



# When is Sales a source of competitive advantage in new product development?

## Research Study

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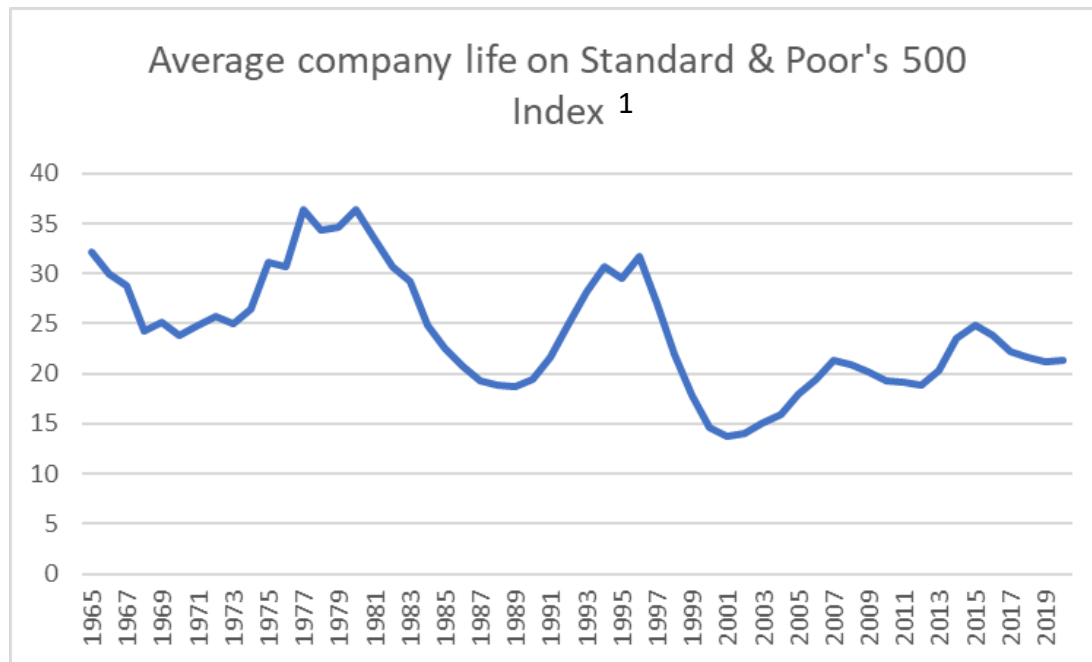
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# Risk of obsolescence: Corporate life span ↓ 33%<sup>1</sup>



- Between 1965 and 2020, the average life span of S&P 500 index companies has fallen from 32 to 20 years.
- The Sales function is highly valued corporate function because of its strong customer relationships and industry understanding.
- Could Sales be a source of competitive advantage to mitigate the risk of obsolescence?

<sup>1</sup> Statista. (2022). Average company lifespan on Standard and Poor/s 500 Index from 1965 to 2030, in years (rolling 7-year average). <https://www.statista.com/statistics/1259275/average-company-lifespan/#:~:text=In%202020%2C%20the%20average%20lifespan,even%20further%20throughout%20the%202020s.>

# Driving forces behind this research study

- Every business leader knows, no sales, no cash flow, no business!
- One way to grow sales is to generate innovative products that address customers emerging needs ....

However

- New product development failure rate  $\sim 40\%^2$

Mitigating this risk:

- When is Sales a source of competitive advantage in identifying new ways to create and capture customer value?
- If so, what factors increase the effectiveness of Sales this capacity?

<sup>2</sup> Castellino, G., & Markham, S. K. (2013). Perspective: New product failure rates: Influence of argumentum ad populum and self-interest. *Journal of Product Innovation Management*, 30(5), 976-979. doi: 10.1111/j.1540-5885.2012.01009.x

## Research question:

When is Sales a source of competitive advantage in new product development?

