"Creativity is a function of leadership. It requires navigating uncharted territory and having the courage to face adversity to bring your vision into fruition."

Linda Naiman, Founder of Creativity at Work

"Today, innovation and creativity are not only highly prized; they are regarded by financial markets as one of the most important drivers of value in an organization."

"Developing a Knowledge Strategy" - Michael H. Zack

CHAPTER 2
FROM CREATIVE IDEAS TO MARKET VIABILITY

IN SEARCH OF THE VALUABLE IDEA

An original idea is the beginning point of a new business venture. When an entrepreneur observes an opportunity, they begin to contemplate a solution that will address the underlying problem or unmet needs. Ideas are the result of the problem solving process. An entrepreneur is typically the type of individual who is fascinated by how objects and systems operate. As children, they may have been the ones who took electronic and mechanical objects apart in order to determine the how and why behind the way things work. New ideas are the products of a creative mind—the people who learned to repair whatever was broken or enjoy solving puzzles have a great start in forming successful ideas that focus on resolving problems. Unmet needs and unsolved problems are the sources of potential opportunities. The majority of entrepreneurs create new business ventures based on products or services that create value through solving problems. Problems create opportunities and entrepreneurs take advantage of opportunities.

The recognition of problems or opportunities should stimulate creativity in the entrepreneur. Creative people may indeed see a problem or opportunity differently, and the result may become a tangible reality. The initial idea is a mental image or concept of how to better solve the problem resulting in inventing a new product/service which enhances the quality of our lives, without which, entrepreneurship would not exist.

Ideas, as innovative and creative as they might be, are not necessarily viable as a source for the establishment of businesses. Creativity includes thinking new thoughts whereas innovation is the ability to apply creative thinking to the problems and opportunities. From this process of innovation comes the birth of new business ventures. The study of entrepreneurship helps us to analytically evaluate the market feasibility of our ideas. There is usually a competition of ideas. This battle of ideas is a powerful driver in the entrepreneurial process. The competition in the marketplace is cruel and cold. Survivors and winners rise to the top while the majority fails do to the markets assessment that other solutions are found to be superior.

In so many cases creative and innovative ideas do not translate into market viable products or services. They simply do not solve the problems as effectively and efficiently as another entrepreneur's products/services, or the businesses are not executed in a timely fashion. In most situations the new product or services simply fails to generate an adequate market demand.

RELEASING THE POWER OF HUMAN CREATIVITY

Creativity is a product of a mind-set that is unwilling to simply accept what others view as a "fixed reality." Some authors term this perceived reality as a paradigm. A paradigm is defined as a preconceived idea, or set of ideas, of some aspect of the world in which we operate. Creative individuals are not bound by these traditional assumptions and preconceived limits. Creative individuals challenge the thinking of others in search of original new concepts and possibly new, increasing accurate realities.

Entrepreneurs are what are termed creative thinkers. Scientists have identified that the left side of our brains serve to aid us in what is termed linear vertical thinking. This is the logical side of our brains. In contrast, the right side of the brain processes emotional thought, intuitive thinking and spatial functions. The right brain thinks in a lateral fashion and tends to be less structured, less systematic, and less conventional. Right brain thinking allows the entrepreneur to challenge existing paradigms through questions through challenging the world around them.

Questions about why certain assumptions are accepted; is there possibly a better way; and questions regarding the root cause of a problem all help creative entrepreneurs master the ability to integrate thinking from both halves of their brain. Most individuals have a dominate brain function and may believe that they are logical (left-brain) or emotional (right-brain) thinkers. Creative thinkers learn to use both sides of their brain and integrate the contributions of both sides in problem identification and resolution. The coordination of the complementary functions of each brain hemisphere produces what might be termed, "a fully functioning creative brain."

Individuals can take a variety of steps to enhance their creative skills. One critical step is to improve your knowledge of the subject through factual investigation and gaining specific relevant knowledge. A person with minimal knowledge of the problem or the underlying situation is severely limited in their ability to discover a creative solution. Entrepreneurs need to have "done their homework" in preparation for solving any complex problem. Relevant knowledge stems from a combination of hands-on experience and a detailed study of the situation. Some entrepreneurs fail because the solutions to problems they are attempting to solved demonstrate little actual knowledge of the issue at hand. In essence, failure can stem from being a solution looking for a problem. It is not wise to assume that customers will be automatically lining up to make you the next business superstar, simply because you bothered to create something new. Products and services must address a real and crucial need for existing customers or must be able to crest the wave of trends that address new customers and markets.

When the entrepreneur has completed the needed preparation, they are next able to apply the "full brain" approach with both convergent and divergent thinking. Convergent thinking is the ability to recognize similarities and the connections among various seemingly unrelated data and events. Divergent thinking is the ability to recognize differences among seeming related data and events. The result of viewing a problem with both types of thinking is the achievement of previously unrecognized realities of the situation. A clearer picture of the situation emerges and new solutions can appear. The final creative solution may require additional steps to achieve its final form. Many researchers suggest that the initial solution needs time for mental reflection. The brain needs to digest new information. Granted, neuroscientists have a long way to go before fully unraveling the mystery of how the human brain processes information and comes to conclusions. There is growing evidence to support that remembering events accurately or providing correct answers can depend on first forgetting and then retrieving the information from memory—a paradox that means that the most potent learning environments arise from retrieving information at a moment's notice. Contrary to traditional educational models, science may soon prove that the endless study of static information does not lead to new knowledge. Rather, it appears that testing information as it interacts with real world phenomena that may actually be the best way of learning information permanently or creating new fields for information.1 In this process, the brain will normally add increasing specificity, resulting in significant improvements and often-wider applications. The last steps will involve the testing and verification of the creative solution and its implementation in the form of a new product or service.

It is often necessary to remind people that they possess the power to be creative. Creativity is not limited to only a few special persons. Everyone can enhance their creativity through exercising their mind to employ both hemispheres of the brain. As an example, if you tend to be "left brained" consider a series of exercises that force yourself to think in an unconventional manner. Take steps to understand individuals whom you believe to be quite different from yourself. Speak with these people in a non-judgmental fashion. Attempt to objectively accept their thought processes. Ask them what it was that triggered their thinking on a critical issue. Read what they say they read in an attempt to expand your connectivity to their thought processes. Then attempt to integrate their thinking with yours to gain from their perspective and expand your understanding. In most cases, this involves a great deal more listening than speaking. It is not a debate but a learning process. Individuals lacking in creativity have often ceased learning and become trapped in what they know. Creativity prospers in an open mind that is always in search of additional knowledge and the insights of others.

