

# 03-24 Research Presentation: Market Risk, Dynamic Capabilities and Technological Innovation in Emerging Markets

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## Market Risk: Dynamic Capabilities and Technological Innovation - Research Presentation

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### Introduction

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This document presents a verbatim transcription of a research presentation by Diego on "Market Risk: Dynamic Capabilities and Technological Innovation." The presentation covers the first three chapters of an ongoing research project: introduction and research problem definition, literature review, and methodology. The research focuses on investigating dynamic capabilities and their impact on business performance in emerging countries, specifically Peru, with technological innovation as a mediating variable and market risk management as a moderating variable.

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### Chapter 1: Introduction and Research Problem Definition

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#### Topic and Structure Overview

The topic is "Market Risk: Dynamic Capabilities and Technological Innovation." The presenter is in the first part of the research and presents three chapters. The first one is an introduction defining the research problem and the significance of the research. The second chapter was about the literature review and the third chapter about the methods.

## Definition of the Research Problem

The independent variable is dynamic capabilities. This variable has been studied a lot. There is a lot, there are a lot of papers, there's a lot of research about dynamic capabilities.

## Main Gaps in Literature

One of the main gaps in the literature is that all of these studies have been performed in first world countries. Very little has been performed in emerging countries. So the research is going to be placed in an emerging country, which is Peru.

Even though there are investigations on all the other variables, there is no investigation when you combine them together. The variables, the children are the risk markets, they perform and the companies dealing with risk markets mainly have in technology. So the companies investing in technological innovation.

The third is the poor countries. We all know that has suffered a lot of political uncertainty, social issues. So, there are those sort of contexts that are not common in first world countries. That's why this research is being conducted.

## Significance of Research

The significance of research is that it models combining these four variables.

## Research Questions and Hypotheses

The presenter wants to reject the hypothesis.

The hypotheses are:

1. Dynamic capabilities have a positive impact on business performance in emerging countries. (The presenter notes not repeating "emerging countries" because it repeats in all the hypotheses)
2. Dynamic capabilities have a positive influence on technological innovation
3. Technological innovation has a positive influence on business profits

## Research Model

The model includes four variables:

- Dynamic capabilities impact positively in business performance
- Dynamic capabilities have a positive effect on technological innovation which is a mediating variable
- Technological innovation has a positive impact in firm performance

- The moderating variable is the market risk management, how companies deal with the risk of the countries, of emerging countries

## **Theoretical Framework**

The theoretical framework is a resource-based view. Dynamic capabilities have been established. The first one to study this variable was Teece in 1997.

Dynamic capabilities as the ability of the firm to integrate, build, and reconfigure internal and external resources in order to maintain its competitive advantage. Then he associated processes to these capabilities: the actions used on reconfiguration of resources.

From evolutionary theory, dynamic capabilities make it possible to transform learning routines into technological innovation through the identification of opportunities, absorption of knowledge from not only from inside company, but from the cooperators and the recuperation of their resources.

## **Assumptions and Limitations**

### **Assumptions**

The research will interview and send questionnaires to participants that are managers and bosses, because in order to have dynamic capabilities, technological innovation, you have to have the power of decision in the company. You have to have the power to decide whether to invest in technology. The research will interview these people and the assumption is that they require clarity in all the variables.

One of the most problematic sessions is that instruments have a very good agreement in their psychometric properties after their adaptation to a particular context.

### **Limitations**

Limitations include:

- The use of self-reports can introduce perceptual social desirability. So, the managers may want to give correct answers instead of real answers from their companies
  - The time response because they have their bosses, their managers, so they may take time to respond
  - The results are limited to Peruvian small and medium companies. However, as an emerging country, maybe generalized for other emerging countries
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## Chapter 2: Literature Review

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### Existing Research on Dynamic Capabilities

There's a lot of research about dynamic capabilities. However, most of these studies determine that dynamic capabilities have an indirect effect on firm performance. It is indirect, it's not direct. There are other factors that you have to take into account such as technological innovation. And in this case, most important risk management of the country.

### Literature Search Methodology

In the literature review, Scopus and websites from the last five years were used.

### Research Gaps

The results found is that even though there are a lot of studies on pandemic preparedness and some other studies in each one of the variables, there are no studies combine the four variables together. And more important, it's all on first world countries. They got, or they want to show the impacts of an epidemic is in red.

There is little understanding of how these dynamic capabilities work in emerging countries, especially in environments such as ours, you know, politics, social environment.

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## Chapter 3: Methods

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### Research Design

This is a quantitative exploratory correlational and transversal study. It's going to be a single part. It's not going to be a lot of doing that. Remember the word. But overall, this design allows us to measure predictive relationships and make valid and generalizable results.

### Population

The populations are small and medium companies in Peru, especially the ones that have been impacted in after the COVID. Because we can see how, if they had the endemic capabilities when the COVID attacked and how did they react.

### Sample Size

The sample uses a formula from here and it gives us 155 samples. However, according to other studies, a better number of 250 is being used. And also the literature said that response is around 50%. So around 400 or 500 questionnaires will be sent.

## **Participation Strategies**

In order to maximize participation and reduce the risk of non-response, strategies will be implemented such as communication, clear communication, reminders to the participants. Maybe some clarification on what are the variables that we are using.