### Key assumptions:

- Sales is a source of competitive advantage in new product development due to their customer relationships
- Firms that engage Sales to more comprehensively formulate customer problems (CPFC) achieve superior new product development performance

Definitions of **key terms** provided in Appendix 1

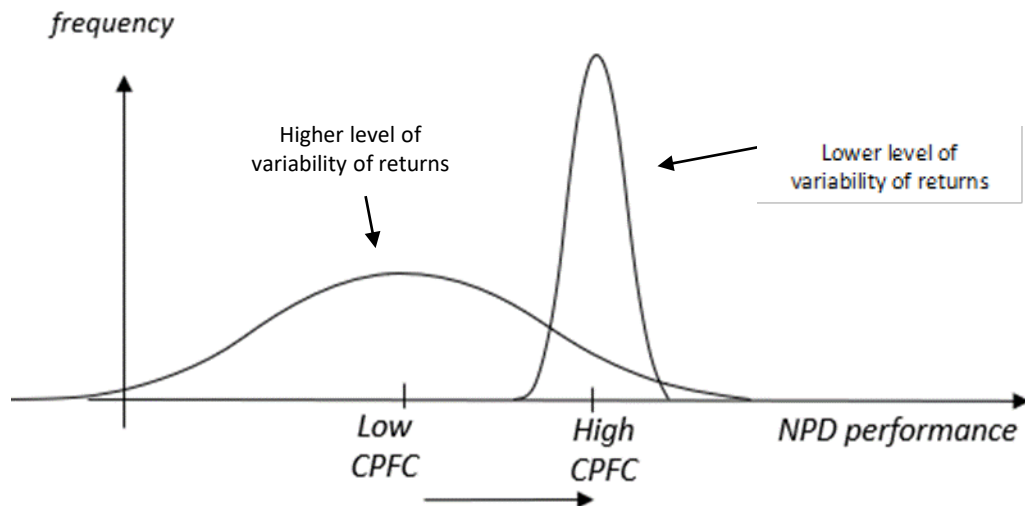
**This study examined** specific contextual factors of when Sales is more effective in new product development:

- What – Customer problem novelty
- How – Stakeholder engagement
- When – Environmental turbulence

# Methodology

- The survey was conducted in October 2021
- A third-party firm was engaged to collect the survey data online from a random sample of qualifying Canadian sales leaders.
- Participants were subject to quality control measures such as LinkedIn matching, phone calls to the person's place of business and other verification methods.
- 320 responses were received. 88 respondents did not qualify resulting in 214 survey responses. After deleting 2 observations with missing variables a final sample of 212 observations were used to conduct the analysis.
- Regression method used: multiplicative heteroscedasticity model.

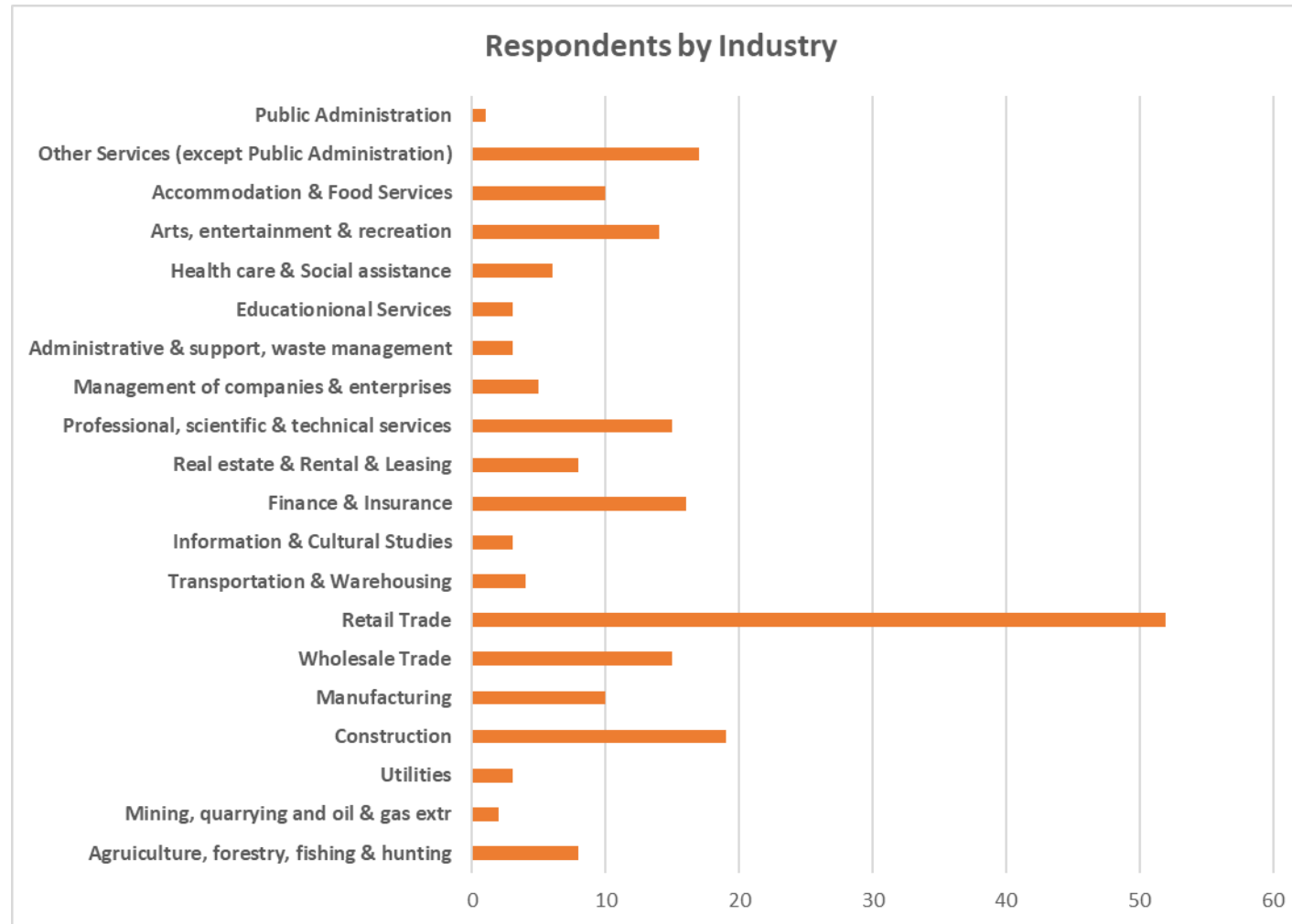
# What makes this sales research study different?



