

MODULE 8: DIFFUSION OF INNOVATION

8.1.1 Innovation

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Introduction:

Faced with a dynamically changing environment, marketers are always with regard to new product development. This could result in modification ranging from slight to moderate to large or the continuum, or even result in totally new product and service offerings. The two questions that face a marketer are, i) whether the modified/new product and service offering would be accepted by the segment(s), and ii) how quickly would the product and service offering be accepted by the segment(s). While the first pertains to what is referred to as diffusion, the second pertains to what is known as adoption. The two concepts, the dynamics and the implications for a marketer are explained in this module.

LESSON 39 – DIFFUSION OF INNOVATION I

Introduction:

Instructional Objectives:

After completion of this lesson, the student shall know about:

8.1.1 Innovation

8.2.2 Definition and Meaning of i) Diffusion of Innovation ii) Adoption

8.2.3 Diffusion Process

8.2.4 Adoption Process

8.1.1 INNOVATION:

In a highly competitive environment, where number of players exist and vie for a share of the market, the introduction of new product and service offerings becomes crucial for existence and long term survival; thus, marketers are always on the move towards introduction of new product and service offerings that would help meet the evolving needs and wants of the consumer segment(s). The products that are offered may be slightly different from the existing alternatives, some may be highly different, and some totally new. They all fall under the purview of what is referred to as an “innovation”, and the product and services, referred to as “innovative products and services”. Wherever they fall on a continuum, they illustrate a change in one or more of the 4Ps, be it in product form (product features, attributes, benefits, packaging or even brand name), the price (price, terms of payment, installments etc), place (physical versus electronic formats or even personal selling) and/or promotion (media strategy, message strategy etc.). Whatever be the changes that a marketer offers, it is the changing needs and desires amongst the consumers that the former attempts to address; and, so it is important for him to understand how the segment(s) would react to such a product and service offering.

Varying perspectives to defining “Innovation”:

The term “innovation” has been described with varying perspectives and orientations, viz., firm-oriented, product-oriented, market-oriented, and consumer-oriented. Let us discuss each one of these:

a) Firm-oriented: As per this approach, a product or service offering is regarded as “new,” if the company starts manufacturing or marketing it for the first time. In other words, the firm orientation treats the “newness” in terms of the company’s perspective.

- the product is “innovative”, if it is “new” for the company.

- the existence of the product in the market (as competitor’s offering, or even as consumers’ awareness) is disregarded; as long as it is “new” to the company, it is regarded as an innovation.

b) Product-oriented: A product and service offering is regarded as an “innovation”, if the product changes in terms of form, attributes, features, and overall benefits; such changes have a twofold connotation, one, in terms of technology, and two, in terms of consumption usage and behavioral patterns.

- the product is “innovative”, if it is “new” in terms of form, attributes and features.

- there are changes in technology, as well as impact on consumer consumption behavior.

There are two sub-approaches to classify “innovative products” as per the product-oriented definition; viz.:

Approach I: This approach classifies innovative products based on the degree to which the new product and service offering would upset established consumer usage and behavioral patterns. As per this approach, innovations can be classified into three categories, continuous innovations, dynamically continuous innovations, and discontinuous innovations.

- **Continuous innovation:** A product is regarded as a continuous innovation, if it is a modification over an existing product; it is not essentially a new product, but an improvement over the already existing one; they could also be line extensions, and as such continuous innovations do not disrupt established usage and behavior patterns; For example, improvements in laser jet printers, digital TVs, shaving razors, or changes in call plans (Airtel, Cell One).

- **Dynamically continuous innovation:** An innovation is regarded as dynamically continuous, if it exerts some influence on usage and behavior patterns, but this influence is not totally disruptive; it does not totally change behavior patterns; For example, the walkman giving way to the portable CD player, or the pager giving way to the cell phone.

- **Discontinuous innovation:** Discontinuous innovations lead to disruption of usage and consumption behavior patterns; there is a change not only in the technology, but also requires consumers to change to new behavioral patterns in terms of usage and consumption. For example, the postal mail giving way to email and internet, the radio/record player giving way to portable music and sound, the telephone giving way to the mobile phone, or the traditional glucose and diabetes blood test giving way to the home kit.

Approach II: According to another approach, innovative products can be classified on the basis of how the “newness” in form, features and attributes can impact consumer satisfaction; the greater the degree of satisfaction, higher it ranks on the scale of “innovativeness.” Innovations can be classified as artificially new, marginally new, and genuinely new.

- **Artificially new:** Embody not much of a change, and do not much impact user satisfaction; For example, a new flavor of an ice-cream.
- **Marginally new:** Here, there is some level of change in customer satisfaction, because the product is new, differs a little over the existing products and provides greater benefit; For example, the laser printer replacing the dot-matrix printers.
- **Genuinely new:** This implies a totally new product that impacts user satisfaction completely; it differs from existing product and service offerings, and leads to customer satisfaction, as the usage gives greater benefit. For example, microwave ovens, cell phones, home medical tests and kits.

c) Market-oriented: The market-oriented approach views “innovation” purely from a marketers’ perspective, in the sense that a product is regarded as “new”, depending on how much exposure the consumers’ have about the new product or service offering, and the total sales penetration that has occurred in the specified short period of time.

