

Disruptive Innovation in Higher Education- A Study on Online Education

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ABSTRACT

For continuous enhancement of teaching and learning, it is necessary to consider the type of innovation we are going to pursue and what cost and implication do these new approaches bear. It is based on addressing some important questions as-whether we are best served by improved current instructional practices and student behavior or is there a need to change the teaching and learning aspect fundamentally? Whether education is fundamentally affordable at a lower cost? How to enable a student to access and afford higher education?

The study makes an effort in finding answers to these fundamental questions which are also a challenge to the education industry and in managing innovation effectively. The study examines the higher education industry through the lenses of emerging disruptive innovation.

The main objective of this article is to shed light on disruptive innovation in Higher education and to fulfill this objective, following points have been discussed related to disruptive innovation such as-New approaches and methods of teaching and learning in High learning, Online learning, Opportunities and threat of disruptive innovation with conclusion and recommendation for policy makers and higher education institute.

Keywords – Disruption, Disruptive Innovation, Higher Education, Online Learning

1. INTRODUCTION

“Disruption”, the process disruption take place when a smaller company with lesser resources challenges a well established incumbent business. The incumbent focuses on improving their product and services for their most profitable and demanding customers and in doing so they ignore some segment and exceed in other segments. The new entrant begins by successfully targeting this ignored segment and thus gaining a foothold on these overlooked segments which proves disruptive by their suitable functionality at a lower price. The established business does not respond to this challenge vigorously as they are racing for higher profitability in more demanding segments. The entrants then start delivering performance to the mainstream customer of the incumbent and preserve the advantages of their early success. Disruption occurs when the mainstream customer also starts adopting the entrants' product and services in volume.

A Disruptive Innovation or technology can be defined as an innovation that helps in creating a new market and value network which finally disrupt an existing market and a value network. It can be described as an innovation that improves product or services in a way that are not expected by the market many of the times the term Disruptive Technology is used, but the most appropriate term is Disruptive Innovation because intrinsically few technologies are disruptive. In fact, it is the business model enables technology to create disruptive impact.

The Disruptive Innovation Model –This figure.1 contrasts product performance trajectories (the red lines showing how

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products or services improve overtime) with customer demand trajectories (the blue lines showing customers' willingness to pay for performance).As incumbent organization introduce higher-quality products or services(upper red line) to satisfy the high end of the market (where profitability is highest).they overshoot the needs of low –end customers and

many mainstream customers. This leaves an opening for entrants to find footholds in the less-profitable segments that incumbents are neglecting. Entrants on a disruptive trajectory (lower red line) improve the performance of their offerings and move up-market (where profitability is highest for them, too)and challenge the dominance of the incumbent.