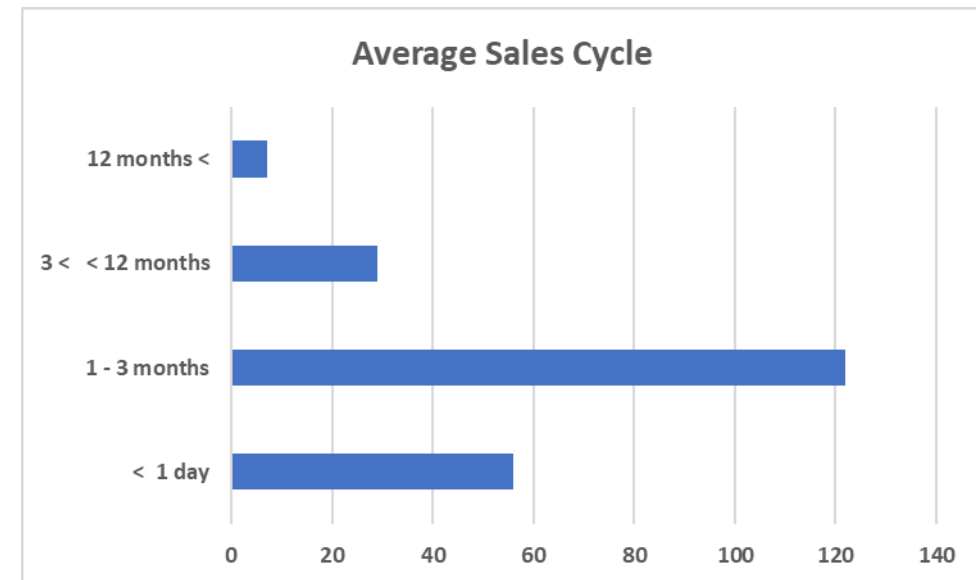
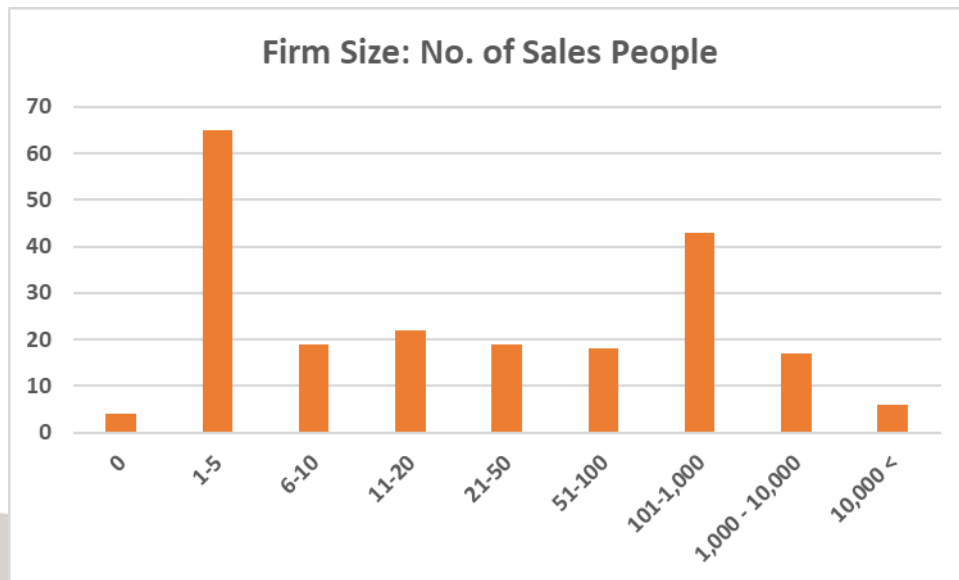
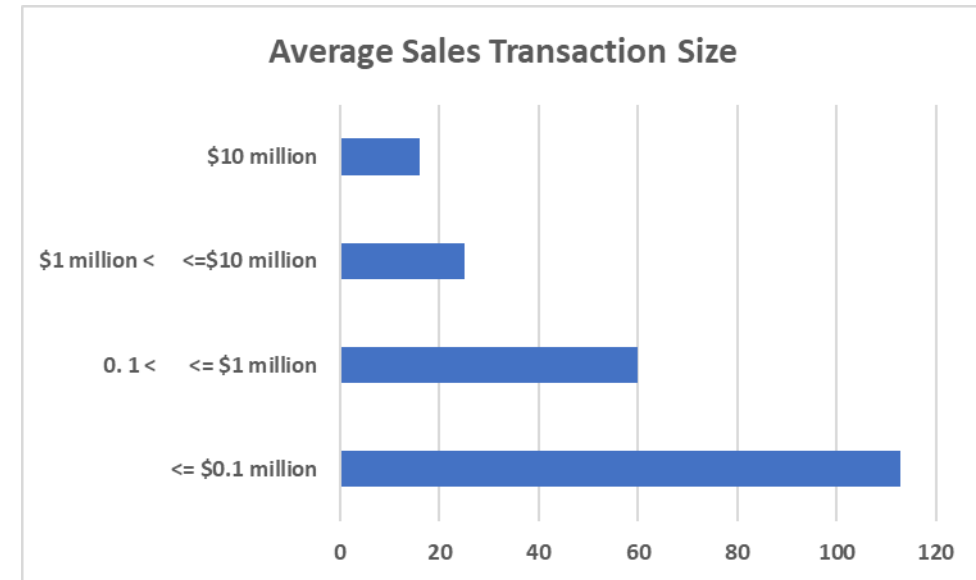
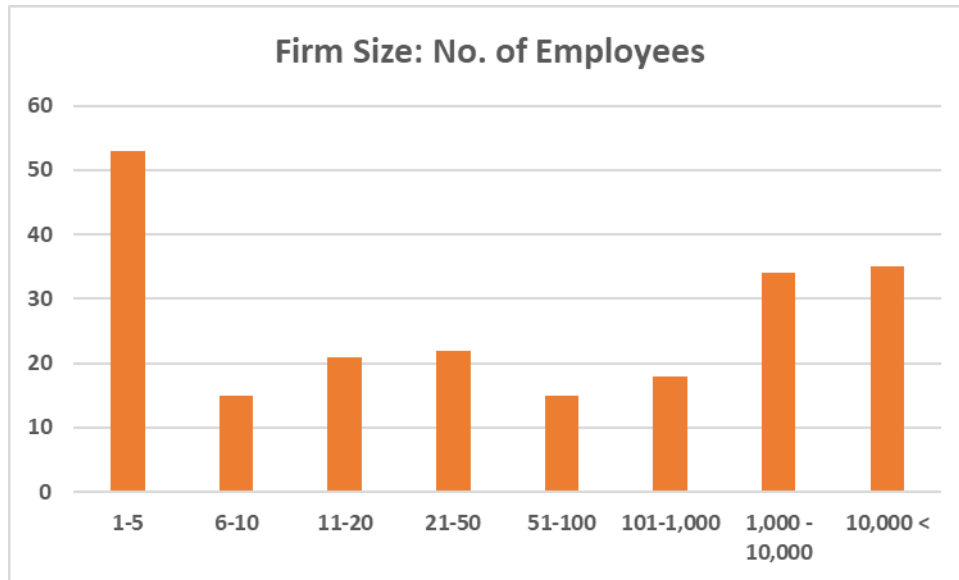
**H1a,b:** Customer-problem-formulation-comprehensiveness (CPFC) increases NPD performance (increase mean-level return and reduces associated variability)