Become a person who can honestly say that they have never met a person from which they have not learned something. Creativity dies when the mind closes to new ideas and concepts.

Successful entrepreneurs are never ashamed to ask questions in search of new insights and knowledge. In fact, they are extremely inquisitive and integrate what they learn with what they know. Often the outcome of this process is new knowledge and new innovative solutions to problems. Successful entrepreneurs are not afraid of challenging the established paradigm of thinking or to seemingly look irrational as they search for new insights. Successful entrepreneurs accept when they may be wrong in their thinking and actively attempt to learn from every experience. It takes a relatively high level of personal courage to behave like a creative thinker attempting to become a successful entrepreneur.

SCREENING AND EVALUATING IDEAS IN SEARCH OF OPPORTUNITIES

One recognizable sign of potential failure is the person who believes that every idea they have will become a successful business venture. There is a long analytical road between a seemingly good idea, a new product or service, and a successful business venture. Successful entrepreneurs aggressively employ all of the analytical tools at their disposal to attempt to effectively screen out ideas with low potential while concentrating their efforts at those with exceptional potential. Successful entrepreneurs use these analytical tools to separate financially viable and feasible products or services from the seemingly chaotic seas of ideas.

Experience has shown that if a business is based on a solution without a problem, the business will soon have a problem with no solution. The goal is to set forth a process that will serve to differentiate a viable opportunity from just another idea. For the idea to be an opportunity, it must have the capacity to create value for its intended users. The first principle is fundamental: the opportunity in the form of a product or service must create value for the buyer/user. Creating tangible and measurable value is often a function of solving an unmet or an unrecognized need that are the foundation of a problem or an opportunity.

Products or services that produce positive results such as:

1. Increases in productivity
2. Increases in quality
3. Reductions in cost, etc. are capable of creating value

Some products or services produced enhance personal satisfaction, increase prestige, or help redefine the user. The value may well be more psychological than purely tangible. Value, like beauty, is in the eyes of the beholder. What is quickly evident is that the value created must be greater than the cost of the product or service. A potential buyer/user may appreciate that a product/service increases

their productivity but are not interested when the cost of the new product/service exceeds the value created. All business ventures operate in a competitive environment where multiple variables interact to determine winners and losers. Value creation is essential but not a guarantee of market success.

The screening and evaluation process is normally a series of questions designed to place a potential value on the new product or service. The answers to some questions may result in the idea being discarded or, at the minimum, redeveloped.

ATTEMPTING TO UNDERSTAND THE MARKET IN DEPTH

An attribute or benefit derived from the customer's perception of the product or service is critical in market assessment. Market research needs to be conducted in every market segment the entrepreneur plans to serve to determine whether both potential customer and the entrepreneur hold mutual perceptions of the product or service. If the potential customer does not view the product or service in the same way as the entrepreneur, steps must be taken to correct this misconception prior to the product or service's introduction. Changing the market's view of a product or service after it is introduced will almost always cost more than modifying the product or service as a result of front-end market research. A product or service cannot succeed in the appropriate target market unless there is an awareness of the product or service. The "best" potential markets, as determined through the entrepreneur's research, must be introduced to the product or service in a way that supports or reinforces the buyers' behavior patterns. After determining the critical attributes of a product or service required by buyers, the entrepreneur must present the product or service to the buyers by clearly delineating its superior and critical attributes over existing products or services. The key is to make it as simple as possible for the buyer to recognize the superiority of the product or service.

Many products or services fail because entrepreneurs mistakenly assume the marketplace will automatically recognize the superiority of their efforts. In most cases, the new product or service must replace an existing one. Also, since buyers may not be dissatisfied with the product or service they presently purchase, entrepreneurs must analyze the targeted market to determine how the new venture can achieve an acceptable depth of market penetration. The degree of market satisfaction or dissatisfaction with the existing product or service needs to be determined by some tangible measures. **Table 2.1** lists standard questions designed to determine the degree of satisfaction of potential customers with the products or services they presently purchase. Involving the targeted customers at this early stage is very valuable in the measurement of their current satisfaction.

TABLE 2.1 ASSESSING PRESENT MARKET SATISFACTION

Instructions: Please circle the number that best represents the degree of your satisfaction or dissatisfaction with the product or service you currently purchase
1. To what degree does the product or service your presently purchase satisfy your technical needs? 1 2 3 4 5 6 7 Extremely Satisfied … Extremely Disatisfied
2. To what degree does the product or service you presently purchase create tangible value? 1 2 3 4 5 6 7 Creates Exceptional Value … Creates No Value
3. To what degree is the price of the product or service justified by its quality or performance? 1 2 3 4 5 6 7 Very Fairly Priced … Excessively Expensive
4. To what extent would you be willing to purchase a product or service that is, by your criteria, slightly superior to that which you are presently purchasing? 1 2 3 4 5 6 7 Very Willing … Not Willing
5. To what extent would you be willing to purchase a product or service comparable to the product or service you presently purchase, but at a lower price? 1 2 3 4 5 6 7 Very Willing … Not Willing

The answers to these simple questions will provide the entrepreneur with an assessment of customer's current level of satisfaction with the competitor's product or service on key criteria of: technical satisfaction with the product/service; the creation of tangible value; price comparison with quality or performance, product/service superiority; and lastly, price sensitivity.

The entrepreneur's research should also capture specific information regarding the customers/clients purchasing process. Additional questions that are very valuable to obtain answers to include:

- For an industrial or commercial product or service, who makes the final buying decision? The purchasing agent, the technical staff, or possibly upper management?
- Are purchases made for a consumer product or service made: annually, monthly, or weekly?
- How willing is the decision maker to evaluate comparable products?
- To what degree has the business selling the existing product or service created significant customer loyalty?
- How essential is the current product or service to the success of the buyer?
- Does the purchase of this product or service represent a significant financial expenditure on the party of the buyer?

Answers to questions such as these help the entrepreneur assess the feasibility of the product or service in each market segment or niche. A market, or market niche, is comprised of individuals or businesses that have the ability and willingness to purchase because the product or service satisfies a need they have. The need itself may be tangible, clearly defined, and even quantifiable, or it may be intangible and not easily defined or measured.

