Review Essay--The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail by Clayton M. Christensen., 3(25)

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This book presents a somewhat radical proposition by suggesting that well managed and successful companies are failing because of the things they are doing right in confronting new markets and technological change. The author, Clayton M. Christensen, considers the possible explanation that these failing firms, although as well run as one could expect, may be faulted in their method of decision-making, thus resulting in their eventual demise. In assessing this proposition as it applies to a corporation, a parallel can be made to an educational environment. The question that must be asked is whether schools are also failing because of the decisions they are making with regard to technology adoption?

Christensen's radical stance suggests that because firms choose to listen to their customers' demands, to invest aggressively in new technologies, to carefully study market trends and to systematically allocate investment capital that promises the best return, they lose their position of leadership. Is this plausible?

On a superficial level, the business community would aggressively argue against Christensen's view since current business theory suggests that the customer is "king", and all decision-making should be aimed at meeting the customers' needs. On a deeper level, Christensen counters this argument by suggesting that the customer does not always know what he / she wants or needs, and therefore it is the responsibility of the organization to pursue the development of new technologies (disruptive technologies) that will meet their needs, and the needs of others, in the future.

Christensen defends his argument by identifying two types of technologies, sustaining and disruptive, both of which can impact on a company's success. Sustaining technologies are new technologies that companies adopt to improve product performance. These are characterized as tools that serve to improve the performance of established products, which mainstream customers in major markets value. One cannot dispute the value of sustaining technologies,

given that they meet the customers' needs, increase revenue and improve customer loyalty. However, the purpose of new technology is to create business opportunity, not to improve the level of automation of existing products, services and processes. Technologies which serve to create business opportunity are described as disruptive technologies.

Disruptive technologies emerge less frequently, and they are recognized as tools that result in worse product performance in the short-term, but ultimately bring more value to the customer and the market in the long-term. Disruptive technologies, however, are difficult to embrace given that they are first commercialized in emerging or insignificant markets, and typically are not (at least, initially) desired by a firm's most profitable customers. A disruptive technology is embraced initially by the least profitable customer in a market-the innovator. This makes it highly unlikely that companies focusing on high return products and high customer value will invest in disruptive technologies that may be value-added in the future. Nonetheless, the notion of the disruptive technology suggests that firms must be willing to take the risk of pursuing breakthrough innovations in order to gain strategic dominance in fast moving industries and markets.

Christensen suggests that the pursuit of short-term objectives at the expense of more strategic and forward thinking long-term objectives results in a company losing the competitive advantage. Though simple in principle, the practice of pursuing more long-term objectives for future competitive advantage is quite difficult to adopt because it requires a higher degree of risk tolerance than most firms feel comfortable with.

Does it make sense that firms present a low risk tolerance in the pursuit of new technologies? With companies like Microsoft, Intel, Apple and multiple Silicon Valley start-ups making the headlines due to their successful pursuit of new technologies, it would seem to make sense that companies that are innovative and pioneer new technologies will pave the path to corporate success. However, many companies will continue to be risk adverse when it comes to Information Technology (IT), especially when Canadian research shows 30% of all IT projects in Canada fail (Anne McKague, 1998). These failures include projects that are cancelled or run grossly over budget. Inevitably, it is the research and development technologies (or disruptive technologies) that present more risk. Without the ability to project market acceptance for these technologies, or to even identify which market should receive these technologies, it becomes increasingly difficult to gain senior management support for an innovative project. As well, difficulty arises in planning and budgeting for these projects given the amount of uncertainty surrounding their ability to help companies increase profitability.

Given this high failure rate with IT projects, one must question which firms will be willing to keep up with the fast rate of technological change and invest in disruptive technologies. In the past, firms have been focused on pursuing IT projects that lower costs, which has made it more challenging for firms to be forward looking and focus on innovations that will be long-term revenue generators. This can be partially explained by the fact that the ultimate uses for disruptive technologies cannot be known in advance, as well as the fact that with disruptive technologies, small markets don't solve the growth needs of large, established companies.

With the existence of these challenges, how do firms manage to harness the value of investing in disruptive technologies? Christensen recommends a series of four key strategies in order to enable a successful pursuit of innovation in new technology:

1. Small sub-organizations should be given the autonomy to pilot disruptive technologies, rather than focusing the entire organization's efforts on new and uncertain projects.
2. Disruptive technologies should be matched with a customer base that wants them (no matter how small). Aligning disruptive innovation with the "right" customer, enables increased customer demand, eliciting resource allocation to the product.
3. Companies should plan to fail early and inexpensively in the search for a market for disruptive technologies
4. Companies look for new markets to adopt a disruptive technology, rather than trying to fit the disruptive technology into the sustaining technology market.

In assessing the set of rules or strategies Christensen suggests for capitalizing on the phenomenon of disruptive innovation, one must question whether it is feasible for organizations to act outside the traditional model of listening to customers, pursuing large markets, and investing exclusively in high performance / high margin products. I believe Christensen is asking for management teams to shift their paradigm of success to a more strategic and long-term focus, rather than operating based on an operational and short-term focus.

Achieving this end depends on the vision of leaders in an organization. Will the leaders in a company be proactive rather than reactive to innovation? Will they search out opportunities and take responsibility for the investment, and challenge it along the way? With the pace of change in technology, speeding along faster than anyone can plan for it, companies need to create alignment between their vision for the future and their short-term decision-making processes. This alignment process applies equally to corporations as well as educational institutions. I believe Christensen has laid out a suitable framework to follow in an effort to catch the wave of innovation. The critical variable, however, in successfully implementing this framework is establishing buy-in for the vision across the organization. The success of a new strategy as radical as the one suggested by Christensen is dependent upon the individuals within the organization internalizing and promoting this new vision.

From an educational perspective, how is the pursuit of innovative technology successfully implemented in schools where barriers exist such as restrained budgets, resistance to change among staff, and a low tolerance for risk? Given that the critical variable in successfully executing Christensen's framework is buy-in, how is this generated within the schools? How can proactive technology leaders have an impact in their schools? Should their efforts to generate buy-in be targeted at the teaching staff or the administration? How can the trend of low risk tolerance and resistance to change be reversed to promote new vision within a school?

The need to develop buy-in and promote a new technology vision in a school may require leadership from "within" rather than leadership from "above." Because schools often rely on the principal and administration to spearhead new initiatives and directions of growth, the opportunity for innovative technology may be limited if the administrators are not technology-focused. With the technology experts advancing from within the ranks, a new method of

promoting organizational change must be pursued. Stakeholders must be willing to adapt to change, buy-in to new initiatives and be willing to adopt a new vision for innovative technology in the classroom.

References

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Reviewer Note

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