divergence**
- **Sequential design**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 11 🟤📚🔍

The Brazil Nut Isn’t from Brazil - Mostly

Secondary Data and Source Evaluation



🌴 DISPATCH FROM THE AMAZON 🌴

The name appears to settle the question: Brazil nuts come from Brazil. Then trade data interrupts the story.

Brazil remains central to the nut's identity and ecology, but Bolivia has become a leading exporter. The contradiction is useful because it demonstrates how names, origins, production, and export statistics can describe different realities.

Secondary research begins with data collected by someone else: government statistics, trade databases, company reports, academic articles, news archives, and historical records. The advantage is scale. A researcher can examine decades of trade without personally visiting every port. The danger is false certainty.

Before using secondary data, ask who collected it, for what purpose, using which categories, and with what missing cases. Export value may differ from production volume. Country of export may differ from ecological origin. Processed products may be coded separately from raw nuts. Informal trade may disappear entirely.

Source evaluation is not a search for one perfect database. It is a comparison of definitions and incentives. A trade agency, environmental organization, and commercial association may each publish accurate numbers that answer different questions.

AI makes secondary research faster and more dangerous. It can summarize sources that do not exist, merge different years, or present a plausible statistic without its denominator. The researcher must trace every important claim back to an identifiable source.

The Brazil nut teaches a valuable habit: whenever a fact feels obvious because of a name, verify the category behind it. 🟤

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How do definitions of origin, production, processing, and export change conclusions about the Brazil-nut industry?

📊 The Research Method

Secondary-data research analyzes information originally collected for another purpose. Quality assessment includes provenance, definitions, coverage, timeliness, comparability, and missing data.

🧠 Why It Matters

Large official datasets can still mislead when categories do not match the research question.

🎓 Classroom Discussion

- What does “from Brazil” mean?
- Why might export and production rankings differ?
- How can researchers reconcile conflicting sources?

✏️ Student Exercise

Find two credible data sources that report the same phenomenon. Compare their definitions, years, units, and coverage.

🤖 AI Connection

Require AI to provide source titles and dates, then independently verify each source. Reject unsupported numerical claims.

🌎 International Perspective

International datasets often impose standardized categories that improve comparison but obscure informal activity and local distinctions.

📚 Key Terms

- **Secondary data**
- **Provenance**
- **Metadata**
- **Data comparability**
- **Source credibility**
- **Classification**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 12 💸🚪🧠

The Deposit I Walked Away From

Behavioral Research and Cognitive Bias



🌴 DISPATCH FROM THE AMAZON 🌴

I had already paid the deposit. That fact felt important even after the trip stopped making sense.

The lodging was expensive, the logistics were becoming complicated, and better alternatives appeared. Still, part of my mind kept repeating the same argument: You already paid. Leaving would waste the money.

The money was already gone whether I continued or not. The rational decision depended on future costs and future benefits. The deposit should have been irrelevant. Emotionally, it was not.

This is the sunk-cost effect: people continue an activity because of resources already invested, even when those resources cannot be recovered. Researchers study it through experiments, surveys, field data, and behavioral observation.

A simple experiment might randomly assign participants to scenarios with different prior investments and ask whether they would continue. Random assignment helps isolate the effect of the sunk cost. But a written scenario may not reproduce the discomfort of losing real money, admitting a mistake, or changing a public plan.

Field experiences add realism but reduce control. My decision included uncertainty, fatigue, pride, travel constraints, and concern about disappointing others. Those variables are difficult to separate.

The most useful research often moves between methods. Controlled experiments test whether an effect exists under defined conditions. Field evidence tests whether it matters in the messy world where people actually make decisions.

Walking away did not recover the deposit. It recovered the rest of the trip. Sometimes the best evidence of learning is the decision not to keep paying for the past. 💸

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How do unrecoverable prior investments influence willingness to continue an unpromising decision?

📊 The Research Method

Behavioral research examines actual or reported decisions. Experiments manipulate conditions to estimate causal effects, while field studies provide realism and contextual complexity.

🧠 Why It Matters

People do not always follow economically rational models. Biases influence consumer, managerial, and personal decisions.

🎓 Classroom Discussion

- How could sunk cost be manipulated experimentally?
- What threatens realism in a scenario study?
- Which emotions may mediate the effect?

✏️ Student Exercise

Design a two-condition sunk-cost experiment. Specify the independent variable, dependent variable, randomization, and predicted result.

🤖 AI Connection

Ask AI to generate scenarios, then test whether the scenarios differ only on the intended manipulation rather than introducing confounds.

