
Adoption – A core attribute of a Disruptive Innovation

Abayomi Baiyere

Turku Centre for Computer Science (TUCS)
University of Turku,
Turku, Finland.
E-mail: abayomi.baiyere@utu.fi

Abstract: Disruptive Innovation has been misconstrued to mean several things by different audience, which could lead to the danger of a dilution of its theoretical relevance. This paper makes a conceptual clarification that is essential in construing an innovation as disruptive. The thesis of this study is that adoption is a central attribute required for any innovation to be considered disruptive. Drawing on the relative nature of disruptive innovation, an innovation can *only* be labelled disruptive when another entity can be said to be disrupted. One mechanism through which this occurs is the increase of adoption of an innovation vis-à-vis the loss of adoption of another. Building on this principle, an innovation labelled as disruptive by design can only potentially reach that status by being adopted. However, this is not enough as the relativity of disruptive innovation requires that another innovation/offering needs to have also lost its adoption significantly.

Keywords: Disruptive Innovation, Adoption, Market, Conceptual, Potential Disruptive Innovation.

1 Introduction

The conceptualization of the disruptive innovation theory has been around for almost two decades (Christensen 1997) and a copious amount of studies have been carried out to better understand and extend the theory. Both academicians and practitioners have studied and discussed the concept of DI from different angles. However, the popularity of the theory and perhaps the proliferation of the theory into the public media have led to various misconception and misuse of the term. It is worth noting that irrespective of the attention that the concept has drawn, there still exist some myths and mix-up even in the academic discussions. Some researchers have attempted to disentangle some of the myths and misconceptions around the theory. Notable examples are the special issues dedicated to clarifying the disruptive innovation theory as well as its misconceptions (Danneels 2004, 2006, Markides 2006, Tellis 2006). This research in progress paper is positioned as one of the efforts to bring clarity to the concept and extend the theoretical foundations of the theory.

There exists an underlying assumption in various research about the concept of disruptive innovations (DI), that claims that certain innovations are disruptive from inception (Danneels 2004, 2006). This paper questions the notion that by meeting some attributes of a disruptive innovation, an innovation automatically earns the title of a disruptive innovation (Palacios et al 2015). We argue that adoption is a necessary (and mostly unacknowledged) attribute for an innovation to be labelled a disruptive innovation

(Christensen and Raynor 2003). The implication of this is that it is not enough for an innovation to only meet some of the established attributes of a DI (Yu 2010, Baiyere 2014), but it should by the definition of a DI (Christensen 2006, Govindarajan and Kopalle 2006, Baiyere and Salmela 2013) also have gained sufficient adoption that has proven disruptive to another actor.

2 Background

In essence, the concept of an innovation being a DI is very much dependent on its adoption and moreso how disruptive that adoption is to a particular actor (market, innovation or organisation). This paper therefore calls to debate the concept of “disruptive innovation by design”. We state that an innovation might be disruptive by design by satisfying some attributes of a DI, however it is at best a “potential disruptive innovation” (Baiyere 2014) until it has gained sufficient adoption and another entity has lost sufficient adoption (Christensen and Overdorf 2000, Nault et al 2000). As an example, GoogleDocs was acclaimed to be a disruptive innovation by design to the dominant Microsoft Office. Almost a decade after its launch, GoogleDocs cannot be said to have disrupted Microsoft Office but rather it has evolved into a competitors product that Microsoft has and is responding to. Similarly, the Tata Nano car was largely received as a disruptive innovation by design set to disrupt the auto industry. Its underwhelming adoption is an apparent indication of how far it is from the disruptive innovation title. Although these examples never became disruptive as adjudged on inception, they nonetheless possess and indeed met a number of the attributes of a DI. However, they lacked sufficient adoption to become a disruptive force to any of the actors they were poised to disrupt.

The principle of innovation adoption; innovation diffusion and market adoption have also been well documented in prior research (Boehmke and Witmer 2004). The dynamics of innovation adoption has been also studied and considered to be an important determinant of the success of an innovation (Govindarajan, Kopalle, and Danneels 2011). This study therefore logically rests on prior studies that have been done in this area and also utilizes concepts from reference disciplines like marketing to support its findings and advance new propositions for scholarly engagement.

This paper is summarily aimed at extending the understanding of the disruptive innovation theory by emphasizing the importance of adoption as the often ignored component of the disruptive innovation equation. We present this study as a call for researchers and a lens for practitioners to enable the assessment and classification of an innovation as disruptive or not. This is expected to help practitioners make informed decisions and for researchers to re-evaluate the underlying assumptions for future DI related studies.

3 Research Design

The goal of this submission is to extend our understanding of what makes an innovation to qualify to be called a disruptive innovation. This study is designed as an exploratory research to uncover the role of adoption as an attribute for an innovation to be regarded as a disruptive innovation relative to other known/established attributes and characteristics of a disruptive innovation.

This preliminary study involved a review of academic literatures and the review of publicly available case examples. To initiate the study, we embarked on a prior literature review to collect the different definitions and attributes that have been documented in prior research (Webster and Watson 2002). In addition, the literature review was also a valuable avenue to generate a list of innovations that have been termed as a disruptive innovation in prior research. This formed the background for building up the research and for selecting the case examples to be examined.