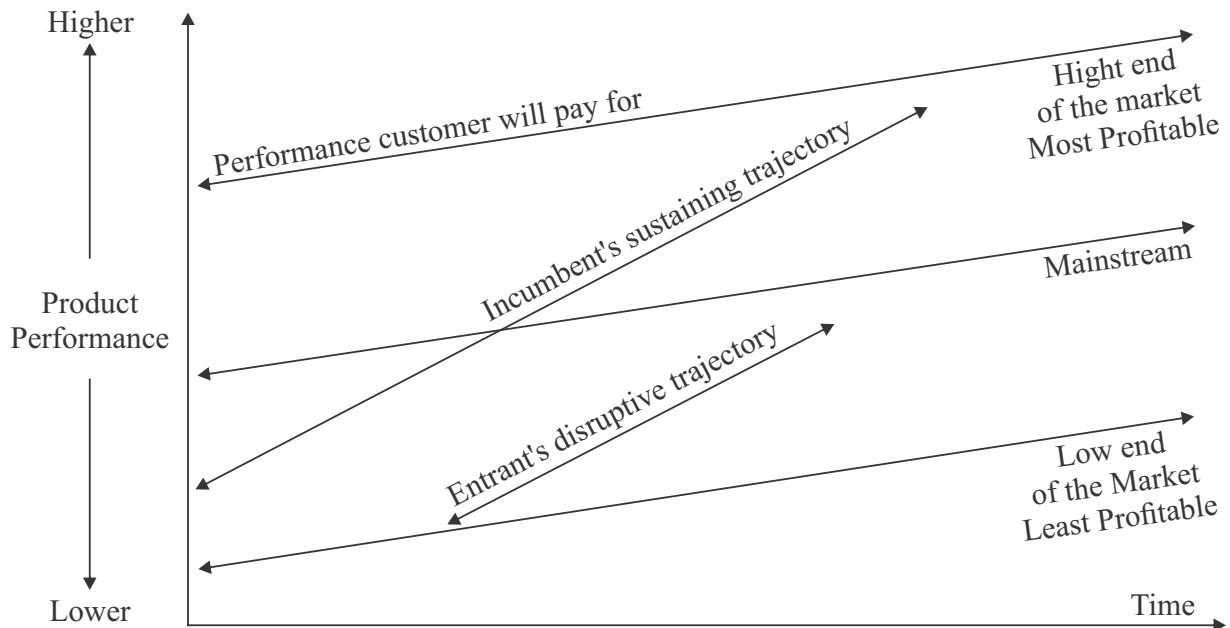


Figure 1: Disruptive Innovation Model

(Source: Clayton M.Christensen, Michael Raynor, and Rory Mcdonald, from “What is disruptive Innovation?” December 2015)

Innovation can be categorized into two forms as Sustaining or Disruptive (Christenson & Overdorf 2000). Whenever there is an improvement in the technology that helps the mainstream consumer in such a way to support the current system it is called Sustaining Innovation. While Disruptive Innovation introduces a new procedure or service that has a worse effect on mainstream consumers. In higher education technology plays a major role in impacting upon teaching and learning over the last several years. A few years back faculty were rarely using web pages or email. In a very short time now faculty are utilizing and incorporating web pages, email web management course to support their course curriculum and also testing the effectiveness of

these new modes. There is also a substitution of electronically mediated communication with class time and tradition student work. Email assignments, web page directed assignments and direct assignment done by the student has been generated as a new form. This has lead to incremental change which is positively realized by students and faculty in the arena of teaching and learning. Disruptive Innovation has taken place in Higher education and it is the time for the Universities to respond towards these changes for their sustenance.