Market assessment is not a one-time snapshot but a continuous motion picture. Successful businesses have mastered the timing of new product or service introduction to correspond with the market's acceptance, or even demand, for a valued product or service. A potentially "revolutionary" new and even technologically superior product often fails to gain market acceptance due to the entrepreneur's ineffective market assessment.

After analyzing the satisfaction or dissatisfaction of the market segment with existing products or services, the entrepreneur must identify any specific unmet or under- met needs of each defined market niche. Then the entrepreneur can evaluate the attractiveness of the new product or service in light of these needs (**Table 2.2**).

The new product or service must be able to address the unmet or under-met needs of the market niche. The stronger the ability of new products or services to meet these needs, the higher the probability that the product or service will be successfully adopted. However, even with positive value creating features, success is not a sure thing. Figure 2.1 illustrates the wide diversity between the technology basis of the new product or service and the nature and characteristics of the targeted market niche.

TABLE 2.2

Matching unmet or under- met needs of the market niche with the specific superior features or attributes of the new product or service	
Specific Market Niche: ____________________	
Brief description of the unmet or under met needs of this market niche	Specific "value creating" features of the new product or service relevant to the unmet or under met need
1.	1.
2.	2.
3.	3.
4.	4.

Figure 2.1 illustrates a simplistic example of four extreme matches between the levels of technology and the extremes of market existence and highlights the level of difficulty in achieving successful market acceptance. Products based on new and innovative technologies often find high levels of initial resistance even in established market niches because the product is unknown and its results are unproven. A two-fold problem exists when a new and innovative product or service is targeted at a nonexistent market segment. Can a new market segment be created based on unmet or under-met needs of specific target group, and will this new market segment accept and untested or unproven product based on new and innovative technology?

When a product or service is based on established technology the worst-case scenario deals with the reality of head-to-head competition against existing products or services in a well-established market niche. The key question to answer is why a potential customer would be willing to switch to the new product or service. How much will it cost, in both time and money, to gain a needed level of market penetration? When the new venture develops its marketing plan, great weight must be given to the whole issue of gaining market share against established competitors. A good rule of thumb is never to underestimate the level of retaliation of a new venture can expect from competitors defending their market positions.

The critical questions that serve to help in assessing the feasibility of a new product or service include the following:

1. Is there a problem or potential opportunity which the new product or service has the potential to improve or solve?
2. Do the current buyers/users recognize the nature and scope of the problem?

These responses can serve to categorize the problem as being either universally recognized and in need of resolution or a problem that is already recognized but not of significant concern to the buyer/user. Clearly, the more that the new product or service is addressing a problem(s) which is

FIGURE 2.1 MARKET NICHES AND PRODUCT OR SERVICE TECHNOLOGY

Market Niches and Product or Service Technology		
Nature and characteristics of the Technology of the Product or Service		Targeted Market Niche Presently Non-existing ⇔ Well Established Market Niche
New and Highly Innovative ↑	New and very innovative product or service targeted at a presently non-existing market niche	New and very innovative product or service targeted at a well-established market niche.
↓ Established	Product or service based upon established technology being introduced into a non-existing market niche (Need to demonstrate superior value creation capabilities)	Product or service based upon established technology being introduced into an established market niche. (Need to demonstrate how the new product or service is superior to the existing product or service)

identified by most of the potential buyers/users the greater its potential for successful adoption. On the contrary, if the market does not have a significant concern for a recognized problem the initial sale may not be sufficient to survive. If your product or service is focused on a problem that the market currently does not recognize, the "window of opportunity" may not yet be open. This situation exists when a product or service is ahead of its time and the market is not yet ready to accept it. It is a tough sell when the market has yet to discover the value of your product or service. Entrepreneurs can become frustrated under these conditions.

The perfect scenario for product failure would include blind faith and unrealistic optimism by entrepreneurs based on the untested technical superiority of a product, coupled with an assumption that the market will automatically accept the new product, and that customers therefore cannot wait to purchase the product or service. Unfortunately, all too many entrepreneurs and their supporters buy into unbelievably simple and unrealistic assumptions that are untested and unchallenged. Entrepreneurs are to often prone to make errors in judgment when lacking any measure of objectivity regarding their product or the behavior of the market. Obviously, it is highly important to believe in the product or service on a number of levels, but when the entrepreneurs involvement becomes sole based on an emotional, psychological, and financial level; mistakes ranging from failed launches to spectacular company flameouts can and usually result.

Bad assumptions or failure to revise initial positive assessments with new information can lead decision makers into a false sense of success. The result is denial of the need for the reality-based analysis. Business history has taught us that product superiority alone does not always win adoptions. Only a small segment of the market is even ready to consider the adoption of a new, inexperienced product. Entrepreneurs who may be inexperienced in the process of new product introduction, with its numerous barriers, pitfalls, and landmines, can create for themselves a "map" that may guide them in their analysis of the hostile marketplace in which they plan to embark. **Table 2.3** provides an overview of the steps involved in market evaluation.

It is always difficult to pick a starting point for the market analysis but why not begin by identifying the realistic number of potential adopters of a new product in what is a very time sensitive "window of opportunity". This limited "window of opportunity" is created by the internal "burn rate" of the firm's financial capital in contrast with the profitable adoption of the new product. Most firms, and especially entrepreneurial start-ups, have limited and finite financial capital. The entrepreneur must recognize how the total available investment that the firm began with has been reduced by the money spent on the design, development, and manufacturing of the product or service. What funds remain is all that is available for the marketing efforts. The need for marketing is too often underestimated. Consequently, underfunded marketing efforts are often the norm. Potential adopters cannot buy products or services they are not aware of. Therefore it is crucial to target the firm's limited and finite marketing resources at potential customers/clients with the highest adoption potential. Efficient information acquisition and new product performance has been demonstrated to result in greater financial performance when valuable marketing resources are used judiciously and in a precisely targeted fashion.