- It is one of the few sales research studies at the firm strategy level rather than individual salesperson
- New product development performance is simultaneously measured in terms of:
  - Mean-level returns; AND
  - Associated variability
- Positive NPD occurs if:
  - Firms' products/services achieve metrics such as market share, sales, and sales growth objectives; AND
  - With less variability i.e. narrower dispersion of results.

# About the study: Data Set

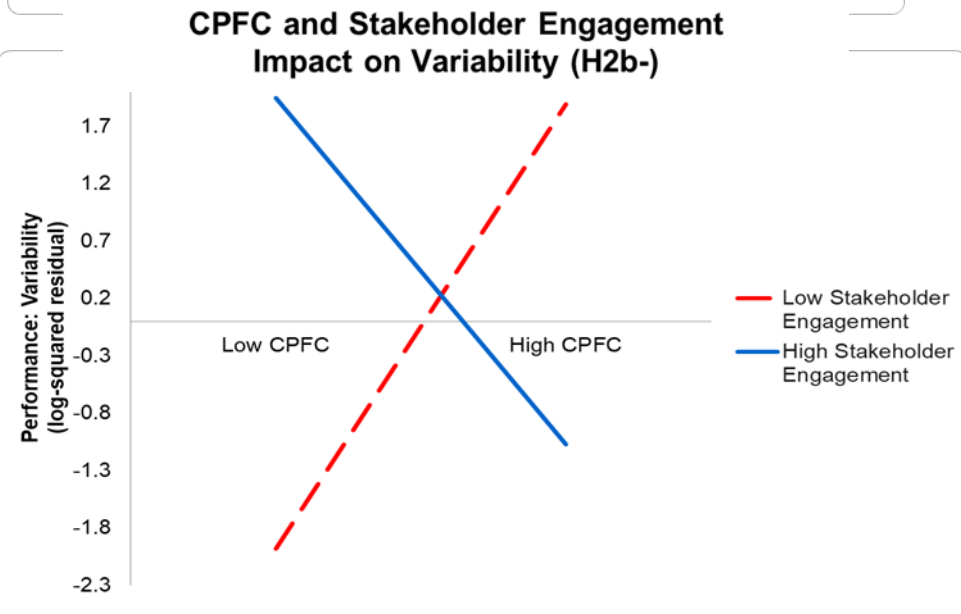
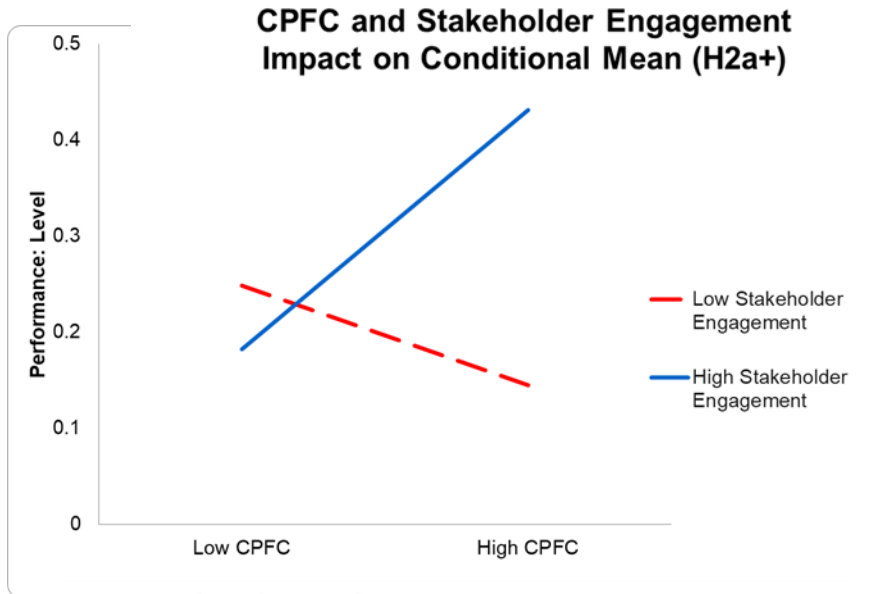


