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EMPLOYMENT

Professor of Strategy, Ross School of Business, University of Michigan

EDUCATION

PhD, MIT

SM, MIT

GOOGLE SCHOLAR CITATIONS

For a list of my publications and citation count, go to my Google Scholar page:

<https://scholar.google.com/citations?user=5tZmzy8AAAAJ&hl=en&oi=sra>

Google scholar score on May 14, 2023 was **17,975**

DISTINGUISHED SCHOLARLY HONORS

- **2022 AMR Decade Award**
 - “Most prestigious award given out by the AMR”, *Editor-in-Chief for AMR, 2022*
 - “AMR paper that has demonstrated a significant impact in the field of management” over the ten years. (2012 AMR paper with the most citations)
 - During the decade, AMR was the world’s #1, 2 or 3 business/management journal
- **2019 AMR Managerial Practice Award**
- **2012 AMR Best Paper Award**
 - Best 2012 paper in the world’s #1 business/management journal
 - AMR is a member of the Big 3 “A” Journals (AMR, ASQ, AMJ)
- **Superior Single-Author record**
 - 5 **Single**-authored “A” Journal publications
 - 4 **Single**-authored books published by reputable publishers
- Rare winner of an AMR Best Paper Award to also be the **Associate Editor** of a paper that would become an AMR **Best Paper Award Winner**

OTHER HONORS

- Runner-up **2022 AMP Best Paper Award**

- In 2019, a business model paper I co-authored contributed 1.173 to the *Academy of Management Annals'* impact factor of 11.750 that made the journal the world's **#1** business/management journal. Without the contribution from our paper, the journal would have dropped to **number 2**.

AREAS OF RESEARCH

- Business models
- Business model innovation
- Crowdsourcing
- Crowdsruptive innovation
- Impact of technological innovation on firm ecosystems
- Multisided platforms
- Open innovation
- Problem-solving
- Research methods in healthcare
- Technological innovation

SELECTED JOURNAL PUBLICATIONS AND BOOKS SINCE THE YEAR 2000

- (1) McIntyre, D., Srinivasan, A., Afuah, A., Gawer, A., & Kretschmer, T. (2021). Multisided platforms as new organizational forms. *Academy of Management Perspectives*, 35(4), 566-583.
 - **Runner up for 2022 AMP best paper award**
- (2) Alvarez, S. A., Zander, U., Barney, J. B., & Afuah, A. (2020). Developing a theory of the firm for the 21st century. *Academy of Management Review*, 45(4), 711-716
- (3) Alvarez, S., Afuah, A., & Gibson, C. (2018). Editors' Comments: Should management theories take uncertainty seriously? *Academy of Management Review*, 43(2): 69-72.
- (4) Tucci, C., Afuah, A. & Viscusi, G. (eds.) (2018). *Creating and capturing value through crowdsourcing*. Oxford: **Oxford University Press**.
- (5) Afuah A. (2017). Crowdsourcing: A primer and framework. In C. Tucci, A. Afuah, & G. Viscusi (eds.), *Creating and capturing value through crowdsourcing*, pp. 11-38. Oxford: Oxford University Press.
- (6) Tucci, C., Afuah, A. & Viscusi, G. (eds.) (2017). *Creating and capturing value through crowdsourcing*. **Oxford: Oxford University Press**
- (7) Massa, L., Tucci, C., & Afuah, A. (2017). A critical assessment of business model research. *Academy of Management Annals*, 11(1), 73-104
 - *Annals is now No. 1 of 172 in the category of Management. Peer-reviewed.*
 - Contributed 1.173 to the Annals' impact factor of 11.750 that made the journal the world's **#1** business/management journal in 2019. Would be the #2 journal without our paper.
- (8) Bogers, M., Zobel, A. K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L., ... & Hagedoorn, J. (2017). The open innovation research landscape: Established perspectives

