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Understanding the Future

Daniel Research Group

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A Practical Guide to Designing and Developing Context Specific Segmented Forecasts and Models for Technology Markets

The Technology Buying Process

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Chapter 6 - The Technology Buying Process

While Diffusion of Innovation is a powerful and empirically proven model of technology adoption at the macroeconomic level it is an over-simplification of a very complex process and does not account for many important variables that influence the innovation adoption decision process at the business unit, social group or individual level. Among these are:
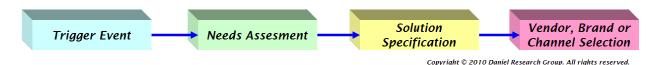
- ✓ Is the decision entity a business or a consumer?
- ✓ Does the decision process include multiple constituencies that influence, vote, or veto?
- ✓ What is the order of awareness, the innovation, or the need?
- ✓ Are prerequisite, enabling conditions, or events necessary for adoption?
- ✓ What is the degree and nature of the incumbent inertia in the system?

A more nuanced model is required to understand the process at the individual or group level.

The Enterprise Buying Process

To be useful, an adoption decisions model needs to be defined in the **context** of practical application. **Daniel Research Group** has developed an Enterprise Technology Buying Process model based on over 25 years of experience and empirical evidence gained from conducting hundreds of primary quantitative and qualitative studies of consumer and enterprise buyers and users of technology products and services.   The model defines four steps that are present in all technology buying decisions. The model is scale independent and valid for a single individual in a short time frame, as well as many individuals and groups over long periods of time.

Chart 3 - Technology Buying Process

| Trigger Event | → | Needs Assesment | → | Solution Specification | → | Vendor, Brand or Channel Selection |

The process starts with a **Trigger Event** that brings awareness to someone in authority that a compelling reason exists to address a need. Something has to happen and then be observed in order to start the process. Additionally, the observer must be in a position of authority in order to initiate action.   It is rare that awareness of the innovation itself is the trigger event. In most cases, the trigger event brings awareness of a problem seeking a solution, **not a solution searching for a problem**.

Within a business, observations can come from a number of constituencies including, but not limited to:

- ✓ An information technology (IT) department
- ✓ A business unit
- ✓ Senior management.

It is typically an observation made as part of an established monitoring and planning process, but can be sudden and unexpected. Trigger events can be either internal to the organization or external. Typical internal trigger events include. new business initiatives, current or anticipated business unit growth exceeding the limits of existing resources, changes in management personnel, failure of some infrastructure resource, or its obsolescence.

External trigger events include reacting to competitor initiatives, changes in industry regulations, changes in local, national, and global economic and business conditions, mergers and acquisitions, as well as the introduction of new technology – an innovation. In many cases, the trigger event establishes a champion who drives the rest of the process. In all cases, the trigger event ends with the assignment of responsibility to a person or group who undertakes the remaining steps in the process: **Needs Assessment, Solution Specification, and Vendor/Channel Selection**.

Needs Assessment focuses on the alignment of perceived benefits of innovation adoption with the actual requirements of the constituencies that will benefit from the innovation. For businesses, this usually takes the form of an analysis of the business process taking into account not only the business objectives, but also cultural inertia. The constituencies involved with a needs assessment directly influence the adoption decisions, often with voting rights, and in some cases veto power.

Solution Specification involves seeking information about alternatives and evaluating them from a technical as well as business process perspective. It is the task of understanding technical, organizational and other resource requirements and constraints. In most businesses, IT is responsible for this task, adding another influencing, voting, and vetoing constituency to the process. This constituency is concerned with integration and assimilation, support and obsolescence, standards and risk of failure.

While the opinions and conclusions of the IT constituency are often communicated with a single voice, and the arguments couched in technical, economic, or financial terms, each member of the constituency that "goes on record" is likely to consider his or her own personal agenda in advocating their position.

IT will obtain information about innovations and alternatives from media and social networks. They will reach out to trusted sources for opinions, advice, and recommendations, as well as observing their adoption decisions regarding the innovation. Trusted sources may be public voices heard through publications, blogs and other media, hired consultants, as well as personal peer contacts.

Vendor or Channel Selection is final step in the process. In many case the vendor or brand choice has already been made by an a priori channel choice. In the business sector, complex aggregation of products and services acquired through Value Added Resellers or Systems Integrators often include or exclude the innovation. The benefits of the innovation by itself may not be sufficient to reject the offering of the channel. In other cases, the economic and systemic inertia favoring the established vendor or brand may be sufficient to reject the innovation.