- the product is regarded “new” if the market does not have much exposure of it.
- sales penetration has been low.

Here again, there can be two bases that underlie a market-oriented definition; viz.,

- i) a product or service offering is regarded as “new”, if it has been in the market for a short period of time.
- ii) it is “new”, if it has been purchased/used/consumed by a small portion of the total potential market.

d) Consumer-oriented: The consumer-oriented approach to defining “innovation”, is a favored approach over others, especially in consumer behavior research, and more specifically in research related to diffusion of innovation, and adoption; the reason is that the concept of “newness” or “innovation” is dealt through focus on consumer, and his/her reaction towards the new product and service offering, in terms of acceptance and rejection. As per this approach, any product is regarded as “new”, if the consumer believes it to be so; it is purely based on the consumers’ perception of the newness of the product, rather than on technological changes that the product embodies.

Amidst the varying perspectives and orientations, the approach(es) that receives wide attention are the market-oriented and the consumer-oriented approaches to studying “innovation”.

Dimensions of “Innovation”:

As discussed above, some innovative products reflect a modification over the existing ones, others are radically different, and still others totally new. Such changes, slight, radical and complete, lie over a continuum; and any innovation can be measured and classified on two dimensions, viz., technological and behavioral. This implies that i) the product undergoes technological changes; it also requires ii) behavioral changes within the consumers with respect to usage and consumption pattern.

To sum up, innovations are measured on two dimensions,

- i) technological changes in the product itself : *relates to the product only.*
- ii) behavioral changes within the consumers that are required for purchase and usage/consumption of the new product and service: *relates to consumer behavior issues, product adoption, and usage.*

a) Some new products and services, are illustrative of (i) only:

Example: a change from VCDs to DVDs was illustrative of better technology, better picture quality, audio and visual; it involved no behavioral changes within consumers; there was just a technological change in the construction of the product.

b) Other new products and services, are illustrative of (ii) only:

Example: the introduction of two wheelers for women, do not essentially signify much of technological change in the two wheeler, but have encouraged women to buy and use scooties.

c) Still other illustrate (i) as well as (ii):

Example: the cell phones, with the GPRS, the 3G etc, not only illustrate a change in technology, but also involve considerable behavioral change; consumers can make call, access emails and internet while on move from anywhere they want.

Classification of New Product Innovations:

Based on varying perspectives and orientations, new products have been variously classified. The most commonly used classification has been proposed by Thomas S. Robertson. Based on the two dimensions that have been discussed above, technological and behavioral, Robertson has classified

the new products and innovations into three categories, viz., *continuous innovations*, *dynamically continuous innovations*, and *discontinuous innovations*.

a) Continuous innovations:

- A continuous innovation is one that entails modification over an existing product; it is illustrative of little technological change, but requires no behavioral change on the part of the consumer for product usage, consumption and resultant experiences.
- The technology used to manufacture the new product is not different from the one that produced the original or already existing product; and, the consumer does not have to adopt a new purchase, usage and consumption pattern to use it.
- Example: all line extensions, or product variants (new form, size, flavor etc.); For example, various flavors of Amul Chocolate are line extensions of the original Amul Milk Chocolate.
- Other examples: laser printers replacing earlier versions; a change from VCDs to DVDs was illustrative of better technology, better picture quality.

b) Dynamically continuous innovations:

- An innovation is regarded as dynamically continuous, when it includes some technological change in the product, but requires no behavioral change on the part of the consumer for product usage, consumption and resultant experiences.
- The technological change is brought either to increase efficiency, or provide greater value to the consumer.
- Example: the walkman giving way to the portable CD player, or the semi-automatic washing machine giving way to the fully automatic one.

c) Discontinuous innovations:

- On a continuum, they fall as most radical; they are truly “innovative” in the sense that they are technologically superior, and also require considerable behavioral change within consumers with respect to purchase and usage patterns.
- The technology used to manufacture the new product is different from the one that produced the original or already existing product; and, the consumer has to adopt a new purchase, usage and consumption pattern to use it.
- Example, the telephone giving way to the mobile phone, or the 3G and GPRS providing email access while on move as against email access on the computer/laptop.

8.2.2 DEFINITION AND MEANING OF i) DIFFUSION OF INNOVATION, and ii) ADOPTION:

There are two issues that a marketer needs to address while launch of new products and services, i) whether the modified/new product and service offering would be accepted by the segment(s), and ii) how quickly would the product and service offering be accepted by the segment(s). The two issues are dealt with within the purview of “Diffusion of Innovation.” “Diffusion” is regarded as a macro process that deals with the spread of a new product or service offering amongst the potential market; it relates to the acceptance/rejection of an innovation by the segment(s). “Adoption”, on the other hand is a micro concept that lays emphasis on the various phases or stages through an individual consumer passes while accepting/rejecting a new product or service offering.

8.2.3 DIFFUSION PROCESS:

“Diffusion” is defined as a macro process that deals with the spread of a new product or service offering amongst the potential market; it relates to the acceptance/rejection of an innovation by the segment(s). “Diffusion of Innovation” is defined as a process by which an innovation spreads amongst and gets the absorbed/accepted or assimilated by the market.

