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INTEGRATING THE DIGITAL REVOLUTION INTO THE CLASSROOM

Gordon W. Arbogast

ABSTRACT

A new approach using digital concepts can enhance the Principles of Management course. Innovation and Information Technology are subjects in the course that are interrelated. Firm use of digital concepts is resulting in less cost, as well as improved quality and efficiency. This approach offers students valuable insights and sensitizes them to the true nature of change occurring in the contemporary world.

INTRODUCTION

Teaching the Principles of Management course is a challenge. Class sizes tend to be large and the material diverse. Students are expected to comprehend the significance to management of over twenty major business areas. Each subject is in a one hour and twenty minute block and corresponds to a book chapter. Much class time is taken in introducing new concepts e.g. Maslow's needs hierarchy. New approaches are needed to liven up some business areas. Departing from the standard book outline is risky, but students respond if they see "value added". This paper presents a different way to teach Innovation/Change and Management of Information Technology (IT).

A New Approach

With Innovation/ Change, concepts normally covered in one lesson are the life cycle of organizations, the 8 step change/innovation process, organizational development, resistance to change, and intrapreneurship. IT is investigated later. Models include information systems, telecommunications, data base management, and the systems development life cycle. Although important, students saw them as static and boring. It was hard to motivate students to learn the models. Students memorized them for exams, but there was little long term benefit derived. Fortunately, an alternative way to present this material was available. This approach did not seek to teach innovation and IT as distinct and unrelated subjects. In the last decade IT has become the engine of innovation for many companies. This interdependence was elucidated and exploited. The development of this relationship was shown, along with an argument that it will continue to grow stronger.

The digital revolution lies at the heart of IT. The new approach involved understanding the nature and scope of the digital revolution. Students were then able to comprehend its impact on industry at large, and its misunderstood role in innovation. Most companies today are leveraging IT to get the innovation and change required for sustainable competitive advantage in the marketplace.

The Digital Revolution

Students do not understand the significance of the digital revolution. Advancing the following was useful in that regard:
Postulate: Human beings are inherently analog creatures.
Question: If humans are analog, why is the world going digital?
Examples of things going digital included: (1) music is analog, but is now converted to digital compact discs; (2) cameras; and 3) cellular phones; and (4) facsimile. Digital is the center of many marketing promotions, the mark of quality in a plethora of new products and services. Does it make sense to convert to digital, if it has to be converted back to analog before a human can process it?

This made students think about the basic nature of change taking place everywhere.

Students need a foundation to understand the digital revolution that is occurring. The most important reason is higher quality. By converting to digital, information is captured and transmitted long distances with much higher quality. There are other advantages. A digital form can be compressed and more easily stored. Accuracy and security are also enhanced. Along with greater potential capacities, major efficiencies can be derived. Probably the most important reason is cost. As more applications are converted, the cost of making products and devices drops. An excellent example of this is digital cellular where new applications using Time Division Multiplexing are resulting in the frequency spectrum being much better utilized. Thus, better quality, greater efficiencies and lower cost are the major drivers of the digital revolution. Humans may be analog, but it is easy to build an analog-to-digital interface to accommodate their needs. The heavy lifting is best done by digital processes.

Experiential Exercise

Students were asked to list products and services that have resulted from digital innovations over the past twenty-five years. Examples include: digital high-definition television; clocks and watches; pagers and cameras. Students then shared their list in an interactive classroom discussion. This was an excellent opportunity to accomplish a key objective, the integration of innovation and IT. As a student mentioned an application (e.g.facsimile), socratic methods were used to show how each innovation occurred due to the close coupling of IT and the process innovation. The book's innovation model was then referenced (i.e. recognize problem, find sponsor, develop vision, empower a team, overcome resistance, reward progress,

consolidate, and finalize). Students were now able to better appreciate this model.

The film "Paradigms: The Business of Discovering the Future" by Joel Barker was shown. This movie tells the paradigm story using many examples. The primary case shows how the Swiss watch manufacturers lost their industry by missing the shift from mechanical to electronic, digital watches. Lastly, a discussion ensued on the impact of paradigm shifts on the processes and products identified earlier. The purpose of this was to show the close relationship of innovation/change and IT. The period was concluded with a summary of key concepts that were covered the past two periods.

An assessment was done to measure student reaction. Students strongly agreed that: (1) presenting the basics and examples of the digital revolution was important to understanding these business areas; and (2) they understood innovation and change better with this approach.

Conclusion

The digital approach was an exciting way to present innovation and IT. It motivated students and provided valuable insight into the digital revolution, the engine of much change and innovation. By sensitizing them to this material, it was hoped that they will be better able to cope with innovation and change in the work place.

References

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