Is Your Business Missing the Stage?

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Factors to consider in developing a new technology into a business

0. Technology
- Uniqueness – *totally new capability or replacement of existing technology*
- Protecting intellectual property

1. Key People – *technical and management*
- Strengths and weaknesses
- Goals and interests

2. Financial Conditions
- Goals of investors – *key people, venture capital, family, bank*
- Profitability of the market
- Competitive environment

3. Organization
- Size and growth stage
- Primary characteristic – *lowest price, best service, best technology*

- Market Stage – *Pioneer, Emerging, Mature*
- Of the technology
- Of the target customers

Characteristics entrepreneurs need for success

- Know what they are good at
- Acknowledge what they are not good at
- Seek input and consider different ways of doing things
- Give others true authority
- Align actions with the stage of the market

The key question to be answered to utilize the concepts in the following paper is:

What stage is the customer in?

This is many times difficult to answer and requires talking in detail to the individual customer, or a representative cross section of the target market. To do this successfully requires a lot of real-life business experience in the various stages, and, in addition, that lots of questions be asked and especially that the investigator be aware of his/her own filters and seeks first to understand.

IS YOUR BUSINESS MISSING THE STAGE?

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Abstract

Technologies develop through a number of distinctly different stages. This phenomenon occurs in a whole market as an average and also with individual customers. Understanding the stage for the market and for each customer is key to managing a company for success. The presentation will give an overview of market stages, how to tell what stage the market and customer are in, strategies appropriate to each stage, and common pitfalls.

Introduction

Selling to the stage the customer is in is of critical importance for success. The philosophy of the whole organization must match the basic stage of the customer base. Not only are the marketing strategies different for each stage, but also engineering, the competitors, the technology focus, R&D and financing.

Common Pitfalls

We all know of successful businessmen who start a new company, or a new initiative in their existing company, and fall flat on their faces. They had assumed all businesses are alike and/or that the new business market was at the same stage as their previous business.

Another common mistake occurs when the money available to grow a company in the emerging market stage is from a source that is familiar with mature markets. Typically the financiers will insist the emerging market company be run as a mature company. For a new technology in the emerging market stage, trying to run a company as if the market were in a mature mode is deadly. The emerging market company cannot do the R&D and marketing necessary for its market stage, loses its lead and is unsuccessful despite everyone's good intentions.

The Four Stages of the Market

The primary focus of our discussion will be on the first three of the following four stages.

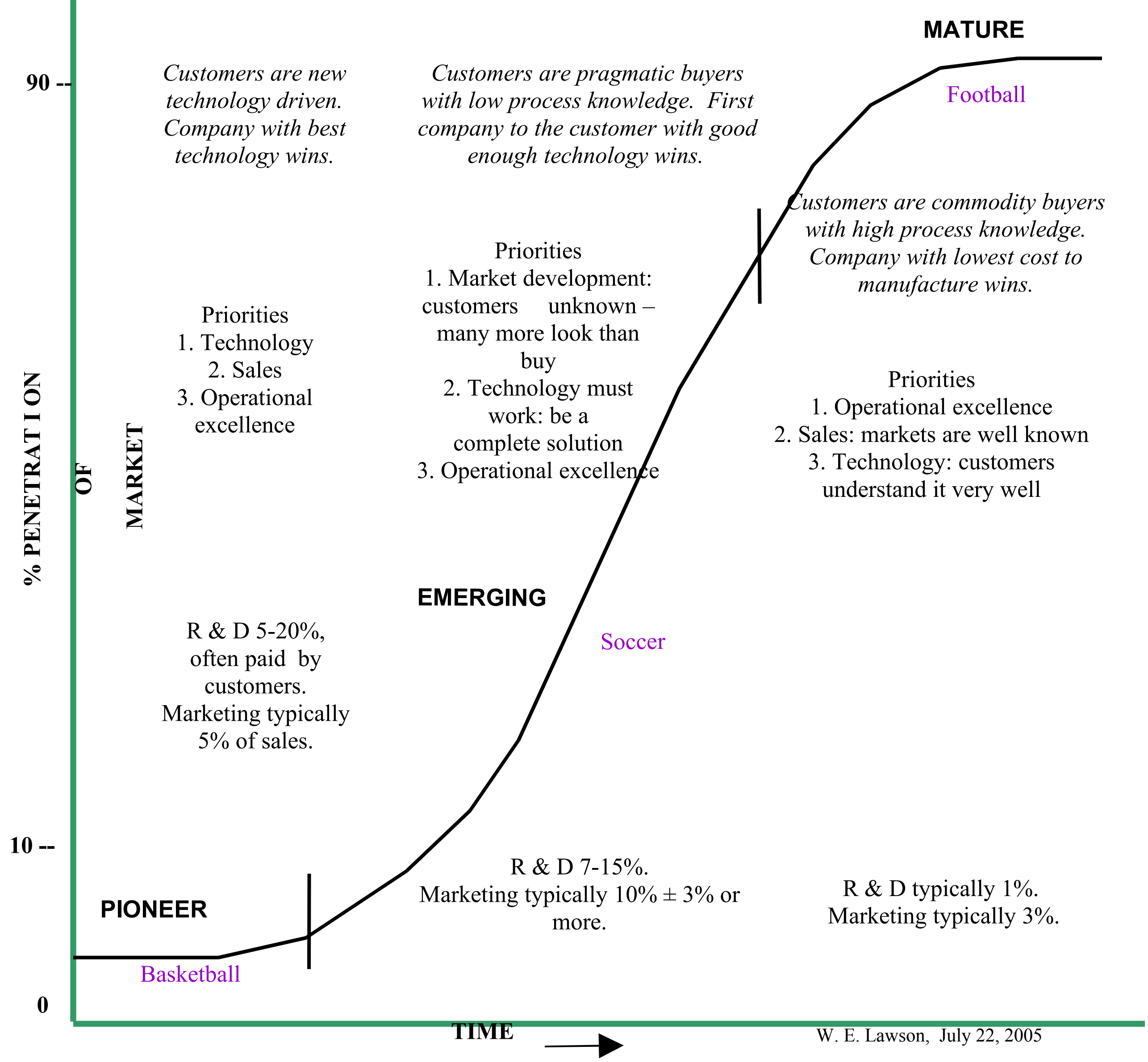
1. Pioneer Market: where a few visionary customers search out the new technology and are actually enamored of the technology independent of its usefulness. "Best technology is key. The best mousetrap wins."
2. Emerging Market: characterized by customers looking for a better way but who do not understand the technology. The first viable solution they come to is what they adopt. "Marketing is key. The company that gets to the customer first with a good enough solution wins."
3. Mature Market: the customers understand the technology well and understand how to apply it, often better than the supplier. "Operational excellence is the key. The lowest cost supplier at the required quality level wins."
4. Dying Market: the customers are moving to a new technology and utilize the old technology only when they cannot afford the new technology. "The lowest cost service network wins."