Schiffman defines “diffusion”, as “the process by which the acceptance of an innovation (a new product, new service, new idea, or new practice) is spread by communication (mass media, salespeople, or informal conversations) to members of a social system (a target market) over a period of time”. The definition comprises four basic elements of the diffusion process:

- **innovation**: the term “innovation” refers to the newness of the product/service offering.

- **channels of communication**: this includes

- i) Marketing communication that takes place between the marketer and the potential market, or the target segment; it could be personal (salesperson and consumer) or impersonal (via print or audio visual media).

- ii) Interpersonal communication that takes place between the consumers themselves or within members of the target segment(s); it could be word of mouth communication within consumers or through an opinion leader.

- **social system**: this refers to the social setting in which the diffusion takes place; it actually refers to the market segment(s) or the target market(s). The definition and scope of the social system depends on the product and service in question, its usefulness and its very basis for existence. In a way, it reflects the target market(s) for whom the product and service is designed, and within what segment(s), it would be diffused. For example, for a new herbal anti-wrinkle cream, the social system

would be confined to ladies who are in their late 40s. The social system has wide repercussions on the diffusion of a product/service:

i) First, the new product and service is discussed and or evaluated within members of the social system through interpersonal communication, opinion leadership and word-of-mouth.

ii) Second, the philosophy and the resultant orientation, with respect to culture, traditions, values and norms also impacts the diffusion process. Thus, the social system impacts the ultimate adoption and assimilation of the innovative offering; in order to be accepted quickly and penetrate successfully, the marketer needs to keep this social system in mind and design his product and the marketing mix accordingly.

- **time:** time is an important factor in the diffusion of innovation, as it determines the pace of adoption and resultant assimilation of the innovative offering; researchers have studied the impact of time in the following ways:

i) The amount of purchase time: the amount of purchase time refers to the average time that a consumer would take to adopt a new product and service offering; this would include the total time between the consumers' initial awareness to the final acceptance/rejection of the new product or service. Time as a factor has relevance for the diffusion process in the sense that it helps assess the total time that it would take for a new product or service offering to get totally diffused and adopted by the market at large; when the average purchase time is less, it can be assumed that the rate of diffusion would be faster.

ii) The rate of adoption and the identification of adopter categories:

Rate of adoption: The rate of adoption refers to the period that it is taken for a new product or service to be accepted by the target market(s). It is a measure of how long it takes a new product or service offering to be adopted by the members of the target market.

With global advances in all respects, be it socio-economic, political, cultural and technological, the rate of adoption is getting faster. The marketer also aims at a rapid acceptance of his innovative offering, so that he can gain maximum advantage as a first-mover; thus he designs his marketing mix as per the needs of the segment(s), across international cultures and communities.

Adopter categories: This refers to a classification scheme amongst members' of the target segment(s), which illustrates where one consumer stands in relation to another consumer with respect to time, that has lapsed between the introduction of the new product and service and the adoption by a consumer(s). Researchers have classified consumers into adopter and non-adopter categories,

which range from two or three or five category classifications. It is noteworthy that the consumers would be classified based on the nature of the good or service.

Roger's has proposed a classification of adopters, according to which consumers can be divided into five categories based on the time taken by them to adopt a product. These five adopter categories are innovators, early adopters, early majority, late majority, and laggards. Based on research, it has been observed that the five categories when plotted on a graph, lead to a bell-shaped normal distribution curve (See Figure). The five categories are explained as follows:

- a) Innovators: Innovators comprise 2.5 percent of the target market(s) adopters; they are those consumers' who are the first to go and purchase a new product or service offering. They purchase the new product and service offering not because they possess a need, but because they desire new ideas and concepts, and seek product and service innovations. They are high on self-confidence, and are always eager to try out new products/services. They have access to information about such new offerings, and are quick to purchase; one, because they have the interest and inclination to buy the "new"; and two, because they have the purchasing power and the access. It is important to mention here, that innovators are not "generic"; they are in most cases "specific" to a product and service type.
- b) Early adopters: The next 13.5 percent of the target market(s) adopters are called early adopters. These are those consumers' who purchase the new product and service offering not because they are fascinated towards the "new", but because they possess a need. They generally tend to have some idea on the product/service category, and after gathering some more information about the product and or brand, they go in for purchase. Early adopters rely on group norms and also turn out to be good opinion leaders, and could be easy targets for the marketer.
- c) Early majority: The early majority is similar to the early adopter in the sense that they buy the product/service offering because they possess a need and want to fulfill it; however, they are not as quick as the early adopters and take longer to enter into purchase. This is because unlike the earlier two categories, the early majority does not have much interest in the product/service category. Thus, the consumers that fall into this category have to collect information, evaluate it, deliberate carefully and then take a decision; thus, the process takes longer. The early *majority* make up the next 34 percent of the adopters.