# About the Study: Data Set





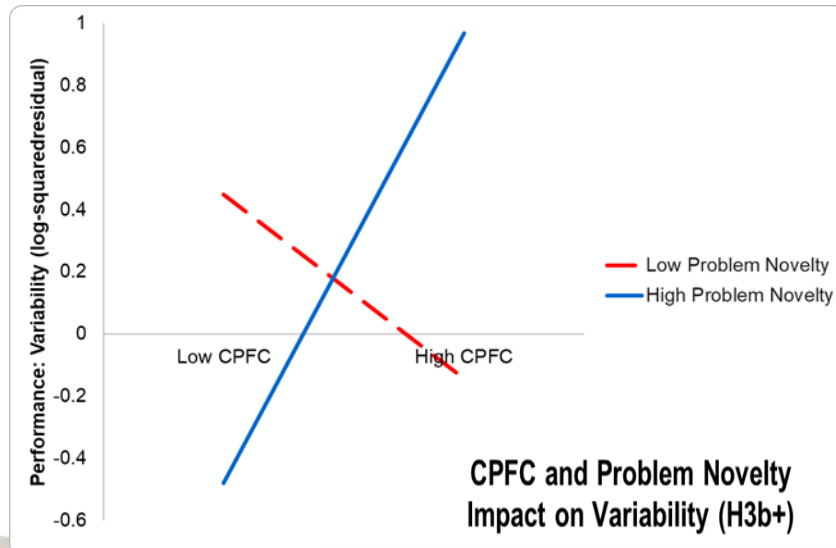
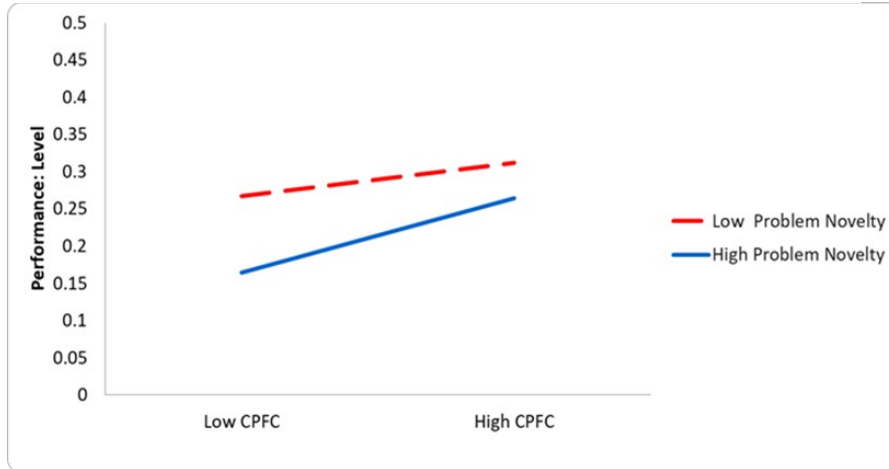
# Key Insight No. 1 – Stakeholder Engagement Matters



- 1. Investing** more time to identify and formulate customer problems to strengthen the quality of customer need information in new product development strengthens NPD performance (higher mean level returns with lower associated variability **PROVIDED** that
  - Stakeholder engagement increases correspondingly
- 2. However,** if firms invest more time to identify and formulate customer problems but **DO NOT** increase stakeholder engagement NPD performance weakens (lower mean level returns with higher associated variability).
- 3. Why?** Possibly, without stakeholder engagement firms struggle to overcome cognitive biases by identifying and formulating customer problems in term of what firms know, and existing sources of competitive advantage.