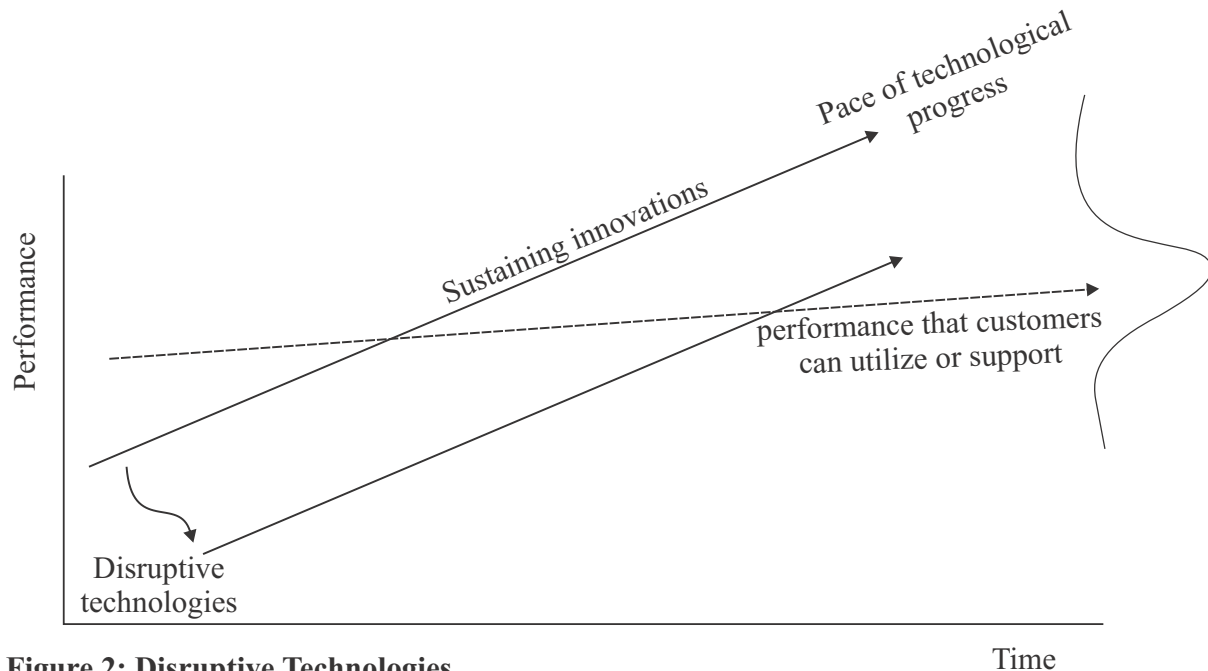


Figure 2: Disruptive Technologies

2. LITERATURE REVIEW

Clayton Christensen, Michael Horn and Curtis Johnson in their writing on “*Disrupting Class-How the Disruptive innovation will change the way the world learns*” mention that- "the key to revolutionizing the classroom is not by adding technology, but rather by the ways that technology will be introduced. For a revolution to take place in education, changes will have to occur that will disrupt the status quo."

Henry Chesbrough (2003) stated that innovation means invention implementation and taken to the market. Disruptive innovations which actually change the social practices, the way we live, work and learn.

Eric Waters in “Disruptive Innovation and Theory and Public School Education: A Futurist Perspective” elaborates that "asynchronous curriculum delivery can be used to enhance the advanced placement of students doing independent study, and credit recovery programs".

Fleckonoe,2002; Garrison & Anderson, 2003; Garrison & Kanuka,2004; Shaikh, 2009 mentioned that social media, mobile devices Internet, Blogs, Wikis, social bookmarking,

open education, social network, Internet telephony, sharing sites, anytime/anywhere education, instant messaging, recorders and digital cameras, free software, cloud computing, groupware, broadband, wireless connection, cheap storage, Google and virtual worlds has emerged as Disruptive innovation in education.

Disseminating knowledge means spreading out knowledge without boundaries. In higher education, the accessibility of open information can have a huge impact on building a learning organization. Focusing on the increased importance of technology applications used with knowledge retrieval and sharing for the social and economic well-being. There'll be identified potential technology programmes in response for nurturing a vital civic culture and progression on society. (Walshok, Lindenstein 1995.)

EduCitizenship believes that the new open and free applications, tools and contents will disrupt education. “Already in higher education, online learning is beginning to disrupt the old ways of doing things”. (Flecknoe, 2002; Garrison & Anderson, 2003)

“Online education is not bound by location or the same time constraints; thus previously

unserved individuals have taken advantage of educational experiences. Institutions have acquired new students and saved money by serving courses virtually rather than in classrooms” (Mbatha, 2014).

According to the report *Class Difference & Online education in the United States* (Allen & Seaman 2010). There is a 21 percent growth rate for online enrollment (to 5.6 million in the fall term of 2009). About 30 percent of all student in higher education take at least one course online. 60 percent of all reporting institution said that online learning was a critical part of their long term strategy.

For Successful Disruptive innovation, the first challenge is a technological breakthrough in terms of product it enables, and how are they shaping the social practices if they are having huge payoffs, both to the innovators and to society. The second challenge is that a successful innovation usually needs an innovative business model and also demands an innovative product offering (Brown and Seely 2006)

3. OBJECTIVES OF THE STUDY

The main objective is to study why we need Disruptive Innovation in Higher Education. This could be understood under three heads:

3.1 It is difficult to define Quality standards in Education sector as education is service business which is complex in nature. In Education, arena Disruption requires Service model that is based on the quality of education program. Disruption in a complex world of knowledge redefines quality than from models designed in current education. It is not about replacing the lower end product.

3.2 Growth and progress will take place when the current era of massification changes into real and personalized Education. Entrepreneur and investors fail to realize that the massification of educational experience is not the key to success in the new educational model. The Disruption in the context of educational content will be such that enables an educational experience that is relevant, up-to-date, adaptable to teachers, adaptive to learners

interest and defined thoroughly in terms of teaching by the educational foundation.

