Technological markets are characterized by growth patterns exhibiting a high degree of uncertainty that makes them exceptionally difficult to predict and forecast. In this course we examine the structure and growth patterns of such markets. We will demonstrate the power of word-of-mouth communication and why it is responsible for the fact that growth of new products is a slow process, even for successful products such as MP3 players; We will compute the value of the customers of E*Trade and Sirius|XM satellite Radio, appreciate why main market consumers aren't impressed with early market technophiles, explain why network goods are even slower to grow, and demonstrate the fact that technological substitution is not getting faster, despite what we think of the generational shift between the oh-so eighties adopters of portable CD players and the hip generation of MP3 adopters.

The course requirements are the following:

One assignment – diffusion of PBX – 20%
One case – XM Satellite Radio – 30%
A closed book final examination – 50%

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More information about the course material can be found at www.hitechmarkets.net

For more information about the instructor, please visit www.hitechmarkets.net/cv.html

The course consists of the following sections:

a) Diffusion and Adoption of New Products
   Will it ever fly?

We construct the mechanism that describes and predicts the growth and diffusion of new hi-tech and consumer electronic products. In particular we discuss the power of imitation and word-of-mouth in the diffusion of innovative products. We look at examples of such growth patterns in the US and Europe, understand why the process is inherently slow and discuss the possibilities facing the executive who wishes to accelerate sales of these products.
b) The Diffusion of Services
Can you put a dollar value on your customers?

The growth of the Internet drove the offering of many new services, among them online banking, instant messaging, shopping portals, or online brokerage services. Yet, different from durables, service customers and providers are often engaged in continuous relationships, a crucial aspect of which is customer attrition. We introduce customer attrition and defection into the growth structure of services and use this knowledge to estimate customer lifetime value (CLV) and of the long range customer equity of firms such as E*Trade, Ameritrade, eBay and Amazon.com.

c) The Chasm and Saddle phenomena
Main market consumers aren't impressed with early market technophiles

We discuss the phenomenon of a temporary but deep decline in sales during the growth stage of the product-life-cycle, and look at examples in the US consumer electronic market such as VCR’s, Cordless Phones, CB Radios, and DBS systems. We will understand why this sales pattern is a direct result of the dual market phenomenon that treats the early market adopters and main market adopters as sufficiently different to warrant differential treatment as two separate markets for marketing purposes. Methods of dealing with this growth pattern will also be discussed.

c) The Chilling Effects of Network Goods
If you see the bandwagon - it's too late

Network goods are products that generate network externalities, or bandwagon effects, by causing the utility of the product to a consumer to increase as more consumers adopt the new product. We will see that contrary to common wisdom, bandwagon effects do not cause the acceleration of the growth process, but rather hold it back. Fax Machines, DVD Players, CD Players and CB Radios will serve as examples to the pattern of growth of network goods. We will also discuss the tools executives could use to reduce this delay and why advertising in particular is a powerful tool in such cases.

e) Acceleration of Growth
Will it ever die?

Old products don’t die. They are just replaced by a new generation of the technology that satisfies the same consumer needs more efficiently. We will highlight the difference between diffusion of the base technology and substitution of different generations of that technology. This will lead us to the discussion of the accelerated speed of technological change. We will demonstrate these principles on four generations of IBM mainframes in the US. This will lead us to the discussion of the major issue of the acceleration of the diffusion of new technologies and new generations of the same technology base.