- d) Late majority: The next 34 percent of the adopters are referred to as the late majority. They are referred to as “late,” because i) members of their social class, reference group and peer group have already made the purchase; and the social influence is strong, and ii) they themselves have evaluated the new product and or service and are ready to buy it. They have a need, and after careful thought and deliberation as well as with social influence and pressure, the “late majority” makes the purchase. By nature they are skeptical and confirm to social pressure. Interpersonal communication has a major role to play.
- e) Laggards: The laggards are the last to adopt a new product or service offering, and as such make up the last 16 percent of the target market. They are slow in buying the innovative offering because, i) they are uninvolved with the product and service; ii) they do not possess much information; iii) they remain uninfluenced by social pressure, and social ties are not very strong; iv) they believe in making routine purchases and prefer to buy the “familiar”, than the “unfamiliar”.

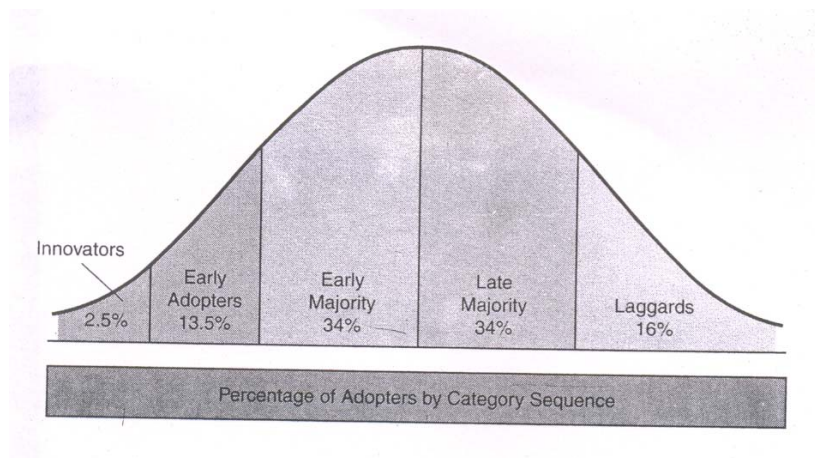


Figure 1: Classification of Adopters

Source: Adapted/Reprinted from Rogers Everett M., Diffusion of Innovations, (3rd Edition, The Free Press, a division of Simon & Schuster, 1995)

In Schiffman, L.G. and Kanuk, L.L., Consumer Behavior, 9th Edition, Pearson, Prentice Hall.

Roger's classification only includes the adopters; there also exist in the market a group of people who do not venture out into seeking a particular product or service, as it may not confirm to their culture, socio-economic class or they may not have the need for such a product/service. Such people fall into a class referred to as the non-adopters; a class that never adopts the new product/service, and in general comprises a very small portion of the entire population. Non-adopters may be classified into five categories, viz., the unaware group, symbolic rejectors, symbolic adopters,

trial adopters and trial rejectors. The inclusion and study of the non-adopter category is crucial as it is reflective of reality, as not all consumers adopt all new product and service offerings.

- *unaware group*: the non-adopters who are unaware about the new product or service offering.
- *symbolic rejectors*: those among the non-adopters who are aware of the product but feel that it is not meant for them because it does not meet a need or does not conform to socio-economic cultural norms.
- *symbolic adopters*: the symbolic adopters are aware of the innovative offering, and believe that the product or service may be of relevance for them, but they are yet to try the innovative offering.
- *trial adopters*: such non-adopters have tried the innovative offering, but have not yet made a purchase; if they have made a trial purchase, they have yet not made a repurchase to confirm liking or habit formation.
- *trial rejectors*: trial rejectors are those non-adopters who have tried the new product or service, but have not found it suitable; they have no intention in further purchase or repurchase.

8.2.4 ADOPTION PROCESS:

The second major process in Diffusion of Innovation is “Adoption”. Adoption is a micro concept that lays emphasis on the various phases or stages through an individual consumer passes while accepting/rejecting a new product or service offering. The study of adoption is important for a marketer in the sense that it helps him understand the various stages through which a consumer passes right from his initial awareness to the final acceptance/rejection. It may so happen that the innovative offering may be existing for long in the market, but the consumer is unaware of it; or, it may have existed in the market for long, but is regarded as “new” because the consumer has heard of it for the first time. This implies that consumers could differ in the manner they complete their purchase activity, right from initial awareness to the final act of purchase. This could mean that the marketer needs to design his selling strategy accordingly. Schiffman defines adoption as “the stages through which an individual consumer passes while arriving at a decision to try or not to try or to continue using or to discontinue using a new product”.

Consumer researchers have proposed a number of models to describe the steps in the adoption process, viz., Hierarchy of Effects’ Model, Robertson’s model, and Roger’s model (see

table). The models explain the stages through which a prospect passes to end up being a consumer, right from the stage of initial awareness to final adoption.