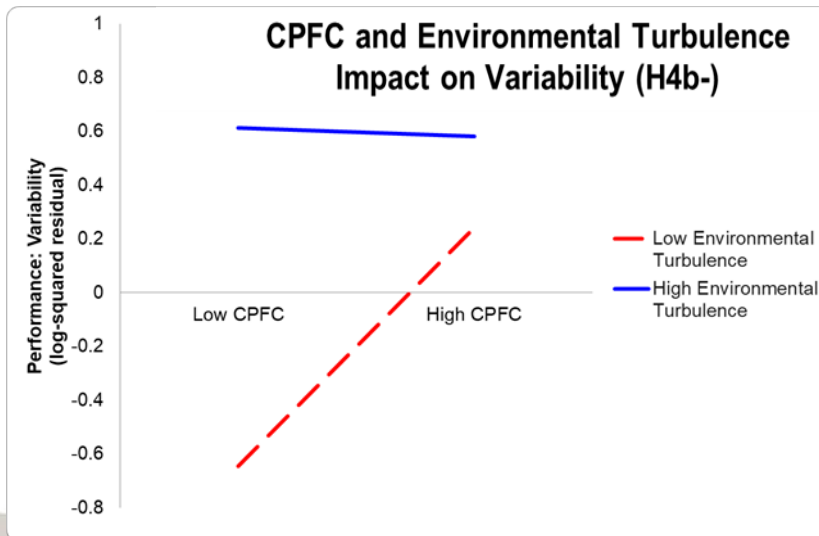
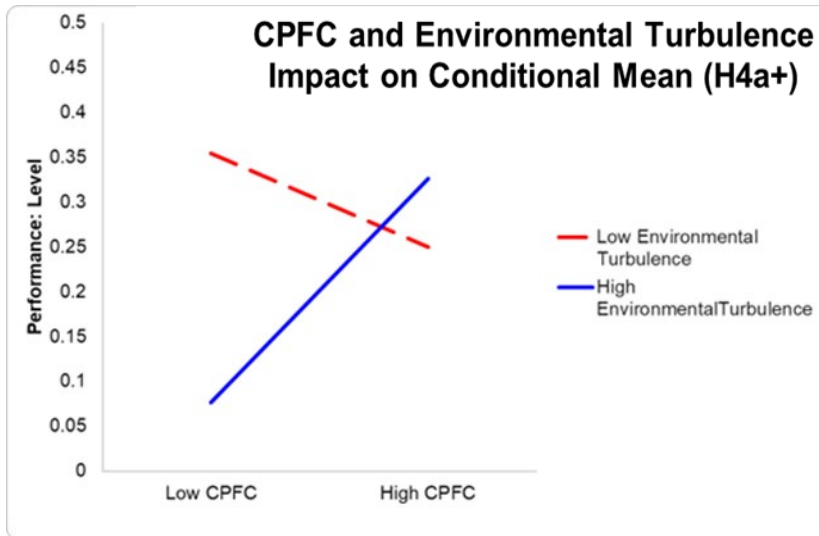
# Key Insight No. 2 – Identifying novel customer problems offers some potential upside BUT comes with increased risk

CPFC and Problem Novelty  
Impact on Conditional Mean (H3a+)



1. **Benefits** of investing more effort to identify and formulate customer problems is greater for more novel problems (increasing returns).
2. **However**, identifying and formulating **high novelty** customer problems **INCREASES** associated variability.
  - **Why?** Possibly due to lack of consensus on the attributes of the problem and required solution attributes.
  - **Therefore**, firms should adopt strategies to validate their problem formulation assumptions before moving into the product development phase.
3. **Identifying** and formulating **low novelty** customer problems **ALSO** reduces associated variability.

# Key Insight No. 3 – Identifying & formulating customer problems pays off more during periods of greater environmental turbulence



1. Investing more effort to identify and formulate customer problems as part of the process to engage customers as an information source in new product development (strengthens mean level returns and lowers associated variability)  
**WHEN** during periods of high environmental turbulence (environments affected by technological, economic, political or social uncertainty).
2. **CAUTION:** However, during periods of low environmental turbulence, identifying and formulating customer problems as part of the engaging customer as an information source in new product development leads to reduced performance (lower mean-level returns and higher associated variability). One plausible reason could be that during periods of low environmental turbulence, existing solutions satisfactorily address customer needs i.e. less pressure to change.

# Key Takeaways for Executives:

The sales function (**Who**) as a source of competitive advantage in identifying and formulation customer problems as part of the process of engaging customers as an information source in new product development **strengthens** when:

- **How** – Engaging internal and external stakeholders in the process to mitigate cognitive biases.
- **What** – Utilizing tools and techniques to mitigate the risks of misunderstanding, diagnosing, or mis-formulating more novel customer problems.
- **When** – It is performed during periods of higher environmental turbulence.