The importance of the differences among the four stages is perhaps best illustrated by imagining each stage is a different sport. The pioneer market is much like basketball where having a few super stars will make all the difference. In contrast, the emerging market can be compared to soccer where all the positions must be played well, there are no time-outs to plan your next move, and action on the field is very fast-paced and dynamic. The mature market stage is much like American football where, before the play is executed, there is time to make and communicate a plan, and bring in the appropriate people.

Trying to play any one of these sports with the strategy and players of another will lead to a lot of lost ball games. So, too, different actions and priorities are the key to success for businesses in each stage of the market. Just as an athlete trained in basketball will find it difficult to be successful on the soccer field, for the same reason it is almost impossible to have people in the same organization operating in several stages of

MARKET STAGES: PRIORITIES FOR SUCCESS

Each stage is like a different sport with its own set of strategic priorities, actions and players.



Engineering can be cost plus.

Engineering must design major improvements that improve performance and reduce cost to less than what is set by market.

Engineering must make continuous small cost reductions.

Customer selects the supplier from the few competitors.

Many competitors that change frequently. Only some will succeed.

Competitors are well known and solid in their market position.

the market at the same time. The behaviors required for success in each are so different that almost no one can split their minds to jump between stages when needed.

We'll look now at each stage in detail, and then focus on how to determine which stage you are in and what needs to be done when the market or customer is changing to the next stage.

Pioneer Market

This stage is characterized by the fact that the customers are technology driven. They are visionary pioneers looking for the new technology that will revolutionize their business. Typically they do not have a good idea of even what it will do for them. They just have a gut feel that this is the right thing to do.

There will tend to be several small successful suppliers in the pioneer market. A few brilliant scientists are the key to success and they often work best in their own organization. Competition takes place in the technological capability of the product. This is where a few innovative people can really make the difference.

Though the number one key to success is having the best technology, following close on its heels is good sales. When a customer finds you, you need to take good care of them.

Since the customer is searching for the new technology at this stage, the marketing strategy is basic: make sure someone who is looking can find you. This means having good "signage", a clear web site, papers in the appropriate societies, listings in the appropriate buyers' guides, and a few articles in key magazines are all that is needed. Marketing costs are low in the pioneer market, often less than 5%. Salesmen need to be very technologically smart and are most often the company's key technical experts.

Even though there are competitors that you know about, there is little obvious direct competition. The customer is likely to find all of the suppliers, investigate them and then pick one to partner with.

At this stage in the market the products do not need to be fully finished. In fact, many customers like to be a part of the process of building the device they really need. These 'partnering' customers are really nice to work with. They may even be willing to give you more money if needed in order to accomplish their goal.