Generally speaking, the consumer passes through five stages of adoption, viz., awareness, interest, evaluation, trial, and adoption (or rejection). The assumption underlying this general model of adoption is that when a new product/service is introduced, prospects go through an information search which could range between limited to extensive; of course, for some products this search is highly limited (routine purchases). The five stages are explained below:

i) Awareness: This is the first stage in the adoption process, where the consumer is exposed to the new product/service offering, and gets to know of the product. The marketers' objective here is to provide some awareness about the innovation, the features and benefits as also the brand. The consumer is generally passive and acts as a mere recipient of information. He becomes aware but lacks sufficient knowledge about the new offering.

ii) Interest: In this next stage, the consumer begins to develop some interest in the innovative offering, and thereby puts in some effort to know more about it. The consumer becomes active in his search for information and tries to elaborate on the information received at the awareness stage. He actively searches for information about the new product /service and tries to assess how it can benefit him.

iii) Evaluation: The consumer who has acquired knowledge about the innovation, now begins to evaluate; he evaluates whether, i) more information search is necessary with respect to the innovation as well as to the brand; ii) he is sufficient with the product/service information that he possesses.

The consumer also evaluates the innovative offering in terms of the attributes, features, and overall benefits, as compared to existing alternatives; he assess the "value" of the product/service offering and the brand. If he feels that the offering provides "value", he goes in for the next stage which is trial; else the process is aborted, and the innovation rejected.

iv) Trial: The consumer goes and tries out the innovative offering, but there is not yet any further purchase (repurchase) commitment. The product/service is experienced on a small scale and used on a limited basis only, to determine the worth or usefulness.

Table 1: Various Models of the Adoption Process

Model	Stages
Hierarchy of Effects Model	<ul style="list-style-type: none"> -Awareness: the stage involves initial awareness on the part of the consumer of the innovative product /service offering. -Knowledge: the consumer gets to know about the product/service, the attributes, features, benefits, price etc. -Liking: he develops feeling of like/dislike towards the innovation. -Preference: the feeling of like/dislike gets deeper into preference to buy or not to buy the innovative product/service. -Conviction: the consumer develops confidence and decides with certainty to buy the product/service. -Adoption: he finally goes and purchases the offering and uses it.
Robertson's Model	<ul style="list-style-type: none"> -Problem recognition: the consumer realizes that there is a need. -Awareness: he becomes aware of the product/service offering. -Comprehension: he gathers information on the various product/service offerings as also on the brands; he comprehends this information and develops an understanding of the product/service offering and the various brands. -Attitude: based on his comprehension, the consumer develops a feeling of liking/favorableness or dislike/unfavorableness towards the product/service offering and the various brands. -Legitimization: the liking/favorableness or dislike/unfavorableness towards the product/service offering and the various brands is confirmed with facts and logic as well as social influence. -Trial: the consumer goes and tries out the offering, but there is not yet any further purchase commitment. -Adoption: he has evaluated his experience with the product/service through trial, and finally goes and purchases the offering. -Dissonance: the consumer faces a dilemma as to whether he has made the right decision with respect to purchase and usage of the product/service.
Roger's Model	<ul style="list-style-type: none"> -Knowledge: the consumer becomes aware of the innovative product/service offering, and gains knowledge and understanding about the offering, features, attributes, benefits, value, price etc. -Persuasion: this is the stage of attitude formation; the consumer forms a favorable/unfavorable feeling towards the innovation. This depends on the perceived characteristics of the innovation (in terms of relative advantage, compatibility, complexity, trialability and observability). -Decision: based on his attitude, the prospect mentally decides to adopt/reject the product/service offering; he may purchase and use the offering, reject it or go in for another alternative. -Implementation: the consumer implements his decision; the stage involves trial and use of the innovative offering. -Confirmation: the consumer moves from a stage of trial (which entails no commitment to purchase/ repurchase), to final adoption (decision to use/reuse /patronize the offering). At this stage, he may seek some reinforcement and reassurance.

v) **Adoption (Rejection)**: Based on the trial stage, and the resultant experience, the consumer would decide to decision to use/reuse/patronize the offering. If the experience is satisfying, and the evaluation favorable, the innovative offering would be accepted, else it would be rejected.

While this five staged procedure constitutes a general model of adoption of innovation, it has been criticized to be very general that lacks the complexities of real life buying and consumption. Researchers argue that:

- The model does not indicate a need recognition stage or a problem solving scenario; critics argue that when faced with a problem, the prospect's approach towards an innovative offering would be much different, than when he is not faced with one.
- Evaluation takes place both before and during trial; in fact it takes place throughout the process.
- Trial is no guarantee for future purchase or repurchase; although experience may be satisfactory, a consumer may never use the product/service offering again.
- The model makes no mention of post purchase behavior; it does not speak of cognitive dissonance, neither does it speak of post purchase evaluation leading to a commitment to use/reuse/patronize the offering in future.

Thus, keeping in view these realities, the model has been modified, and consumer researchers have incorporated two more stages between trial and adoption, viz., *direct product experience* (consequences), and *product evaluation* (confirmation). *Direct product experience* refers to experience with the product/service offering on a longer duration; so as to experience its consequences and to assess it better. *Product evaluation* refers to assessing the consequences of the experience so as to accept the innovation or reject it. After modification, the stages of the model stand as Awareness, Interest, Evaluation, Trial, Direct product experience, Product evaluation, and Adoption.