# Appendix 1: Definition of Key Terms

Term	Definition
Customer problem formulation comprehensiveness (CPFC)	CPFC defines the quality of the problem formulation process: “the extent to which alternate problem formulations are identified with respect to an initial symptom or web of symptoms” (Baer et al., 2013, p. 199).
Engaging-customer-as-an-information-source in new product development (NPD)	When customers are engaged as-an-information-source they are asked to share information on what they need from a new product i.e. what problem needs to be addressed or ways to address the problem (Chang & Taylor, 2016; Cui & Wu, 2017). Firms may engage with customers as an information source at various phases through the NPD process.
Environmental turbulence	Environmental turbulence refers to the extent to which a firm’s external environments is subject to unpredictable and rapid changes (Jayram et al., 2014). High environmental turbulence is capture by market, competitive, and technological turbulence and is captured in a four-item reflective scale adapted from Morgan & Anohkin (2020).
New product development (NPD) performance	NPD performance refers “to the success of new product development efforts” (Troy, Hirunyawipada, 2008, p. 136, as cited in Chang & Taylor, 2016). NPD success is driven by the economic return generated from the new product, customer satisfaction and loyalty, and how effectively and efficiently the new product is developed (Chang & Taylor, 2016).
New product development (NPD) failure rate	NPD failure rate refers to the percent of new products actually introduced to the market and then fail to meet commercial objectives of the firm that launches the product (Castellion & Markham, 2013)
Problem formulation	A process to define the dimensions and complexity of a problem that then acts as the catalyst to find a solution to resolve the problem (Baer et al., 2013).
Customer problem novelty	Well-understood customer problems are commonly defined across the industry. Whereas novel problems are not widely recognized and inconsistently defined across the industry (Nickerson et al., 2007).
Stakeholder engagement	Stakeholder engagement refers to the different types of actors the firm engages with to formulate customer problems, in addition to the customer (Baer et al., 2013, Natalicchio & Garavelli, 2017; Nickerson et al., 2007).

# References

- Baer, M., Dirks, K. T., & Nickerson, J. A. (2013). Microfoundations of strategic problem formulation. *Strategic Management Journal*, 34(2), 197-214. doi: 10.1002/smj.2004
- Castellino, G., & Markham, S. K. (2013). Perspective: New product failure rates: Influence of argumentum ad populum and self-interest. *Journal of Product Innovation Management*, 30(5), 976-979. doi: 10.1111/j.1540-5885.2012.01009.x
- Chang, W., & Taylor, S. A. (2016). The effectiveness of customer participation in new product development: A meta-analysis. *Journal of Marketing*. *Journal of Marketing*, 80(1), 47-64. doi: 10.1509/jm.14.0057
- Cui, A. S., & Wu, F. (2017). The impact of customer involvement on new product development: Contingent and substitutive effects. *Journal of Product Innovation Management*, 34(1), 60-80. doi: 10.1111/jpim.12326
- Jayram, J., Oke, A., & Prajogo, D. (2014). The antecedents and consequences of product and process innovation strategy implementation in Australian manufacturing firms. *International Journal of Production Research*, 52(15), 4424-4439. doi: 10.1080/00207543.2013.849363
- Morgan, T., & Anokhin, S. A. (2020). The joint impact of entrepreneurial orientation and market orientation in new product development: Studying firm and environmental contingencies. *Journal of Business Research*, 113, 129-138. doi: 10.1016/j.busres.2019.06.019
- Natalicchio, A., Petruzzelli, A. M., & Garavelli, A. C. (2017). Innovation problems and search solutions in crowdsourcing platforms – A simulation approach. *Technovation*, 64-65, 28-42. doi: 10.1016/j.technovation.2017.05.002
- Nickerson, J. A., Silverman, B. S., & Zenger, T. R. (2007). The ‘problem’ of creating and capturing value. *Strategic Organization*, 5(3), 211-225. doi: 10.1177/1476127007079969

# References

- Rifken, G. (2020, January 27). Clayton Christensen, Guru of ‘Disruptive Innovation’, Dies at 67. *New York Times*. Retrieved from <https://www.nytimes.com/2020/01/25/business/clayton-christensen-dead.html>
- Statista. (2022). Average company lifespan on Standard and Poor/s 500 Index from 1965 to 2030, in years (rolling 7-year average). <https://www.statista.com/statistics/1259275/average-company-lifespan/#:~:text=In%202020%2C%20the%20average%20lifespan,even%20further%20throughout%20the%202020s.>
- Ward, M. P., Osiyevskyy, O., & Radford, S. K. (2022). Creating customer need knowledge: The problem-solving perspective and risk-reward trade-off in new product development. *Entrepreneurship & Innovation*, University of Calgary.