- and emerging themes across different levels of analysis. *Industry and Innovation*, 24(1), 8-40.
- (9) Afuah, A. N. (2014). *Business Model Innovation: Concepts, Analysis, and Cases*. Routledge: New York. Second Edition out in the Fall of 2018.
- *Translated into Korean*
- (10) Afuah, A., & Tucci, C. L. (2013). Value capture and crowdsourcing. *Academy of Management Review*, 38(3), 457-460.
- (11) Afuah, A. (2013). Are network effects really all about size? The role of structure and conduct. *Strategic Management Journal*, 34(3), 257-273.
- **Lead article in March 2013 journal's issue**
- (12) Afuah, A., & Tucci, C. L. (2012). Crowdsourcing as a solution to distant search. *Academy of Management Review*, 37(3), 355-375.
- **2012 AMR Best Paper Award**
 - *AMR No. 1 of 110 in the category of Business, and No. 1 of 172 in the category of Management in 2012*
 - **2019 AMR Managerial Practice Award**
 - **2022 AMR Decade Award**
- (13) Bogers, M., Afuah, A., & Bastian, B. (2010). Users as innovators: a review, critique, and future research directions. *Journal of management*, 36(4), 857-875
- (14) Afuah, A. (2009). *Strategic Innovation: New Game Business Models for Competitive Advantage*. 2009. Routledge: New York.
- (15) Afuah, A. (2004). Does a focal firm's technology entry timing depend on the impact of the technology on co-opetitors? *Research Policy*, 33(8), 1231-1246.
- (16) Afuah, A. (2004). *Business Models: A Strategic Management Approach*. 2004. McGraw-Hill: New York.
- (17) Afuah, A. (2003). Redefining firm boundaries in the face of the Internet: Are firms really shrinking? *Academy of Management Review*, 28(1), 34-53.
- (18) Afuah, A., & Tucci, C. L. (2003). *Internet Business Models and Strategies*. New York: McGraw-Hill. Second Edition.
- **Translated into more than 10 languages**
- (19) Afuah, A., & Tucci, C. L. (2003). A model of the Internet as creative destroyer. *IEEE Transactions on Engineering Management*, 50(4), 395-402.
- (20) Afuah, A. (2003). *Innovation management: Strategies, Implementation and Profits*. New York: Oxford University Press.
- **Translated into more than 5 languages**
- (21) Afuah, A. (2002). Mapping technological capabilities into product markets and competitive advantage: the case of cholesterol drugs. *Strategic Management Journal*, 23(2), 171-179.

- (22) Afuah, A. (2001). Dynamic boundaries of the firm: Are firms better off being vertically integrated in the face of a technological change? *Academy of Management journal*, 44(6), 1211-1228.
- (23) Afuah, A. (2000). How much do your co-opetitors' capabilities matter in the face of technological change? *Strategic Management Journal*, 387-404.

INTRODUCTION TO STRATEGY

Strategy is about winning, and the defining dependent variable in business strategy is the overarching performance—profitability, market capitalization, etc.—of firms. Two theoretical perspectives—the positioning school (TPS) and the resource-based view (RBV)—have dominated research and teaching in business strategy since at least the 1990s. TPS is primarily attributed to Michael Porter, and maintains that a firm earns a higher rate of profitability than its competitors by pursuing a differentiation or low cost strategy in attractive industries. Through differentiation, for example, a firm can win without fighting—without pursuing price wars in which no one, not even the customer, wins. RBV was first articulated by Jay Barney, Birger Wernerfelt and CK Prahalad, and contends that having a higher rate of profitability than competitors is predicated on having rare valuable resources that are difficult to imitate. What does my research have to do with these dominant theoretical perspectives and firm performance and, therefore, strategy? A lot!

WHAT I DO

My research has focused on two major gaps left by these theoretical perspectives in explaining performance differences among firms (Figure 1). Without filling these gaps, it is very difficult to explain the superior performance of many firms—especially in today's economy—from Apple to Zoom, and help the firms sustain or improve their performances. First, my research focuses on the vital role of **technological innovation** as the major determinant of TPS' major constructs—differentiation, low cost and industry attractiveness—and RBV's valuable rare resources, as well as the overarching environments in which these firms operate (Figure 1). Technological innovation often gives firms a competitive advantage by improving differentiation and low cost while building or reinforcing rare valuable resources. Importantly—as Schumpeter argued years ago—technological innovation can also render existing market positions and underpinning valuable resources obsolete, dismantling existing competitive advantages and the drivers of industry attractiveness.

Second, my research has also focused on the role of **business models** and **business model innovation** in explaining performance differences. Business models include factors such as monetization—the translation of differentiated or low-cost products/services into money or other legal tender that is greater than the cost of the products/services—that are assumed

away in TPS and RBV theorizing but are crucial in today's digital world. For example, despite being highly differentiated, Google did not become profitable until it adopted a paid-search advertising business model and has not looked back since. Business model *innovation* is about novel ways of creating and/or capturing value. Apple's superior financial performance is as much a function of its business model innovations—e.g., its crowdsourcing business model—as it is of its product innovations.