Six example cases were preselected from the literature review phase. These six cases are divided into three groups for easy comparison. We tagged the first group “disrupted disruptive innovation cases” (GoogleDocs and Nintendo Wii). The second group was tagged “disruptive innovation cases” (Smartphones – iPhones vs Nokia and Digital Imaging – Digital Camera vs Kodak) and the third group was tagged “potential disruptive innovation cases” (3D Printing and Ridesharing – Uber). After selecting the cases to focus on, we proceeded to source for more information about these cases. We utilized publicly available data for each case.

4 Preliminary Findings

Findings from the study show that, an innovation may have every other attribute of a disruptive innovation but if it lacks a sufficient degree of adoption, it is at best a potential disruptive innovation. This is because disruptive innovation is a relative phenomenon by definition (Govindarajan and Kopalle 2006, Schmidt and Druehl 2008). The implication of this relativity is that an innovation cannot by itself be disruptive. For an innovation to be disruptive, an identifiable actor that has been clearly disrupted should exist. Without, this relativity condition, an innovation cannot be effectively said to be a DI.

Consequently, for any organisation to be declared disrupted, their needs to be a significant decline in the organisation’s market share such that it affects its position, profitability and in some cases its survivability in that industry. By extension for an organisation to lose market share due to another innovation, implies that the innovation must have encroached into the market domain of the disrupted company. This could either be by pulling the market away (iPhones), eating into the market (Uber) or rendering the company’s offering relatively unattractive or completely obsolete (Kodak and 3D printing). These patterns can be readily identified in all cases with varying degrees. This logically indicates that adoption (among other attributes) is one of the core components for an innovation to be truly disruptive.

This research contributes to our knowledge and understanding of the framing of a disruptive innovation and in clarifying what is - and what is not – a disruptive innovation. In order to do this, the paper proposes an emphasis on the adoption component of the definition of a disruptive innovation by drawing from the analysis of the case studies in the paper. Subsequently, the paper is aimed at advancing a model of a disruptive innovation anchored on the necessity of adoption as one of the key elements and determinants of a disruptive innovation.

Furthermore, the paper used the concept of relativity and adoption as drawn from the definition of DI to classify the list of disruptive innovations identified from the literature review into three groups. These are – Disrupted Disruptive Innovations, Potential Disruptive Innovations and Disruptive Innovations. With this categorization, it becomes easy for future studies to position DI related research into the appropriate categories.

5 Conclusion

The paper is aimed at providing a useful and better understanding of the concept of disruptive innovations that can be used to make sense and filter the noise from the facts when examining DI cases. The preliminary study also provides practitioners with a valuable perspective for evaluating the disruptive tendencies of an innovation from the market perspective and better determining if and how such an innovation is disruptive or not to their business.

References

- Baiyere, A., & Salmela, H. (2013). Review: Disruptive Innovation & Information Technology- Charting a Path. Proceedings of the 24th Australasian Conference on Information Systems (ACIS).
- Baiyere A. (2014) "Disrupted Disruptions: Lessons from potential Disruptive Innovations that never disrupted." 25th International Society for Professional Innovation Management Conference, Ireland
- Boehmke, F. J., & Witmer, R. (2004). Disentangling diffusion: The effects of social learning and economic competition on state policy innovation and expansion. *Political Research Quarterly*, 57(1), 39-51.
- Christensen C.M. 1997, *The Innovator's Dilemma When New Technologies Cause Great Firms to Fail*, Harvard Business School Press
- Christensen, M. and Overdorf, M 2000,. "Meeting the Challenge of Disruptive Change." *Harvard Business Review* (78:1): 67-76 .
- Christensen, C. M. and Raynor, Michael E. 2003, *Innovator's Solution*. Boston: Harvard Business School Press
- Danneels, E. 2004,. "Disruptive Technology Reconsidered: A Critique and Research Agenda". *Journal of Product Innovation Management* (21:4), pp 246-258.
- Danneels, E. (2006). Dialogue on the effects of disruptive technology on firms and industries. *Journal of Product Innovation Management*, 23(1), 2-4.
- Govindarajan, V., and P. K. Kopalle. 2006." The usefulness of measuring disruptiveness of innovations ex-post in making ex-ante predictions." *Journal of Product Innovation Management* (23:1), pp 12-18.
- Govindarajan, V., Kopalle, P. K. and Danneels, E. 2011, "The Effects of Mainstream and Emerging Customer Orientations on Radical and Disruptive Innovations ." *Journal of Product Innovation Management*, (28), pp. 121–132.
- Markides, C. 2006 "Disruptive Innovation; In need of Better Theory", *The Journal of Product Innovation Management*, 23, 19-25.

- Nault, B.R & Vandenbosch, M.B (2000), “Research Report: Disruptive Technologies— Explaining Entry in Next Generation Information Technology Market” *Information Systems Research*, 11(3), pp. 304–31
- Palacios, J., & Tellis, G. J. (2015). The Dive and Disruption of Successful Current Products: Measures, Global Patterns, and Predictive Model. *Journal of Product Innovation Management*.
- Schmidt, G. M. and Druehl, C. T. 2008, “When Is a Disruptive Innovation Disruptive?” *Journal of Product Innovation Management*,(25), 347–369.
- Tellis, G. J. (2006). Disruptive Technology or Visionary Leadership?*. *Journal of Product Innovation Management*, 23(1), 34-38
- Webster J. and Watson R. (2002) Analyzing the past to prepare for the future: writing a literature review, *MIS Quarterly*, v.26 n.2
- Yu, D., & Hang, C. C. (2010). A reflective review of disruptive innovation theory. *International Journal of Management Reviews*, 12(4), 435-452.

Areas for Feedback and Development

Suggestions on strengthening the theoretical argument.