The Adoption Process and the Facilitators:

Information sources act as a strong facilitator in the adoption process; right from the stage of awareness to that of final adoption, information remains a strong determinant. Marketing communication and in particular, impersonal sources like print and audio-visual media have a major role to play in creating awareness about a new product/service offering. Thereafter, their impact goes to on decline relatively, and that of interpersonal sources (family, friends, peers and colleagues, as well as salespeople) goes on to increase. In fact interpersonal influence that gets reflected in social influence and/or social approval acts as a major determinant in adoption of innovative products and services, primarily in stages of trial and final adoption.

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FAQS (FREQUENTLY ASKED QUESTIONS):

Ques 1 Explain the varying perspectives to defining “Innovation”:

Ans 1 The term “innovation” has been described with varying perspectives and orientations, viz., firm-oriented, product-oriented, market-oriented, and consumer-oriented. Let us discuss each one of these:

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-the product is “innovative”, if it is “new” for the company.

-the existence of the product in the market (as competitor’s offering, or even as consumers’ awareness) is disregarded; as long as it is “new” to the company, it is regarded as an innovation.

b) **Product-oriented**: A product and service offering is regarded as an “innovation”, if the product changes in terms of form, attributes, features, and overall benefits; such changes have a twofold connotation, one, in terms of technology, and two, in terms of consumption usage and behavioral patterns.

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- *Discontinuous innovation*: Discontinuous innovations lead to disruption of usage and consumption behavior patterns; there is a change not only in the technology, but also requires consumers to change to new behavioral patterns in terms of usage and consumption. For example, the postal mail giving way to email and internet, the radio/record player giving way to portable music and sound, the telephone giving way to the mobile phone, or the traditional glucose and diabetes blood test giving way to the home kit.

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- *Marginally new*: Here, there is some level of change in customer satisfaction, because the product is new, differs a little over the existing products and provides greater benefit; For example, the laser printer replacing the dot-matrix printers.

- *Genuinely new*: This implies a totally new product that impacts user satisfaction completely; it differs from existing product and service offerings, and leads to customer satisfaction, as the usage gives greater benefit. For example, microwave ovens, cell phones, home medical tests and kits.

c) **Market-oriented**: The market-oriented approach views “innovation” purely from a marketers’ perspective, in the sense that a product is regarded as “new”, depending on how much exposure the consumers’ have about the new product or service offering, and the total sales penetration that has occurred in the specified short period of time.

- the product is regarded “new” if the market does not have much exposure of it.
- sales penetration has been low.

Here again, there can be two bases that underlie a market-oriented definition; viz.,

- i) a product or service offering is regarded as “new”, if it has been in the market for a short period of time.
- ii) it is “new”, if it has been purchased/used/consumed by a small portion of the total potential market.

d) **Consumer-oriented:** The consumer-oriented approach to defining “innovation”, is a favored approach over others, especially in consumer behavior research, and more specifically in research related to diffusion of innovation, and adoption; the reason is that the concept of “newness” or “innovation” is dealt through focus on consumer, and his/her reaction towards the new product and service offering, in terms of acceptance and rejection. As per this approach, any product is regarded as “new”, if the consumer believes it to be so; it is purely based on the consumers’ perception of the newness of the product, rather than on technological changes that the product embodies.

Amidst the varying perspectives and orientations, the approach(es) that receives wide attention are the market-oriented and the consumer-oriented approaches to studying “innovation”.

Ques 2 Write a note on the classification of New Product Innovations. Also give examples.

Ans 2 Based on varying perspectives and orientations, new products have been variously classified. The most commonly used classification has been proposed by Thomas S. Robertson. Based on two dimensions, technological and behavioral, Robertson has classified the new products and innovations into three categories, viz., *continuous innovations*, *dynamically continuous innovations*, and *discontinuous innovations*.

a) **Continuous innovations:**

- A continuous innovation is one that entails modification over an existing product; it is illustrative of little technological change, but requires no behavioral change on the part of the consumer for product usage, consumption and resultant experiences.
- The technology used to manufacture the new product is not different from the one that produced the original or already existing product; and, the consumer does not have to adopt a new purchase, usage and consumption pattern to use it.
- Example: all line extensions, or product variants (new form, size, flavor etc.); For example, various flavors of Amul Chocolate are line extensions of the original Amul Milk Chocolate.
- Other examples: laser printers replacing earlier versions; a change from VCDs to DVDs was illustrative of better technology, better picture quality.

b) **Dynamically continuous innovations:**

- An innovation is regarded as dynamically continuous, when it includes some technological change in the product, but requires no behavioral change on the part of the consumer for product usage, consumption and resultant experiences.
- The technological change is brought either to increase efficiency, or provide greater value to the consumer.
- Example: the walkman giving way to the portable CD player, or the semi-automatic washing machine giving way to the fully automatic one.

c) **Discontinuous innovations:**

- On a continuum, they fall as most radical; they are truly “innovative” in the sense that they are technologically superior, and also require considerable behavioral change within consumers with respect to purchase and usage patterns.
- The technology used to manufacture the new product is different from the one that produced the original or already existing product; and, the consumer has to adopt a new purchase, usage and consumption pattern to use it.
- Example, the telephone giving way to the mobile phone, or the 3G and GPRS providing email access while on move as against email access on the computer/laptop.

Ques 3 Explain what you mean by “Adopter Categories”.