UNIQUE CHALLENGES

I have faced some rather unique challenges in my research. I come from a research tradition that values big research questions—that values going for the homeruns rather than the frequent hits. This is very risky! To make matters worse, the expertise needed to evaluate research in technological innovation and business models has been rather opaque to editors and reviewers of the “A” Journals in which management scholars have to “publish or perish.” Worse still, I draw on economics—Schumpeterian, Carnegie School (e.g., transaction cost economics), etc.—in weaving the causal logic in my research. Consequently, going against all my advisors' strong recommendation, I had to target both books and “A” Journals as outlets for my research from the very beginning of my academic career. Luckily for me, the rise of the digital economy has been a natural experiment in technological innovation and business models, providing interesting opportunities for research. Better still, I was privileged to have outstanding academic role models. For publishing in “A” Journals, I had Harvard Distinguished University Professor Rebecca Henderson (my adviser and the chair of my dissertation committee at MIT), and Michigan Distinguished University Professors Jane Dutton and Karl Weick as role models. For publishing in books, I had Professor James M. Utterback of MIT and Michigan Distinguished Professor CK Prahalad. Importantly, Joe White, the Ross Dean who hired me to Ross created a phenomenal environment for research and teaching in which faculty could thrive. I just couldn't let down these remarkable people. So then, what has been my research performance in the face of these opportunities and challenges?

THE RESULTS

Here are the highlights of my research output in the face of these challenges and opportunities:

- **17,000⁺ Google Scholar citations.** With 17,975 Google citations on May 14, 2023, I am among a select group of management scholars whose research is rooted in economics but have accumulated more than 15,000 Google citations. For my latest score, see: https://scholar.google.com/scholar?hl=en&q=Allan+Afuah&btnG=&as_sdt=1%2C23&as_sctp=
- **2012 AMR Best Paper Award** for a “Big Three” journal (AMJ, AMR, ASQ). With the 2012 AMR Best Paper Award, I became only the third Ross faculty ever to win a Best Paper

Award for a “Big Three” journal (AMJ, AMR, ASQ), and the first to win the Best Paper Award for the best journal. My role model and Distinguished University Professor at Michigan Jane Dutton won the best paper awards for AMJ and ASQ while Karl Weick, my other role model at Ross and Distinguished University Professor at Michigan, won an AMR best paper award. Of course, Rebecca Henderson—my advisor and Dissertation chair at MIT, now a Distinguished University Professor at Harvard—won an ASQ best paper award.

- **AMR 2019 Managerial Practice Award.** The same paper that won the 2012 AMR Best Paper Award also won the 2019 AMR Managerial Practice Award at the Academy of Management. AMR is a theory journal. Therefore, for a paper to win the AMR best paper award *and* the journal’s Management Practice Award is remarkable.
- **AMR 2022 Decade Award.** Described by the AMR Editor-in-Chief in 2022 as the “Most prestigious award given out by the AMR”, the “AMR paper that has demonstrated a significant impact in the field of management”, the 2012 AMR paper with the most citations over the decade to 2022. During the decade, AMR was the world's #1, 2 or 3 business/management journal.
- **5 single-authored “A” Journal publications.** With five single-authored papers published in “A” Journals, I joined a select group of management scholars with more than 15,000 Google citations who have at least five single-authored “A” Journal publications. This is no easy feat, especially for management scholars who use economics as their base discipline.
- **6 books published by top publishers.** With six books published by reputable publishers, I join only CK Prahalad in the Ross strategy group with that many books. Of course, CK’s books were overwhelmingly more popular than mine and written for practicing managers. However, while all of CK’s books were co-authored, I was the single-author of 4 of my 6 books, published by reputable publishers. My books were written for scholars and therefore contained a lot more theory than CK’s.
- **Making a difference for the #1 journal.** In 2019, a 2017 paper I co-authored contributed 1.173 to the *Academy of Management Annals’* impact factor of 11.750 that made it the number one journal in management (and business). Our paper was by far the largest contributor to the impact factor. Without the paper, the journal would have dropped to number 2.
- **Creation of electives from my research.** From my research, I created the elective “Strategy 675: Business model innovation” from scratch, and wrote a textbook for it (published by Routledge) that was translated into Korean, and is now in the Second Edition. Before that, I had used my research in technological innovation to repopulate an elective in technology and innovation (Strategy 673) before the head of department took it away from me to give to a junior faculty member.

- **Moving core courses from the 20th Century to the 21st Century.** Just as important, I also used my research in technological innovation and business models to try to move the core courses that I teach from the 20th Century to the 21st Century—from Cola Wars and Wal-Mart to Apple and Amazon. Explaining performance differences using the positioning school (TPS) or RBV may have worked like a charm in the 20th Century when Coke and Walmart were the most valuable firms. Today, in the 21st Century, when Apple, Google, Facebook and unicorns rule, TPS and RBV fall far short of explaining performance differences. Technological innovation, business models and business model innovations are fundamental to explaining firm performance differences in the 21st Century.