While the trigger event is by definition the start of the innovation adoption decision process the other three tasks, Needs Assessment, Solution Specification, and Vendor or Channel selection may often take place simultaneously until sufficient information has been gathered and processed, allowing for an evaluation leading to a decisions. When and by whom the decision is made will vary considerable depending on the nature of the innovation and the number of constituencies involved.

In a multiple-constituency buying process, the propensity for innovation adoption is a function of the influence-weighted sum of the individuals involved, as well as that of the enveloping corporate cultures. Each individual will place a value on the innovation in the context of their personal social connectivity, risk aversion, and, innovation valuation framework. The final perceived value will be reflective of the aggregate opinions of all those involved.

The Consumer Buying Process

The four step buying process may also be applied to individuals and groups in the consumer sector. However, while consumer innovation adoption and business innovation adoption are similar in terms of process they differ significantly in terms of criteria. Consumers will adopt to satisfy wants and needs, business only to meet needs. The degree to which an innovation enables a competitive advantage is the single most important adoption driver in the business sector. This is less the case for consumers where the Life Cycle Phase is the dominant driver.

Daniel Research Groups has conduct extensive consumer research over the past 25 years and has observed that the most significant technology adoption influencer of attitudes, perceptions, opinions, and behaviors is the Life Cycle Phase of the adopter. In this context the Life Cycle Phases are:

- ✓ Child
- ✓ Pre-Adult
- ✓ Pre-Child Rearing Adult
- ✓ Early-Child Rearing Adult
- ✓ Late-Child Rearing Adult
- ✓ Post-Child Rearing Adult
- ✓ Non-Child Rearing Adult

Life management tasks are the day-to-day activities and obligations on each person's time and resources required to maintain or enhance the quality of life. These vary widely and are highly dependent on Life Cycle phase. Most will fall into one of the following categories:

- ✓ Security – physical, financial, health.
- ✓ Infrastructure – shelter, food, transportation
- ✓ Procreation and child rearing
- ✓ Communication with: family, friends, community, groups
- ✓ Entertainment: Recreation, travel, music, video, art, sport
- ✓ Status: self-esteem, acceptance, membership

This taxonomy is not collectively exhaustive or mutually exclusive. It is representative of the elements in most consumers' lives that give rise to trigger events. Typical **Trigger Events** in the consumer sector include:

- ✓ Change in life cycle phase
- ✓ Device or service failure
- ✓ Obsolescence or termination
- ✓ Changes to other demographic or socio-economic conditions
- ✓ Peer pressure
- ✓ Innovation

Needs Assessment tends to be less formal, subjective and often focused more on wants than needs. Nevertheless, consumers do perform an evaluation of the need to adopt an innovation usually in the context of significance within the life management hierarchy, as well as allocation of scarce resources. Who performs this task is more dependent on the Life Cycle phase of the decision maker than the Life Cycle phase of the problem owner. Consumers also will seek information about innovations, alternatives, advice, and recommendations from media and personal sources, form opinions, and take positions consistent with their population norm.

Solution Specification concerns will focus primarily on price, performance, and social inference. Consumers also may accept or reject innovation based on vendor or brand allegiance depending on their aversion to risk, peer influence, or willingness to invest time in evaluating alternatives not offered by the incumbent **channel or vendor.**

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Daniel Research Group offers consulting and market research services to clients whose products and services are technology based or enabled. The primary focus is on providing results, solutions, consulting and training to clients that have strategic and tactical decisions that require Forecast, Segmentation, Market Share, and other market modeling requirements These engagements are supported with the full range of traditional market research data gathering and analysis services, including quantitative and qualitative surveys, focus groups, demographic and firmographic data acquisition and analysis, as well as input from technology and industry experts. While our emphasis is on delivering data and actionable recommendations, we often design and develop custom models and modeling tools for client use as well as providing training in these areas.

Stephen J. Daniel - President

Mr. Daniel's three decades in the Information Technology Industry has given him a unique blend of Market and Technology experience coupled with a deep understanding of Market Research Methodology. His primary strength is in understanding the decision making context within which the results of his research will be applied. This is manifested by his ability to design and execute studies that precisely meet client objectives on schedule at reasonable costs.

After receiving his BS in Finance in 1970 from Northeastern University, Mr. Daniel earned an MBA in Quantitative Analysis from New York University in 1974. He is a member of the American Statistical Association, The Market Research Association of America, the American Marketing Association and the Qualitative Research Association of America.

Daniel Research Group is a market research firm specializing in the design, development and application of market models and forecasts for clients in the technology sector including supplier, investors, and other market research firms. For more information contact Steve@DanielRG.com or visit www.DanielResearchGroup.com.