TABLE 2.3: ANALYTICAL STEPS IN MARKET EVALUATION

1.	What is the actual market for the product measured in terms of sales revenue? Are these sales revenues adequate to generate a profit and maintain the viability of the new venture?
2.	What is the projected "burn rate" of cash in the new venture, and will sales revenue projections form question one arrive in adequate time to meet your financial needs?
3.	Does the product have the demonstrable ability to produce a tangible and measurable impact on the potential adopter profitability? If so, aggressively demonstrate the relevant features.
4.	Whenever possible, describe the high level of compatibility between the product and the potential adopter's current system, and the low cost of reversibility of the decision if the product were to fail.
5.	If the potential adopter is known to have an existing problem that the new product can solve, focus the marketing efforts on demonstrating the product's ability to correct the problem.
6.	Focus all marketing efforts on potential adopters who have the technical staff to implement the new product and the management confidence to risk the adoption.
7.	Focus all marketing efforts on potential adopters who have the technical staff to implement the new product and the management confidence to risk the adoption.

FIGURE 2.2.: MARKET ADOPTERS

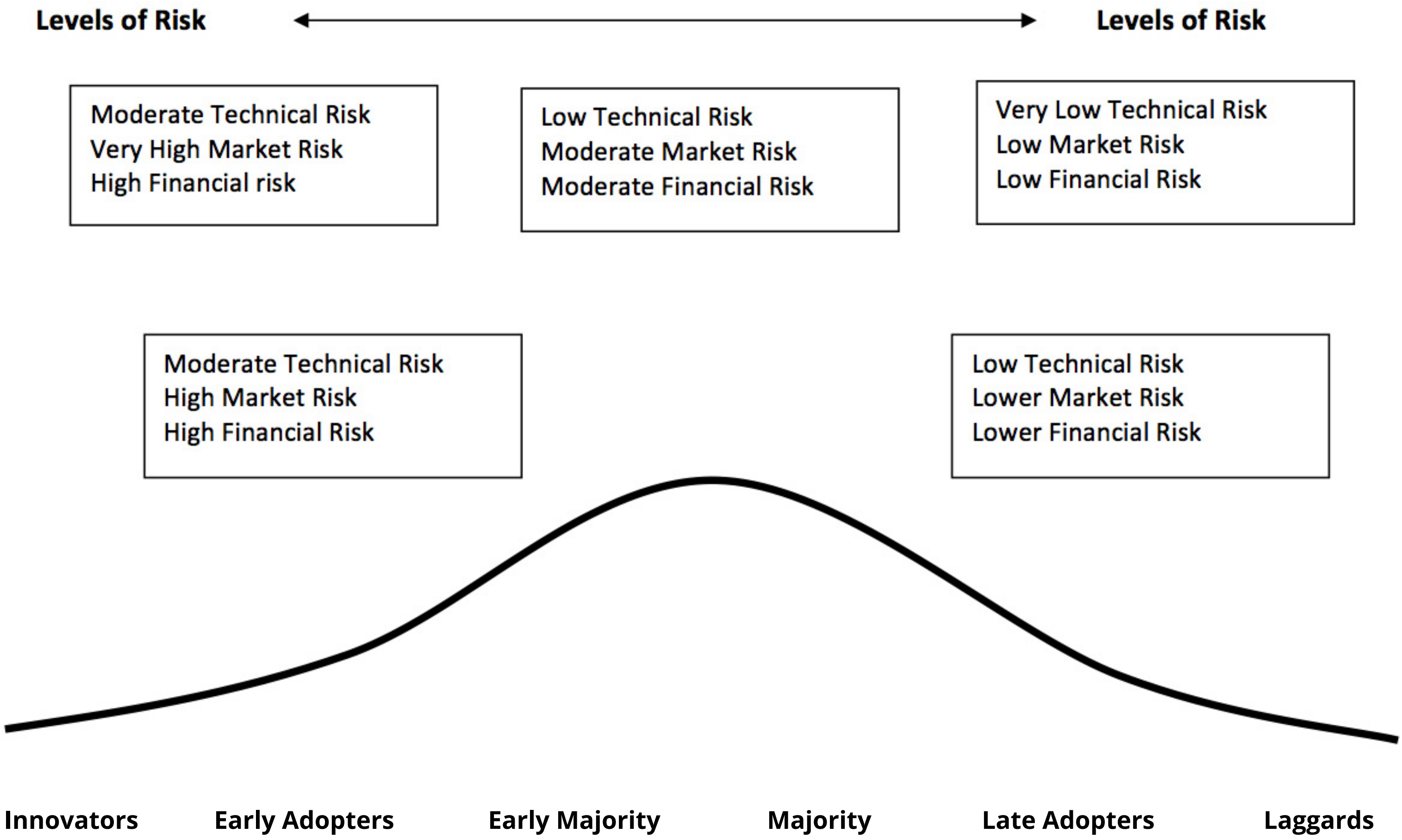

Figure 2.2 is the traditional "bell-shaped" curve that segments firms in any market by their behaviors in the adoption of new products.

As the figure indicates, the realistic potential adopters for a new product have traditionally been termed as innovators or early adopters. The firms that belong in these two categories have demonstrated through their consistent behavior that they will consider, and often, adopt new products. The other side of this coin is that the majority of the firms in any market tend to not purchase new, innovative products. These firms are found in the categories marketing authorities titled early majority, late majority, and laggards. It is dangerous to generalize, but these categories typically represent 75 to 85 percent of the market. Here again, the market segments which are relevant to a firm attempting to sell its new products into these markets are described in **Table 2.4**.

The next step in the analytical process would be to evaluate the realistic purchasing potential of innovators and early adopters, (based on historical and projected data). The answer to questions such as the capital expenditures made by these firms is a starting point. Questions which must be answered would include the following: Of the typical capital expenditures, how much is spent on product such as yours? This macro-level analysis is far from precise, but will provide a "rough" estimate of the sales potential for the new product. Basically, is there adequate evidence of potential adopters sufficient purchasing volume (in both units and dollars) to support the business venture? If the product is one with a long life expectancy once sold there is the reality that it might be years, even decades, before a follow-up sale can be expected. Revenue estimates should be based on a most likely, optimistic, and pessimistic sales scenarios. The

TABLE 2.4: INNOVATORS AND EARLY ADOPTERS

1. The potential adopters for the market are only 15 to 25 percent of the firms that comprise the total market. If the window of opportunity is short, the percentage is even smaller.
2. It becomes essential to know the firms that are considered innovators or early adopters because they represent the target market for any firm attempting to sell a new product into the market. (Note: Although presented as static, the process maybe further complicated by the fluidity in which firms may move through stages, based on strategies, new leadership, etc. Firms are created and killed regularly. Changes, though, are the exception, not the rule.)

entrepreneur should further estimate the period between early adopters and the next wave of adopters. Furthermore, entrepreneurs must accurately project sales magnitude estimates for the next wave of adopters as well as the cost that will be incurred to meet these sales targets. Will the firm need to make significant investments in capacity to meet the projected market demands? What must be recognized is that early adopters must sustain the firm until the larger group of later adopters enters the market.