Now, here are some details about the research questions that I have explored in technological innovation, business models and business model innovation—the research questions that have distinguished my research from that of other strategy scholars.

TECHNOLOGICAL INNOVATION VIEW

Technological innovations are the inventions, discoveries and creations that are associated with the novel scientific knowledge, techniques, skills, methods, and processes that moved humanity from caves to skyscrapers, brought us the microchips without which there would be no Internet or smartphones, and so on. Importantly, technological innovations are strongly associated with change—with what Schumpeter called “creative destruction”. This is the change that can reinforce or dismantle competitive advantages from TPS’ major constructs (differentiation, low cost and industry attractiveness) and RBV’s valuable rare inimitable resources, as well as the overarching environments in which firms operate.

As a tenure track strategy assistant professor whose doctoral training at MIT was in management of technological innovation (MTI), I was fascinated by the potential impact of technological innovation on TPS’ positioning and RBV’s valuable resources and, therefore, the performance of firms. (MTI is about the strategies and processes for generating and transforming scientific knowledge into products and services to benefit humanity.) This set me on a path to exploring research questions that just keep getting more and more fascinating. What are these questions and my publications exploring them?

Question 1

How does technological innovation impact a firm's positioning and scarce valuable resources and, therefore, the performance of the firm?

My exploration of this question is best illustrated with a sample of my major publications. The first of these publications was a book:

Afuah, A. (1998, 2003). *Innovation management: Strategies, Implementation and Profits*. New York: **Oxford University Press**. First Edition 1998. Second Edition 2003.

- In this book, I presented a framework for exploring how the type of technological innovation (incremental, modular, architectural, radical, competence enhancing, competence destroying) and the type of firm (incumbent or new entrant) determine the degree to which a firm's valuable resources and its positioning are reinforced or rendered obsolete by the innovation; ultimately determining the firm's profitability. Importantly, I offered three strategies—block, run, and team-up—that a firm can use to reinforce, or avoid obsolescence of, its positioning and resources, thereby sustaining its competitive advantage in the face of technological innovation.
- The book was **translated into simplified and traditional Chinese, and Thai**.

Afuah, A. (2000). How much do your co-opetitors' capabilities matter in the face of technological change?. *Strategic Management Journal*, 21(3), 397-404.

Afuah, A. (2001). Dynamic boundaries of the firm: Are firms better off being vertically integrated in the face of a technological change?. *Academy of Management Journal*, 44(6), 1211-1228.

Afuah, A. (2002). Mapping technological capabilities into product markets and competitive advantage: The case of cholesterol drugs. *Strategic Management Journal*, 23(2), 171-179.

Afuah, A. (2003). Redefining firm boundaries in the face of the internet: Are firms really shrinking?. *Academy of Management Review*, 28(1), 34-53.

Afuah, A., & Tucci, C. L. (2012). Crowdsourcing as a solution to distant search. *Academy Of Management Review*, 37(3), 355-375.

- **2012 AMR Best Paper Award**
- **2019 AMR Practice Implications Award**
- **2022 AMR Decade Award**

Afuah, A. (2013). Are network effects really all about size? The role of structure and conduct. *Strategic Management Journal*, 34(3), 257-273.

Afuah, A., & Tucci, C. L. (2013). Value capture and crowdsourcing. *Academy of Management Review*, 38(3), 457-460.

Question 2

Back in 1998, in the face of the Internet revolution, a huge question for management scholars was: **What is this new technology called the Internet and, importantly, how and why is it likely to impact firm performance?**

One of the first answers to this question was the book my co-author (Christopher Tucci) and I wrote:

Afuah, A., & Tucci, C. L. (2000, 2003). *Internet business models and strategies: Text and cases*. New York: McGraw-Hill. First Edition 2000. Second Edition 2003

- In this book, we synthesized the properties of the Internet and used them—together with strategy and management of technological innovation concepts—to explain why and how the Internet was going to revolutionize business, and to predict what was likely to happen to value creation and capture in the future, and to firm performance. (For example, we predicted Amazon's dominance of retail but expected the erosion of brick-and-mortar retailers to occur sooner.) Because the Internet exhibits network effects—and TPS and RBV had assumed away monetization—a major part of the book was dedicated to monetization and revenue models.
- The book was **translated into more than 8 languages**.