🌍 International Perspective

Norms about waste, obligation, honor, and saving face may shape the strength and expression of sunk-cost behavior.

📚 Key Terms

- **Sunk-cost effect**
- **Experiment**
- **Independent variable**
- **Dependent variable**
- **Random assignment**
- **External validity**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 13 🥩🌎🍽️

Churrascaria

Cross-Cultural Research and Context



🌴 DISPATCH FROM THE AMAZON 🌴

At a churrascaria, the meal does not arrive as a single plate. It circulates. Servers move through the room with skewers, diners signal whether they want more, side dishes wait nearby, and the pace of eating becomes a small negotiation.

A visitor can describe the visible system quickly. Understanding it takes longer. When should the card be turned? Is declining a cut polite? Which meats are considered special? How long do people expect to remain at the table? Is the meal about volume, variety, celebration, business, family, or all of these at once?

Cross-cultural research often fails when researchers treat their own norms as neutral. A U.S. survey item asking whether restaurant service is 'fast' assumes that speed is desirable and similarly understood. In another setting, attentive pacing and social time may define quality.

Translation does not solve this problem. Words can be linguistically accurate while the construct differs. 'Service,' 'value,' 'hospitality,' and 'portion' may carry different expectations across cultures.

Researchers therefore test conceptual equivalence before comparing averages. Do respondents interpret the item similarly? Does a scale have the same factor structure? Are response styles different? Does acquiescence or reluctance to use extreme categories affect results?

Participant observation adds another safeguard. It forces researchers to encounter the practice before converting it into variables. The goal is not to romanticize difference but to avoid measuring one culture with another culture's invisible ruler.

A churrascaria is a restaurant. It is also a lesson in how quickly behavior loses meaning when separated from context. 🥩🌎

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How can researchers compare service quality across cultures without assuming that customers define quality in the same way?

📊 The Research Method

Cross-cultural research evaluates conceptual, linguistic, and measurement equivalence before comparing groups. Researchers combine local qualitative work with careful scale adaptation and statistical testing.

🧠 Why It Matters

Apparent group differences may reflect different interpretations or response patterns rather than true differences in the construct.

🎓 Classroom Discussion

- Which restaurant concepts may not be equivalent?
- Why is back-translation insufficient?
- How can local interviews improve a survey?

✏️ Student Exercise

Take five items from a familiar satisfaction scale. Identify cultural assumptions and rewrite two items for broader applicability.

🤖 AI Connection

Use AI for initial translation, then conduct human review, cognitive interviewing, and local pilot testing.

🌎 International Perspective

Cross-cultural validity requires collaboration with people who understand the language, institutions, history, and everyday practices of each setting.

📚 Key Terms

- **Cross-cultural research**
- **Conceptual equivalence**
- **Measurement invariance**
- **Back-translation**
- **Response style**
- **Cultural bias**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 14 🛒💳📈

Financing Groceries? Welcome to Brazil

Diffusion, Adoption, and Institutional Research



🌴 DISPATCH FROM THE AMAZON 🌴

The first time I saw groceries offered in installments, my American instincts treated the practice as unusual. Then I realized the unusual thing was my assumption.

In Brazil, parcelamento - paying in installments - appears across categories that U.S. consumers often purchase in one transaction. The practice is supported by payment systems, retailer strategy, inflation history, credit access, and consumer expectations.

Innovation research sometimes imagines adoption as a personal choice: an individual sees a new product, evaluates it, and decides yes or no. Institutions shape that choice before the consumer arrives. Banks, merchants, regulations, technology platforms, and cultural habits determine what options are available and normal.

A diffusion study could track when installment payment entered different retail sectors, which consumers adopted it, and how use spread through social networks. Interviews could reveal perceived advantages and risks. Transaction data could show frequency and default patterns. Policy analysis could explain the infrastructure that made the practice possible.

The important methodological point is that adoption is multi-level. Individuals have attitudes. Organizations design offerings. Industries establish standards. Governments regulate credit. Historical experience influences trust.

A survey asking, 'Do you prefer installments?' captures only one layer. It may miss that the option is embedded in pricing, that cash discounts alter the choice, or that consumers use installments to smooth income rather than to buy more.

The supermarket checkout became a reminder that behavior which looks irrational from one institutional setting may be perfectly understandable in another. 🛒💳

#DispatchesFromTheAmazon #ResearchMethods #Fulbright #FulbrightAI #AI #Brazil #Belém #BearAndCat

🔬 The Research Question

How do institutional conditions shape the adoption and everyday use of installment payments for routine purchases?