3.3 Education has growing proliferation with high value niche providers and programs in the long run. In a global economy education and its ability to produce knowledge is the key currency for present and future. Education if done correctly will enable success in the future. There will be a requirement of more niches oriented and diversified education in terms of delivery model and personalized self service. The Disruptive technology or Innovation for education will enable great diversity that provides specialized life and career enabling education. As the education experience becomes more unique and distinctive it will create higher value.

4. RESEARCH METHODOLOGY

The study falls within the qualitative paradigm and conceptual in nature based on secondary data, literature survey and cases of disruptive innovation in industries. The study is based on observation of innovative trends prevailing in higher education in India. A total of 16 articles have been used in my conceptual analysis as a reference, where some important factors have been emphasized through study. The study is based on review papers, data, and facts in Higher education. The research framework is based on addressing some important questions as-

Whether we are best served by improved current instructional practices and student behavior or is there a need to change the teaching and learning aspect fundamentally?

Whether education is fundamentally affordable at a lower cost?

How to enable a student to access and afford higher education?

The study attempts to set a relation between disruptive innovation through the advancement and use of technology and its impact on Higher education positively.

5. DISRUPTIVE INNOVATION METHODS OF TEACHING AND LEARNING IN HIGHER EDUCATION.

In higher education for continuous up-gradation in teaching and learning, it is essential to consider what new approaches and innovation are pursued and what will be the incurred costs in its implication. The assessment is based on whether improving the student behavior and current instructional practice best serves our educational objectives or do we need a fundamental change in teaching and learning aspect? Which lecture methods would be appropriate either by use of media or presentation techniques. Disruptive Innovation plays a role in many ways in opting new methods given below:

5.1. (e-text) or Electronic textbooks – eText is a disruptive innovation or technology. e-text at a basic level can be simply delivering static content in electronic copy or printed book. Its sustainability depends upon its portability, cost, and the benefits it offers. Disruptive innovation plays its role by collaborating e-text and its use with highly interactive and advanced multimedia tools.

5.2. Learning Analytics System: The goal of learning analytics is to deliver class wide information by collection and analysis of a significant amount of student data to the teacher and personalized feedback to students. This can be used by the course management system to find about student access to course content, contribution to a discussion, quizzes, engagement, and success. The advance part of learning analytics is called as Open Learning Initiative which deeply analyzes student answers to quizzes and provides additional content and practice as tailored learning. It is still at an early stage and offers online learning. It can reach to a larger group of learners while also providing personalized attention to both on-campus and online education.

5.3. Flipping the class: In this method better utilization of class time can be done in learning activities, exploration, and application of content by shifting content delivery online. It is based on video based mini lectures which are

connected to online resources and other content from textbooks. Team based learning which is also a disruptive innovation in instruction method can be paired with flipping the class. Accountability of student can be gathered by a short individual test called "**Readiness Assurance Test**", which ensure about student engagement with material followed by a short test about collaborative learning during the class.

5.4 Opportunities and threats by Disruptive Innovation in Higher Education.

Disruption is a great opportunity for Universities because product and services that disrupt a market, target those segments don't consume technology in that market.

Higher Education is shifting towards modularization model. Technology plays a major role as open modular or close proprietary. This breaks down education into different components that result in the outsourcing of certain functions.

Online education challenges Traditional education. Universities, in the long run, have to either make better service in the traditional education market or make reach their services non-consumer of their traditional services.

6. THE ONLINE EDUCATION ARENA

The changes and challenges which are coming in front of higher education can be explained by the theory of disruptive innovation and the right solution can be thought upon. Disruptive Innovation can be explained as a process by which a sector which was serving limited few by its product and services due to complication, expensiveness, and inaccessibility of its product and services, is converted into simple, convenient and affordable product and services that serves many. This process redefines the quality in a simple way which has a slow application in the beginning and improves gradually and later on grasps more market share as it starts solving the complicated problems related to product and services. There are several enablers and key elements that are important for the future of higher education. These enablers are given below:

7.1. Technology Acts as an Enabler.

Technology helps innovation take place first by simple application and competes against non-consumption who were not being served. This is done without replicating cost structure of the previous product and services which is gradually replaced and improved year after year. In Higher education, Online Learning has emerged as a technology enabler and ultimately a disruptive innovation. The recent growth shows the increase in online learning in many colleges and Universities and it is projected that there will be 50 percent growth in the coming years.