It is beneficial to conduct this analysis early in the development of a new product, and, if the results of the analysis suggest that there is a strong likelihood of market rejection, the project can be terminated and financial resources preserved. Consequently, before a firm's financial resources are spent in production and extensive marketing of a new product, it is essential to determine the financial capability and likelihood of the firms in the defined target market segment's willingness to purchase at a level that makes the continuation of the venture viable. The importance of conducting the purchasing power assessment as early as possible is to avoid spending the project budget on manufacturing only to discover that the remainder of the funds are inadequate to support the introduction of the product. The new venture is justified by a demonstrated level of demand, measured in terms of sales dollars and profitability. Time is the enemy of new product introduction as the "burn rate" of capital measures a firm's time-based financial "window of opportunity." Only cash from sales revenues can stop the hemorrhaging of financial capital. If sales are insufficient to produce the requisite cash, a new entrepreneurial venture simply runs out of capital or the firm reaches a level of losses beyond which they choose not to continue. In the simplest terms, positive and timely cash flow is critical for a firm viability.

Consequently, this initial analytical step in the evaluation process for the introduction of a new product determines the adequacy of market demand and the critical time period for earning adoptions, and revenues, considering the financial realities and corresponding constraints of the situation.

It is essential that the firm invest its marketing resources initially at only serious potential adopters. The steps, although not always scientific, begin with a detailed study of the firms that comprise of the industry. The focus here is to eliminate the firms who have never displayed the initiative to adopt early stage products. The second step would be to assess the financial capability to adopt; obviously, there is no need to waste marketing resources on unlikely adopters. The third step would be to exclude all remaining firms whose ethical track record indicates that they are likely to avoid payment or default on their promises to pay. The detailed study of the industry will uncover who these firms are. The fourth step is to search for firms who are currently experiencing operational or performance problems that your firm's product can resolve. If successful in resolving the problem of these firms, these successes will open additional doors.

A second analytical exercise involves a deeper evaluation of the firms that our initial market assessment indicates might be potential adopters. **Table 2.5** serves to guide the analyst through a series of 11 criteria that will clarify the potential adopter's interest in the new product.

POTENTIAL ADOPTER PROFILE

The questions in **Table 2.5** address the behavioral history of the targeted firm as an early state adopter. The research must discover whether each firm is consistently an early adopter of new products and if being an early adopter and implementer of technology is extremely important and has proven to be valuable to the management of the firm. Based on these results the newly identified targeted potential adopter's quality as logical recipients of intensive investment of marketing resources has been verified. In almost every case this newly defined target market is very likely significantly smaller than the original group.

The second question in **Table 2.5** asked whether your firm's product can produce a tangible and measureable positive impact on the potential adopter's profitability. Few factors excite potential adopters more than the ability of the new product to have a positive and significant impact on their profitability. If the product has the demonstrated ability to produce either, or both, an increase in productivity or reduction in operating expenses, this reality should be the lead factor in promoting its adoption. Demonstrable capabilities along these lines usually open the doors with potential buyers.

Question 3 assesses the degree of the compatibility between the new product and the potential adopter's current operational system. A new product which is not compatible at all is very likely to be rejected out of hand because of the perceived need for the potential adopter to incur significant cost to re-vamp its operating system. If only a few, and not costly, modifications are needed to the potential adopter's operating system, and the new product demonstrated to increase productivity and/or reduce expenses, the barriers may be breached. Clearly, if there is complete compatibility with the potential adopter's operating system, no barrier exists, and the potential adopters should be informed by the marketers of this fact.

The fourth question often possesses what can be a frightening pitfall: the reversibility of the adoption decision. Executives are fundamentally uncomfortable with making a decision that places them in a complete win/loss situation. If the new product performs up to expectations, the decision was a winner. If however, the product fails to meet expectations and has to be completely replaced, the adoption decision may be extremely costly and has exposed the decision maker's failure.

Product decisions which are irreversible are very often viewed by adopters as too risky. In these situations executives will often refrain from adopting and installing the new product until "others" have proven its value. The pitfall of irreversibility is as much psychological as economic.

Some of the questions, like the fifth, can identify potentially positive situations where the targeted adopters recognize that they have an existing

TABLE 2.5: POTENTIAL ADOPTER SCREENING FOR NEW TECHNOLOGY-BASED PRODUCTS: IN SEARCH OF MARKET VIABILITY

	Scale	Value	Factor Score (Scale x Value)
1. A history of being and innovator or early adopter of new technology-based products.	Almost Always ← → Never 10 8 6 4 2 0	Very Important ← → Very Unimportant 1.0 ← → 0	
2. Your new product can produce a tangible and measurable impact on the potential adopter's profitability.	10 8 6 4 2 0	1.0 0	
3. Degree of compatibility between your new product and the potential adopter's operational system	10 8 6 4 2 0	1.0 0	
4. The reversibility of the adoption decision.	10 8 6 4 2 0	1.0 0	
5. Potential adopter's need of a superior product to solve an existing problem.	10 8 6 4 2 0	1.0 0	
6. Potential adopter's financial ability to buy your new product.	10 8 6 4 2 0	1.0 0	
7. Low cost of implementing your new product.	10 8 6 4 2 0	1.0 0	
8. The competence of the staff of the potential adopter to successfully implement your new product.	10 8 6 4 2 0	1.0 0	
9. Internal support for your new product by the management of the potential adopter.	10 8 6 4 2 0	1.0 0	
10. Previous successful management of technology risk.	10 8 6 4 2 0	1.0 0	
11. Your firm's reputation with the potential adopter	10 8 6 4 2 0	1.0 0	
		Potential Adopter Factor Score:	

problem that can possibly be remediated by the new product. When the targeted potential adopters recognize that it has a problem; it serves to open the door for the sales representatives to demonstrate the new product. Firms with recognized operational problems should be at the top of the sales call list. Entrepreneurs will need to be prepared to demonstrate the new product's superiority in resolving the adopter's problem(s).