📊 The Research Method

Diffusion research examines how innovations spread over time through social systems. Institutional research studies how rules, norms, infrastructure, and history shape organizational and individual behavior.

🧠 Why It Matters

Adoption cannot be explained solely by personal preference when options and incentives are institutionally structured.

🎓 Classroom Discussion

- What is the innovation: credit, infrastructure, or retail practice?
- Which levels of analysis are involved?
- How could historical inflation influence current behavior?

✏️ Student Exercise

Choose one widely adopted technology. Map individual, organizational, industry, and governmental factors that enabled or constrained adoption.

🤖 AI Connection

Ask AI to explain adoption, then classify its claims by level of analysis and identify any unsupported cultural generalizations.

🌍 International Perspective

Practices should be interpreted within local financial systems rather than judged against one country's norms.

📚 Key Terms

- **Diffusion of innovation**
- **Adoption**
- **Path dependence**
- **Institution**
- **Level of analysis**
- **Social system**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

CHAPTER 15 🚗💬🧩

What an Uber Ride Taught Me About AI

From Anecdote to Grounded Theory



🌴 DISPATCH FROM THE AMAZON 🌴

The ride began as language practice. I asked the driver about the weather, the music, the car, work, and family - the small questions that make a trip human. Somewhere between traffic and translation, the conversation became a lesson about artificial intelligence.

Machine translation can produce the correct words and still miss the social task. A phrase that is grammatically accurate may be too formal, too direct, or simply unlike what a passenger would naturally say in Belém. The driver was not only translating vocabulary. He was teaching timing, tone, and relationship.

One ride is an anecdote. It is not evidence that all drivers speak the same way or that one translation system always fails. But anecdotes can generate research questions when treated honestly. Which kinds of phrases are translated literally but used unnaturally? How do speakers repair misunderstandings? What contextual information improves translation?

Grounded theory develops concepts through systematic engagement with data. Researchers collect interviews or observations, code incidents, compare cases, write analytic memos, and continue sampling as categories emerge. The goal is not to force the ride into a preselected theory but to let repeated evidence refine the explanation.

Theoretical sampling means choosing the next participant or situation because it can clarify a developing category. After one Uber conversation, I might compare taxi drivers, university students, shopkeepers, and language teachers. I might sample greetings, requests, jokes, and conflict situations because each tests a different boundary of 'natural translation.'

AI can help organize transcripts and suggest codes. It can also impose generic categories too early. The researcher must remain close to the language and constantly compare the code with the actual interaction.

The ride did not prove a theory. It gave me a better question. That is often where serious research begins: not with certainty, but with an ordinary moment that refuses to remain ordinary. 🚗💬

🔬 The Research Question

How do context, relationship, and local convention shape whether a machine-translated phrase sounds natural in everyday interaction?

📊 The Research Method

Grounded theory develops explanatory categories through iterative data collection and constant comparison. Theoretical sampling follows emerging concepts rather than a fixed representative sample.

🧠 Why It Matters

Anecdotes become research when they generate questions, are compared systematically across cases, and are not mistaken for conclusions.

🎓 Classroom Discussion

- What can one ride contribute to research?
- How would theoretical sampling proceed?
- When should coding begin?

✏️ Student Exercise

Write an analytic memo from an ordinary interaction. Identify one emerging category and propose the next case needed to test it.

🤖 AI Connection

Use AI to suggest initial codes, then conduct line-by-line human coding and document where the machine flattened context.

🌍 International Perspective

Natural language is relational and local. Research on translation must include speakers from the communities whose communication is being modeled.

📚 Key Terms

- **Grounded theory**
- **Constant comparison**
- **Theoretical sampling**
- **Open coding**
- **Analytic memo**
- **Saturation**

💬 Reflection

What did the story make visible that a textbook definition alone might hide? How would you redesign the study to produce stronger evidence?

Closing Reflection: Research Begins with Attention

The dispatches in this book began with ordinary moments: a student prompt, a child's recommendation, a breakfast bill, an afternoon storm, a market payment, a bag of chips, a music scene, a prototype, a legend, a nut, a lost deposit, a meal, a grocery checkout, and an Uber conversation.

None of those moments was automatically research. They became research possibilities when observation was separated from assumption, concepts were defined, evidence was collected systematically, and conclusions were limited to what the data could support.

That is the enduring lesson of research methodology. Methods are not bureaucratic obstacles placed between curiosity and publication. They are the practices that protect curiosity from becoming overconfidence.

Look closely. Ask better questions. Choose evidence that fits the question. Remain open to contradiction. Then tell the story clearly enough that others can examine how you reached the conclusion. 👀🔬🌎