7.2. Business Model as an Enabler:

Disruptive innovation is connected into new models which helps the Organization serve the customer at a new lower price in a better way without increasing the cost. Disruptive innovation if connected into the existing business model will not lead to the transformation of the model and the existing model take the innovation to sustain how it operates. The disruption in higher education at public universities will likely need to be managed at the state level and not at the level of the individual which struggle to evolve. Private University can utilize this disruptive innovation by creating autonomous business units.

7.3. Multiplied Value Proposition: Higher education for decades have given multiplied value proposition by creating knowledge through research, knowledge proliferation by teaching and learning and preparation of student life and careers. Thus higher education has combined three main forms or models of business such as value adding business process, solution shop, and user network facilitator. This created a complex and confusing institution with an increased overhead cost that takes resource away from teaching and research.

Disruptive innovation also creates an opportunity for higher education by rethinking of age old assumption, its process, where it happens and what are its goals. This leads to using of a disruptive organization for the creation of institution operating differently that

can appropriately address the challenges faced by a country related to education. The disruptive innovation by online learning enables learning to take place in many contexts, times and locations. It also leads to changes in curriculum and learning. It focuses on preparing a student for a career, an improving outcome rather than a tightly structured program that does not offer student ability to make their own path.

The emerging disruptive innovation shifted the policy of credit hours and seat time to that which brings progression to competency and mastery. Online learning courses bring actionable assessment that helps a student to increase the past concept and skill they have mastered and understood. In online learning, time is an important variable and hold outcomes and outcomes are more appropriate in judging students and institutions. Thus it requires shifting policy to focus on outcomes rather than building ancillary services. This increases and supports the core value of the institution.

8. RECOMMENDATIONS FOR POLICY MAKERS

Remove barriers of disruptive innovation and collaborate innovators. For better educational opportunities policy maker should make policy for affordable education and remove the threat of disruptive players as a threat

Remove judgment barriers based on seat time, credit hours and student-faculty ratio. Policy maker should encourage policy that creates the environment of an institution to use online education that steps towards next generation learning models. Policy should be not just making traditional methods of education convenient but focus on competency based learning with actionable assessments.

Focus on real outcomes skill and mastery and not just attainment of a degree. The focus should not be jus on degree attainment and it should not be the only measurement of success. The current scenario of unemployment figures and amount spent by an employer on retraining shows that real mastery and skill are more important rather than just attaining a degree

The need for recognition of Research Institutions: Those Institutions in higher education should be recognized where importance on research as well as that focuses on training people too.

Funding higher education for increasing quality and decreasing cost: Change in the policy of federal funding from all or nothing.

8.1 Recommendations for Institutions and Universities of Higher Education

Application of correct business model: To increase value proposition correct business model should be used which is sustainable and do not increases the overhead cost.

Encouraging Disruptive innovation: To drive disruptive innovation some institution requires an autonomous business model. This can be done by leveraging their existing fixed resources in the autonomous model to give a cost advantage.

Building online learning to sustain innovation: New technology such as online learning can be used to disrupt the existing classroom model for increasing convenience to more students and providing a better learning experience.

10. CONCLUSION

Disruptive innovation is taking place in every business sector, in the realms of education sector technology is one factor bringing disruptive innovation. In higher education need for innovative learning and teaching is the major requirement for increasing learning experience, increasing accessibility, Interaction with learning material, reducing cost, core use of class time, use of data to enhance instruction and structuring student for better outcomes. Disruptive innovation in higher education is not an easy process and has many challenges and can undermine many existing institutions, leading to resistance from them. It does create opportunities as well as a threat. Online learning is one kind of disruptive innovation and forms a natural medium and platform for these changes in higher education. It also requires a change in policies and model adopted by the institution

with emerging disruption. The old assumption and policies will be inappropriate and will fail in delivering affordable higher quality education in a country. Challenges are many but disruptive innovation is taking place and creating a Paradigm shift by the establishment of new intellectual model and framework that is going to guide and practices leading to continuous improvement.

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