A real practical situation, often overlooked, yet critical, is the ability of potential adopters to pay for the new product (Question 6). It is critical to ensure that the buyer will pay at least in a timely fashion, especially if a start-up firm with limited financial resources offers the new product. Accounts receivable may be assets but not the type that are available to pay current expenses. Some firms have a very poor track record for meeting their financial obligations and once the new product is sold (and often installed) getting your product returned when payment is not forthcoming can be difficult. The more expensive the product the bigger the "hit" to a firm's cash flow.

On a potentially positive side, if the cost of implementing the new product is low, this may serve to reduce one of the barriers to adoption (Question 7). A new product that can be made operational quickly and at a low cost is much more appealing to adopters than ones whose implementation is time consuming, costly, and the worst case, require operational downtime.

Another barrier to adoption is the lack of competence of the potential adopter's current staff to implement the new product or operate it once installed (Question 8). This is often the case with highly sophisticated technology-based products marketed to potential adopters whose employees may be unfamiliar with the technologies of the product and would require additional training to become competent with the new product's operation. The barrier to adoption is the additional training cost as well as the uncertainty as to whether the current employees have the ability to learn the skills or knowledge associated with the effective operation of the new product. Most firms will resist adopting products that they believe is beyond the skill level of its current employees. When a new product's technology is truly new and different, it is not unusual to discover that this barrier to adoption exists. Every effort must be made to demonstrate to potential adopters that their staff can master the application of the new product.

A serious pitfall to adoption is a firm's management that does not support spending on new technologies (Question 9). Often, the firm may be experiencing an ongoing organizational conflict between the operations or technology staff and the managers. The new product will face a serious uphill battle unless nontechnical management types can understand the value of the new product. Do not solely sell the technology; sell the ability of your product to increase the productivity and/or lower cost. Non-technical managers may not understand the technology underlying the product but they do understand increased profitability. Focus at least half of your marketing efforts at reducing the adoption barriers by selling to the non-technical decision makers. Consummating the sale may require contacting multiple decision makers within the firm (e.g. technical or operational implementers, non-technical users, and supervisors), and each may require a different approach.

A serious psychological barrier to adoption exists in firms that have recently failed to successfully implement a new product (Question 10). Resistance to accepting another new product is reasonable and should be factored into the marketing effort with a firm in this situation. Although it is seldom possible to guarantee that the product will solve their problems, it is imperative to focus on every aspect of the product where you are comfortable that the new product does meet the adopter's needs.

On the other side of the same coin, the firms whose management is successful with managing the risk of the new product adoption should be specifically targeted. These decision makers have earned a level of confidence in their abilities. They will be more willing to accept the risk associated with the adoption and implementation of a new technology-based product because of their previous successes.

The final question posed in **Table 2.5** uncovers a majority potential landmine for newly formed firms because it is not likely that they have any reputation with the potential targeted adopters. This is the liability of newness. Some potential adopters have unwritten policies that result in ignoring initial marketing efforts from new businesses, and it is difficult to gain and audience with the critical decision makers. Without these stable relationships with buyers, the risk of failure is great for new firms, declining with firm age. The best hope for new businesses with a product that can be clearly demonstrated to be superior to what is currently being used, or one that has significant improvements in performance, are national or regional trade shows attended by the firms which have been identified as potential early adopters. Communicate with them prior to trade show about the number and location of your booth. If your budget allows, invite these selected potential adopters to a special social or product demonstration. They must meet both you, and the product in order to gain confidence in their decision to buy. In most cases, you must be very aggressive in making a connection with the firms upon which the success of your business depends. Methods may vary but the potential adopters need to see the product, understand how the product will create value for them, and lastly meet the key people behind the product and the firm. References can be utilized to generate future sales. Knowing others have purchased can positively influence other potential adopters.

It is essential that the entrepreneur know the critical time horizon of their business or project. It will normally have finite amount of financial capital. The tangible process of designing, developing, testing, manufacturing, and marketing of a new product all require expenditures of capital. Only cash from sales can replenish the supply of financial capital. Although this is an extremely fundamental concept, in too many instances, the entrepreneur fails to calculate the time horizon in terms of the point where the new firm has expended is total financial resources. Most new products descend into what has been described as the "valley of death" when financial resources are expended with few, if any sales. Sales, and only cash sales, can replace the cash expended during the entire process from initial design through marketing, and final sale and collection. The concept of "burn rate" becomes a reality in the hundreds of firms that crashed during economically challenging types. Many firms expended millions of dollars of invested capital without emerging from the "valley of death."

Figure 2.3 provides a diagram or model that the entrepreneur can follow in the analytical assessment of their new product. This flow diagram requires the entrepreneur to describe in detail their product; how specifically it creates value to the target market niche the potential barriers to the targeted market and can these adoption barriers be overcome? It allows the entrepreneur the opportunity to describe the purchasing behavior patterns of the firms who are categorized as innovators and early adopters. The model next requires the entrepreneur to address the ever-present issues of technical, financial, and competitive risk, which are possibly unique and specific to the market niche they intend to penetrate. Lastly, the model allows for a side-by-side comparison of the new product and the entrepreneur's firm with that of established competitors. The model allows the entrepreneurs, based on their analysis, to determine if a window of opportunity for the product exists and the potential time frame availability.