Ans 3 “Adopter categories” refer to a classification scheme amongst members’ of the target segment(s), which illustrates where one consumer stands in relation to another consumer with respect to time, that has lapsed between the introduction of the new product and service and the adoption by a consumer(s). Researchers have classified consumers into adopter and non-adopter categories, which range from two or three or five category classifications. It is noteworthy that the consumers would be classified based on the nature of the good or service.

Roger’s has proposed a classification of adopters, according to which consumers can be divided into five categories based on the time taken by them to adopt a product. These five adopter categories are innovators, early adopters, early majority, late majority, and laggards. Based on research, it has been observed that the five categories when plotted on a graph, lead to a bell-shaped normal distribution curve. The five categories are explained as follows:

- f) Innovators: Innovators comprise 2.5 percent of the target market(s) adopters; they are those consumers’ who are the first to go and purchase a new product or service offering. They

purchase the new product and service offering not because they possess a need, but because they desire new ideas and concepts, and seek product and service innovations. They are high on self-confidence, and are always eager to try out new products/services. They have access to information about such new offerings, and are quick to purchase; one, because they have the interest and inclination to buy the “new”; and two, because they have the purchasing power and the access. It is important to mention here, that innovators are not “generic”; they are in most cases “specific” to a product and service type.

- g) Early adopters: The next 13.5 percent of the target market(s) adopters are called early adopters. These are those consumers’ who purchase the new product and service offering not because they are fascinated towards the “new”, but because they possess a need. They generally tend to have some idea on the product/service category, and after gathering some more information about the product and or brand, they go in for purchase. Early adopters rely on group norms and also turn out to be good opinion leaders, and could be easy targets for the marketer.
- h) Early majority: The early majority is similar to the early adopter in the sense that they buy the product/service offering because they possess a need and want to fulfill it; however, they are not as quick as the early adopters and take longer to enter into purchase. This is because unlike the earlier two categories, the early majority does not have much interest in the product/service category. Thus, the consumers that fall into this category have to collect information, evaluate it, deliberate carefully and then take a decision; thus, the process takes longer. The early *majority* make up the next 34 percent of the adopters.
- i) Late majority: The next 34 percent of the adopters are referred to as the late majority. They are referred to as “late,” because i) members of their social class, reference group and peer group have already made the purchase; and the social influence is strong, and ii) they themselves have evaluated the new product and or service and are ready to buy it. They have a need, and after careful thought and deliberation as well as with social influence and pressure, the “late majority” makes the purchase. By nature they are skeptical and confirm to social pressure. Interpersonal communication has a major role to play.
- j) Laggards: The laggards are the last to adopt a new product or service offering, and as such make up the last 16 percent of the target market. They are slow in buying the innovative

offering because, i) they are uninvolved with the product and service; ii) they do not possess much information; iii) they remain uninfluenced by social pressure, and social ties are not very strong; iv) they believe in making routine purchases and prefer to buy the “familiar”, than the “unfamiliar”.

Ques 4 Explain the various stages in the Adoption Process.

Ans Adoption is a micro concept that lays emphasis on the various phases or stages through an individual consumer passes while accepting/rejecting a new product or service offering. The study of adoption is important for a marketer in the sense that it helps him understand the various stages through which a consumer passes right from his initial awareness to the final acceptance/rejection. It may so happen that the innovative offering may be existing for long in the market, but the consumer is unaware of it; or, it may have existed in the market for long, but is regarded as “new” because the consumer has heard of it for the first time. This implies that consumers could differ in the manner they complete their purchase activity, right from initial awareness to the final act of purchase. This could mean that the marketer needs to design his selling strategy accordingly. Schiffman defines adoption as “the stages through which an individual consumer passes while arriving at a decision to try or not to try or to continue using or to discontinue using a new product”.

Consumer researchers have proposed a number of models to describe the steps in the adoption process, viz., Heirarchy of Effects’ Model, Robertson’s model, and Roger’s model (see table). The models explain the stages through which a prospect passes to end up being a consumer, right from the stage of initial awareness to final adoption.

Generally speaking, the consumer passes through five stages of adoption, viz., awareness, interest, evaluation, trial, and adoption (or rejection). The assumption underlying this general model of adoption is that when a new product/service is introduced, prospects go through an information search which could range between limited to extensive; of course, for some products this search is highly limited (routine purchases). The five stages are explained below:

i) **Awareness:** This is the first stage in the adoption process, where the consumer is exposed to the new product/service offering, and gets to know of the product. The marketers’ objective here is to provide some awareness about the innovation, the features and benefits as also the brand. The consumer is generally passive and acts as a mere recipient of information. He becomes aware but lacks sufficient knowledge about the new offering.

ii) **Interest:** In this next stage, the consumer begins to develop some interest in the innovative offering, and thereby puts in some effort to know more about it. The consumer becomes active in his search for information and tries to elaborate on the information received at the awareness stage. He

actively searches for information about the new product /service and tries to assess how it can benefit him.

iii) **Evaluation:** The consumer who has acquired knowledge about the innovation, now begins to evaluate; he evaluates whether, i) more information search is necessary with respect to the innovation as well as to the brand; ii) he is sufficient with the product/service information that he possesses.