Afuah, A., & Tucci, C. L. (2003). A model of the Internet as creative destroyer. *IEEE Transactions on Engineering Management*, 50(4), 395-402.

BUSINESS MODELS AND BUSINESS MODEL INNOVATION

A firm's business model is the set of activities that it performs to build and/or use resources (human, physical, intellectual, financial) to create, deliver and monetize benefits (embodied in products and services) to customers. In researching and writing *Internet Business Models and Strategies*, I realized that business models play a much bigger role in explaining firm performance differences than implied by the positioning (TPS) and the resource-based view (RBV) perspectives. Thus, I decided to explore the subject of business models in more detail. For example, RBV says very little about how firms end up with rare valuable inimitable resources. However, because it encompasses the building and using of resources, the business model view explores the sources of resources. Thus, befittingly, I decided to explore the following research question:

Question 3

What role do business models play in explaining firm performance differences?

As with the first two research questions, I started my exploration of this question by writing a book:

Afuah, A. (2004). *Business models: A strategic management approach*. McGraw-Hill/Irwin.

- In this book, I argued that a firm's profitability depends very much on which activities it performs, how it performs them, why it performs them, and when it performs them as it builds and/or uses its resources to position itself well in the market spaces that it serves. Importantly, the book included monetization (revenue models and pricing), long assumed away by TPS and RBV. I reintroduced the role of resources, costs, and pricing in explaining and predicting firm performance—constructs that we had omitted in writing *Internet Business Models and Strategies*.

Massa, L., Tucci, C. L., & Afuah, A. (2017). A critical assessment of business model research. *Academy of Management Annals*, 11(1), 73-104.

- **Contributed 1.173** to the *Academy of Management Annals'* impact factor of 11.750 that gave the journal its #1 ranking in 2019. Without the contribution, the journal would have been number 2.

Question 4

In the 2000s, anecdotal examples—e.g., an article from McKinsey—suggested that business model innovation was more profitable than product innovation. This raised an interesting question:

What are business model innovations and, importantly, just how do they impact firm performance?

As I did with the previous three questions, I started my exploration of this question by writing yet another book:

Afuah, A. (2014, 2018). *Business model innovation: Concepts, analysis, and cases*. Routledge. First Edition 2014. Second Edition 2018

- I started the book by defining a business model *innovation* as a *novel* way of building resources, using resources, creating benefits to customers, delivering benefits to customers, or monetizing benefits to customers. I then presented a framework for exploring how different business model innovations—e.g., crowdsourcing, multisided platforms, subscription, advertising, etc.—impact a firm's performance (profitability and

market capitalization). The framework had five major components: Value proposition, market segments, capabilities (resources and activities), revenue-cost model, and growth model.

- The first edition of the book was **translated into Korean**

McIntyre, D., Srinivasan, A., Afuah, A., Gawer, A., & Kretschmer, T. (2021). Multisided platforms as new organizational forms. *Academy of Management Perspectives*, 35(4), 566-583.

Question 5

In exploring business model innovations in pharmaceuticals, I was puzzled by why pharmaceutical companies have, for decades, been very profitable and yet, during those decades, we have been getting fatter, sicker and more susceptible to healthcare shocks such as Covid-19, according to the Center for Disease Control and Prevention (CDC). This led me to the question:

Why have we been spending more and more on healthcare only to get fatter, sicker and more susceptible to healthcare shocks and, importantly, how can we get out of this healthcare quagmire?

This is a monumental question that belongs to a category of problems that appear impossible to solve using status quo approaches but become relatively easier to solve using crowds. Thus, my answer to this question depends not only on my earlier work in technological innovation and business models, it also draws on my more recent work in crowdsourcing. The books and papers exploring this question—that I am writing—are still in my works-in-progress queue. In working papers in 2020, I argued that the solution to Covid-19 was vitamin D, and not vaccines. I now have proof that vitamin D—not covid vaccines—was the solution to Covid-19.

Recent Miscellaneous Papers (independent of research question)

Here are some recent “A” Journal papers that are not directed at any of the five questions that I have focused on:

Alvarez, S., Afuah, A., & Gibson, C. (2018). Editors’ comments: Should management theories take uncertainty seriously?. *Academy of Management Review*, 43(2), 169-172.

Alvarez, S. A., Zander, U., Barney, J. B., & Afuah, A. (2020). Developing a theory of the firm for the 21st century. *Academy of Management Review*, 45(4), 711-716.

Figure 1: My research focus relative to the positioning school (TPS) and the resource-based view (RBV) of strategy.