FIGURE 2.3 THREE PHASE OPPORTUNITY EVALUATION PROCESS

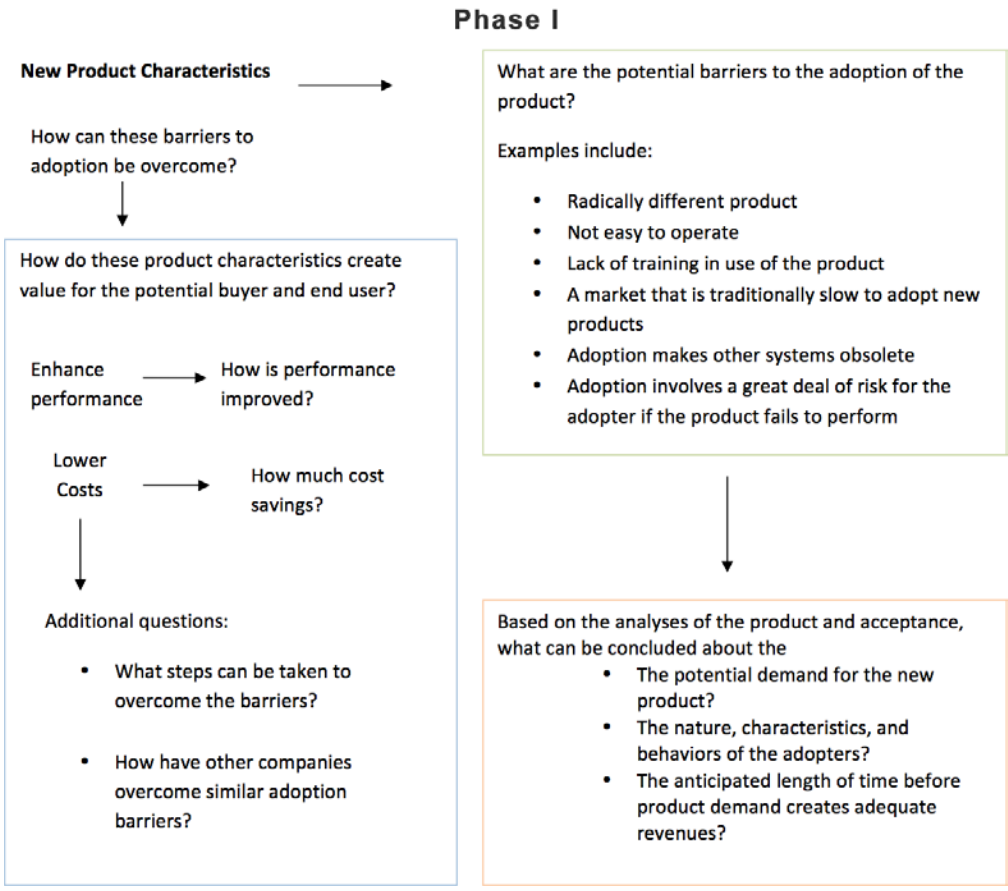

FIGURE 2.3 (CONTINUED)

Phase II

TIME

TECHNICAL RISK

COMPETITIVE RISK

How long will it take the idea to get through the product development phase to produce a "market ready" product?

Level of technical risk associated with the product development process, that is, the probability that the final product will perform as expected

1. What is the probability that competitors are developing a similar product?
2. What has been the success of new product development for competitors?
3. What is the depth of financial support for the competitor's new product development and market introduction?
4. What existing market advantage do competitors presently have, including: an established distribution system, national sales force, established relations with the market, and so forth.

Questions That Must Be Answered to Determine Whether a Window of Opportunity Exists

- How much sooner can the venture get its product to market ahead of competitors?
- Are the capabilities and resources of the new venture sufficient to bring the product to market in a competitive fashion?
- Is the new venture strong enough to repel competitive attacks?

If YES, What is the exact nature of the venture's window of opportunity?

Phase III

Development time to produce a "market-ready" product **+** Capability and resources to reach the targeted market effectively **+** Ability and resources needed to repel competitive attacks market introduction

__________________ **Versus** __________________ **Versus** ____________________

Development efforts of competitors

•How technically competent are the competitors?

•What is their "track record" for successful product development

+

Competitors' capabilities and resources to reach the targeted market effectively

•How much are they capable and willing to invest in new product development?

•How much are they capable and willing to invest in new product introduction?

•What existing market place advantages do competitors have?

+

Previous aggressive behaviors of competitors in defense of "their market"

TARGETED MARKET FOR THE PRODUCT

TABLE 2.6 INITIAL COST ESTIMATE FOR A NEW VENTURE

Activity	Estimated Cost
Production	
Proof of concept development of a prototype	$ ________
Final product design	$ ________
Equipment for manufacturing	$ ________
Materials for manufacturing	$ ________
Labor cost	$ ________
Overhead expenses	$ ________
Living expenses for the entrepreneur	$ ________
Total	$ ________
Marketing	
Market research	$ ________
Advertising and promotion of the product	$ ________
Holding necessary inventory to supply the market	$ ________
Expenses associated with a sales staff or distribution network	$ ________
Sales support expenses	$ ________
Serving the product or installation expenses	$ ________
Total	$ ________
General Business Operations	
All unique (one-time) startup costs	$ ________
Administrative expenses (office labor, equipment, etc.)	$ ________
Building expenses (rent)	$ ________
Insurance expenses	$ ________
General office overhead	$ ________
Total	$ ________
Estimated Expenses	
Product development	$ ________
Marketing and distribution	$ ________
Business operations	$ ________
Grand Total	$ ________

NOW THE OFTEN UGLY BEHAVIORAL REALITIES NORMALLY OVERLOOKED

Every entrepreneurial adventure should include as detailed forecast of expenses as possible. **Table 2.6** provides a template that can be easily modified to fit most new ventures. In reality, outside financial support is highly unlikely if the entrepreneur is unable to provide an investor with a moderately complete and accurate estimate of all costs and expenses. Generally, the initial cost estimate should outline the ventures cost through development, start-up, manufacturing, marketing, and distribution. Cost must then be allocated according to when they will be expended and whether they are fixed or variable, know that the entrepreneur can ascertain the total financial requirements on a month-to-month basis for the new venture. In evaluating the feasibility of new products, it is important to recognize that some of these expenses will occur even if no product is ever sold. These expenses are normally referred to as “sunk cost.”

The entrepreneur has a price in mind for the product or service and that initial price estimate is the basis of all revenue calculations. The price for a product or service is almost always the result of a variety of calculations including the firm’s total cost to design, produce, market, and distribute the product plus all related start-up and overhead costs, as well as the prices being charged for similar products by existing competitors currently in the market niche. The product’s price needs to take into consideration the economic reality of economies of scale. That is, as a firm produces higher volume they learn and implement superior production methods that result in lower unit cost. Secondly, established competitors who currently produce in much higher volume often have lower operating cost due to the quantities at which they purchase raw materials, parts, supplies, and even services. A new firm seldom has any of these traditional economies of scale.