The consumer also evaluates the innovative offering in terms of the attributes, features, and overall benefits, as compared to existing alternatives; he assess the “value” of the product/service offering and the brand. If he feels that the offering provides “value”, he goes in for the next stage which is trial; else the process is aborted, and the innovation rejected.

iv) **Trial:** The consumer goes and tries out the innovative offering, but there is not yet any further purchase (repurchase) commitment. The product/service is experienced on a small scale and used on a limited basis only, to determine the worth or usefulness.

v) **Adoption (Rejection):** Based on the trial stage, and the resultant experience, the consumer would decide to decision to use/reuse/patronize the offering. If the experience is satisfying, and the evaluation favorable, the innovative offering would be accepted, else it would be rejected.

While this five staged procedure constitutes a general model of adoption of innovation, it has been criticized to be very general that lacks the complexities of real life buying and consumption. Researchers argue that:

- The model does not indicate a need recognition stage or a problem solving scenario; critics argue that when faced with a problem, the prospect’s approach towards an innovative offering would be much different, than when he is not faced with one.
- Evaluation takes place both before and during trial; in fact it takes place throughout the process.
- Trial is no guarantee for future purchase or repurchase; although experience may be satisfactory, a consumer may never use the product/service offering again.
- The model makes no mention of post purchase behavior; it does not speak of cognitive dissonance, neither does it speak of post purchase evaluation leading to a commitment to use/reuse/patronize the offering in future.

Thus, keeping in view these realities, the model has been modified, and consumer researchers have incorporated two more stages between trial and adoption, viz., *direct product experience* (consequences), and *product evaluation* (confirmation). *Direct product experience* refers to experience with the product/service offering on a longer duration; so as to experience its consequences and to assess it better. *Product evaluation* refers to assessing the consequences of the experience so as to accept the innovation or reject it After modification, the stages of the model

stand as Awareness, Interest, Evaluation, Trial, Direct product experience, Product evaluation, and Adoption.

SELF EVALUATION TESTS/QUIZZES:

Section A True/false:

1. Line extensions are continuous innovations.
2. Innovators comprise 13.5 percent of the target market(s) adopters.
3. Innovators are “generic”; they are “not specific” to a product and service type.

Section B Fill up the blanks:

1. As per the _____ approach, a product or service offering is regarded as “new,” if the company starts manufacturing or marketing it for the first time.
2. As per the product-oriented approach, innovations can be classified into three categories, continuous innovations, _____ innovations, and _____ innovations.
3. Amidst the varying perspectives and orientations, the approach(es) that receives wide attention are the _____ and the consumer-oriented approaches to studying “innovation”.
4. Generally speaking, the consumer passes through five stages of adoption, viz., awareness, _____, _____ trial, and adoption (or rejection

Section C Multiple choice questions:

1. Which of the following statements is false:
 - a) In discontinuous innovations, there is a change not only in the technology, but also in behavioral patterns of usage and consumption.
 - b) Continuous innovations do not disrupt established usage and behavior patterns
 - c) Line extensions are discontinuous innovations.
 - d) All of the above.
2. Roger's has proposed a classification of adopters. The five adopter categories as per sequence are:
 - a) innovators, early adopters, early majority, late majority, and laggards.
 - b) innovators, early majority, early adopters, late majority, and laggards
 - c) innovators, early majority, late majority, early adopters, and laggards
 - d) none of the above.

3. Which of the following is not a stage in Rogers Model of adoption?

- a) Knowledge
- b) Persuasion
- c) Liking
- d) Confirmation

Section D Short answers:

1. Define the following:

- a) Dynamically continuous innovation
- b) Diffusion of Innovation

2. The term “innovation” has been described with varying perspectives and orientations. Mention any three orientations.

3. Innovations are measured on two dimensions. Name them.

4. Robertson has classified the new products and innovations into three categories. Name them.

5. Give an example of a discontinuous innovation.

6. Consumer researchers have proposed a number of models to describe the steps in the adoption process. Mention any two.

KEY

Section A True/false:

1. True 2. False 3. False

Section B Fill up the blanks:

1. Firm 2. Dynamically continuous, Discontinuous 3. Market-oriented
4. Interest, Evaluation

Section C Multiple choice questions:

1. c 2. a 3. c

Section D Short Answers:

1.a) An innovation is regarded as dynamically continuous, if it exerts some influence on usage and behavior patterns, but this influence is not totally disruptive; it does not totally change behavior patterns; For example, the walkman giving way to the portable CD player, or the pager giving way to the cell phone.

b) "Diffusion of Innovation" is defined as a process by which an innovation spreads amongst and gets the absorbed/accepted or assimilated by the market.

2. Firm-oriented, Product-oriented, Market-oriented, and Consumer-oriented.

3. Technological changes in the product itself (*relates to the product only*), and Behavioral changes within the consumers that are required for purchase and usage/consumption of the new product and service (*relates to consumer behavior issues, product adoption, and usage*).

4. Continuous innovations, Dynamically continuous innovations, and Discontinuous innovations.

5. Example: The telephone giving way to the mobile phone

6. Heirarchy of Effects' Model, Robertson's model, and Roger's model.