## **Measurement Scales**

These are the scales that will be using based on papers that have been already approved. Each variable has one scale. Likert scales will be used based on Likert. Taking into account that Likert scale from one to seven will be used, while the others ones are from one to five. One to seven is being used in this particular variable of business performance in order to increase measurement sensitivity and reduce common method bias. It's according to [reference not fully stated].

## **Data Analysis**

### **Analytical Approach**

For the network analysis, PLS-SEM will be used, and this analysis will be performed in SmartPLS 4. However, CB-SEM is not being discarded. The research will wait until the results come if there are conditions such normalized, normalized results. CB-SEM may be used. So it's not decided yet, but it's a first approach.

### **Sample Analysis Parameters**

Sample analysis will use these numbers: A significance of 0.5% to reduce the type I error and sensitivity analysis from 0.11 to 0.20. So, even small relationships can be taken into account.

## **Validity and Reliability**

### **Phase One: Measurement Model**

For validity and reliability, it will be conducted in two phases. Phase one will measure the model using these parameters: collinearity diagnosis, reliability, internal reliability, convergent validity and discriminant validity. These numbers are in a theory, and have been approving many papers by many authors.

## Phase Two: Structural Model

Then the structural model will be used. The structural model will be analyzed with these values. Values of R square of more than 0.25 and predictive relevance of higher than 0.50 will be accepted.

With this criteria, both the measurement model and the structural model comply with the requirements.

## Closing Remarks

References were included in the presentation. That's it, thank you for listening and I expect your comments and recommendations. Thank you.

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## Questions and Discussion Session

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### Question 1: Formal vs. Informal Companies

**Speaker 2:** Formal companies registered in all institutions are being used. There are many informal companies, but it is almost impossible to locate them all.

**Diego:** Pero sí es algo que es un comentario voy a tener en cuenta. Sí. En línea al comentario anterior, Me parece un buen estudio pero en línea lo, anterior al comentario anterior el tamaño de la Empresa.

### Question 2: Theoretical Basis for Assumptions

**Speaker 2:** All assumptions should have a theoretical basis. Especially the first one, if I'm not mistaken, that managers know about financial capacity. But it's like an assumption, but I understand that it should have a theory behind it to support this assumption.

**Diego:** No, I haven't used any. I'm not theoretically supporting the assumptions. And the costs are being given, well, first because of the decision-making capacity of a company. The bosses and managers are the ones who decide. For the knowledge of what they refer to in terms of capacity to innovate, it is something we have to work on before conducting the survey with those surveyed. We will work with them, explaining and.

Or depending on the results, if the results are normalized, we could use CBC, which is the methodology that would be most applicable under this type of scenario. It's one or another or complementing one.

### Question 3: Uncertainty and Contingencies

**Speaker 3:** There are a lot of ifs that make you think. If we manage to do things, if we train.

**Diego:** The managers, yes, yes, yes. And that can create a lot of duality. But a lot is a lot. And more in the duality you just mentioned within the committee you have to be.

There are many secondary sources that have been used to measure any dynamics and that have stratification, small businesses, medium-sized businesses, large businesses. And you could select them and thus avoid having to conduct the survey. The survey will take time. There are many secondary sources. So I don't know.

Then, as from that logic, all this is the "top-down" of what your quantitative study should be. But it will depend on who your respondents are. So, there is a lot of uncertainty from what you have conceptualized to the implementation. So consider it, okay? There is an inheritance of.

If, there are secondary sources that allow you to have access to data on what you want to do, go to the web or go here and there. And if you already have the model clear, run your first models with R. If it's not worth it, don't spend money on it and sell it later when you're done. It's easier than doing a test where I have to pay people. And they will also ask you who designed the instrument, who validated the instrument.

**Speaker 3:** There are a lot of things that when you say, "I don't know what to do." And then again, I think it's good to go back. If the editor asks for a survey that the student or researcher did in Peru with some papers.

**Diego:** No, look, this not a computer program or this not a monitor. This any application that you have on your computer. It's something that you can use to develop things that you don't know how to do.

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## Conclusion

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This research presentation outlined a comprehensive study examining the relationship between dynamic capabilities, technological innovation, market risk management, and business performance in the context of emerging countries, specifically Peru. The main contribution of this research is addressing significant gaps in existing literature by: (1) conducting the study in an emerging country rather than first world countries where most existing research has been performed, (2) combining four variables that have not been studied together previously, and (3) examining these relationships in contexts characterized by political uncertainty and social issues.

The research employs a quantitative exploratory correlational and transversal design, targeting small and medium companies in Peru that were impacted after COVID. The methodology includes surveying 250 participants (sending 400-500 questionnaires anticipating 50% response rate), using Likert scales for measurement, and employing PLS-SEM analysis in SmartPLS 4 (with CB-SEM as a potential alternative). The theoretical framework is grounded in resource-based view and builds on Teece's 1997 work on dynamic capabilities.

The discussion session revealed important considerations including the need for theoretical support for assumptions, the challenges of accessing informal companies, the uncertainty inherent in various methodological "ifs," and suggestions to consider secondary data sources and preliminary modeling with R before conducting the full survey. These points highlight areas requiring further development before proceeding with data collection and analysis.