Sales revenue projections should reflect the entrepreneur's most realistic estimation of sales but also include a sales projection that is optimistic and pessimistic. Anticipated gross profit is the residual of sales revenue less cost of goods sold. **Table 2.7** represents a depiction of what an entrepreneur believes their anticipated gross profit will be, based on the assumption that there are five potential adopters and a selling price $30,000 per unit. With product cost of $20,000 to bring each unit to market, the entrepreneur would anticipate a $10,000 per unit gross profit. Based on the entrepreneur's adoption factor score of each of the five targeted firms gross sales would be 1,300 units generating $39,000,000 in sales revenues, and $13,000,00 in gross profits. On the surface this seems to be a new venture with excellent profit potential. However, the ugly realities of customer behavior can change these outcomes.

Conservative estimates should be produced by evaluating the potential factors that might cause an adopter to delay their decision and, as a result, reshape the time frame in which the sale might occur. How will such extensions in time impact the viability of the new product venture? Many unfortunate entrepreneurs have business plans that were created based on what, in reality, proves to be over optimistic projections of sales with the result that organizational operations "burn through" the initial capital before adequate level of revenue is achieved. The result is unfortunately a business failure that would, on the surface, be linked to inadequate funding; where, in reality, it was brought about by the entrepreneurs who failed to analyze, in appropriate depth, the anticipated behavior of the market and likely overestimated sales targets and related profitability.

In addition to customer delays in responding rapidly to the initial introduction of the new product, it is naïve to assume that customers will be willing to pay the asking price for the product. The normal behavioral characteristics of the firms in the market to "bargain tough" with the new potential supplier, knowing the risk associated with new products. The result is a negotiated selling price below that anticipated by the entrepreneur. Because the clock is ticking and the entrepreneur needs to make those initial sales to provide the worth of the new product, the entrepreneur accepts a unit price below initial estimates. The behavior characteristics of the market are almost always known and to get your new product introduced you will need to lower the asking price. In this case, the market does not purchase in the anticipated quantities. **Table 2.8** illustrates how the realities of the market lower the firms profit projection.

The behaviors of the firm's in the market could have been anticipated. When the potential buyers conducted their "due diligence" of the entrepreneurs firm, they quickly concluded that in price negotiations they (the buyer) have the upper hand. The buyers concluded that the new firm had to make sales in order to survive so it was in the buyer's short-term best interest to bargain tough. Firm AAA was purchasing the largest number of units and negotiated the price down from $30,000/unit to $22,500/unit. Firm EEE was purchasing the fewest number of units but they were successful in negotiating a purchase price of $25,000/unit.

Experience suggest that the entrepreneurs should project a "worse case" or most pessimistic scenario that incorporates the reality that the initial profit projections are subject to error if the targeted firms either

TABLE 2.7: ANTICIPATED FINANCIAL PERFORMANCE

Firms In the Market Niche	Adopter Factor Score	Unit Cost Per Product	Anticipated Selling Price	Anticipated Number of Units Purchased	Anticipated Sales Revenue	Anticipated Gross Profit
AAA	82	$20,000	$30,000	500	$15,000,000	$ 5,000,000
BBB	76	$20,000	$30,000	300	$ 9,000,000	$ 3,000,000
CCC	74	$20,000	$30,000	250	$ 7,500,000	$ 2,500,000
DDD	72	$20,000	$30,000	150	$ 4,500,000	$ 1,500,000
EEE	70	$20,000	$30,000	100	$ 3,000,000	$ 1,000,000
				1,300 Units	$39,000,000	$13,000,000

TABLE 2.8: ACTUAL FINANCIAL PERFORMANCE

Firms In the Market Niche	Adopter Factor Score	Unit Cost Per Product	Anticipated Selling Price	Actual Number of Units Purchased	Actual Sales Revenue	Actual Gross Profit
AAA	80	$20,000	$22,500	400	$ 9,000,000	$ 1,000,000
BBB	76	$20,000	$24,000	300	$ 7,200,000	$ 1,200,000
CCC	74	$20,000	$23,500	200	$ 4,700,000	$700,000
DDD	72	$20,000	$23,000	150	$ 3,450,000	$450,000
EEE	70	$20,000	$25,000	50	$ 1,250,000	$250,000
			AVG=$23,600	1,100 Units	$25,600,000	$ 3,600,000

order fewer units and/or, negotiate a lower selling price. The entrepreneur must recognize that firms will have different negotiation strategies and leverage when purchasing. Many potential adopters may be very strident negotiators, so even when purchased, the sale price may be significantly less than anticipated. Understand that price for initial sales may be lower than subsequent sales. Both of these situations are illustrated in Table 2.8 where total anticipated units sold only declined by 200 or 15 percent (1300-1100/1300), but each of the five firms in the market niche negotiated a purchase price below the anticipated selling price of $30,000. The actual negotiated prices ranged from $25,000 per unit to $22,000 per unit (average selling price of $23,600). The anticipated gross profit was 13 million dollars. In this example, the actual gross margin dropped by 72 percent ($13,000,000-$3,600,000/$13,000,000).

The journey from the creation of the original idea through market assessment allows the entrepreneur the opportunity to evaluate the possible viability of a business based on that idea. In the next chapter, the reader will continue their analysis through a detailed assessment of the industry in which their business will complete the specific market niche, and the competitors. Lastly, the entrepreneur's business model will be detailed.

Entrepreneurial Exercise 2.1

Part I:

Creativity and innovation are the hallmarks of successful entrepreneurs. What have been your most creative and innovative ideas which you have had in the past few years?

1.
2.
3.
4.
5.

Part 2: Of these listed ideas, which one "best" focuses on a well-defined opportunity?

IDEA	*OPPORTUNITY*

Entrepreneurial Exercise 2.2

Using figure 2.1, please build on your ideas identified in Part 2 of Entrepreneurial Exercise 2.1, and discuss the level of satisfaction in your targeted market niche. How positive is this analysis? Is there an opportunity for your proposed new product or service to be successful?

Entrepreneurial Exercise 2.3

Using Table 2.2, determine the match between your proposed product or service and the unmet or under met needs in your selected market niche. Clarify specifically how your product or service "creates value" for the customers in your selected market niche.

Entrepreneurial Exercise 2.4

Using Table 2.3, address the seven, (7), issues raised.

Entrepreneurial Exercise 2.5

Part I:

Please research the market niche in which you plan to introduce your product or service and identify, or at least be able to describe the potential adopters.

Part 2:

Using Table 2.5, complete the potential adopters profile and discuss your findings.

Entrepreneurial Exercise 2.6

Please use all three, (3), phases of the evaluation model presented in Figure 2.3 to assess the market potential for your product or service. Please discuss your findings.