At this stage the typical buying contact at the customer is the chief technology guru and the purchasing agent is only heard from to provide a PO number.

A supplier in the pioneer market stage does not need to focus on operational excellence. They just need an average level of organization and to be able to make their products work well enough.

The pioneer market company is characterized by a large amount of R&D, typically up to 20% of sales. A lot of the work may well be funded by university and government sources. The engineering and building of a product can often be priced on a 'cost plus' basis as the customer is a partner, willing to pay what it takes to get what he wants. Being part of the process, the customer already understands the cost.

It is not surprising that the market size is very small at this stage. Typically the volume of sales is only 5-10% of the eventual steady state sales volume.

Emerging Market

The first thing that differentiates the emerging market from the pioneer market is that the customers are not enamored with the new technology. They are pragmatic buyers looking for a more cost effective way to make their product. They know very little about the technology and where it makes economic sense. But they are very pragmatic and want the solution to save them money compared to their current technology.

They are like early settlers, not afraid of implementing a new technology once a few companies have blazed a trail and shown it to be successful. The pragmatic buyer will define the new technology solution as better than the old technology because it will make them money. However, they will tend to take the safe route by going with the industry leader, even if it is the more expensive solution. For them it is not worth the time to find the optimum version of the new technology. As a result, the winning supplier is the one that gets to the customer first with a 'good enough' total solution.

In an emerging market there are many more lookers than buyers. Many customers will spend the time to investigate and learn but only a few will find that the product offered will be more cost effective than the existing, better understood solution.

The emerging market is a race with "the winner taking all". The customers tend to go with the safe solution, i.e. the industry standard that they heard worked well at other companies. The result is there will usually be just one really successful supplier while many smaller suppliers at this stage will come and go quickly. People try, get discouraged and disappear.

Marketing is the key to success in this stage. The goal is to become the preferred solution in the industry. Having the right marketing strategy, and the right people to implement it, is key to getting to the customer first. This is the stage where sales and marketing will be at least 10-15% of total sales.

The sales and marketing people are typically highly paid super stars with the talent to identify the paying customer out of all the 'tire kickers'. The salesmen and marketers must also be very expert in the technology. The image of the company is represented by the knowledge of the person in direct contact with the customer. As the customer is not knowledgeable about the technology, the salesman is his or her only way to judge the strength of the supplier.

The major competitor is usually existing technologies and they and other outside factors will set the price. Often prices can be very high since, if there is enough savings, the price can be what the solution is worth to the customer, not what it costs to build it.

With customers not being knowledgeable about the technology, there needs to be a lot of effort put into educating them. Customers will be satisfied to stay with the one workable solution they have found.

The buyers in an emerging market are usually the manufacturing engineers responsible for their product. Very seldom is a purchasing agent part of the process until the actual purchase order is placed. If you are brought in as a competitive check by the purchasing department at the end of their buying process, there will need to be a substantial cost advantage in order for the customer to change their mind. Remember, the company that gets there first with a good enough solution normally wins.

At the same time a supplier must have a solid technology focus in order to succeed in this 'winner takes all' stage of the market, engineering and design are a real challenge. The customer wants a turnkey solution, a completed product. To complicate this, the emerging market moves quickly so that the product must be frequently upgraded. Not only do these major design changes need to result in improved performance, they also need to reduce costs. With the existing 'old' technology typically determining the price, designers must make sure products cost less to produce than the market price.

In the emerging market stage it is difficult to hire the necessary knowledge. People with the knowledge are typically available, however they are scarce and expensive. Instead, emerging market companies must hire talented people and train them in-house.

To summarize, in emerging markets, marketing is key. Secondly, the technology must work and be a complete solution. Finally, operational excellence of the supplier is not so important. As long as the solution saves enough money for the customer, the design and manufacture of the product do not have to be optimised.

Mature Market

Mature markets are characterized by customers that are commodity buyers. They have very high product knowledge and know what they want. Often they are more knowledgeable about the use of a product than the supplier. Mature market suppliers are characterized by solid organization, more administration, and a focus on operational excellence.

Mature market suppliers tend to segment into three subgroups, in each of which the top suppliers are profitable by supplying different needs. The three groups are characterized as:

1. The lowest cost supplier for a given quality.

2. The high tech supplier providing the highest quality solution.

3. The high service supplier specializing in a product that is tailored exactly to the customer's needs and in giving exemplary service.

In the mature market the competitors are well known and solid in their market niches. Market share is fought over. The competitive landscape is slow to change, normally varying only a few % per year.

In each of the mature market segments listed above, operational excellence is the key to success. Customers are looking for the lowest price. Technological improvement is not very important as a success factor in the mature market. Small improvements are all that is needed.

Sales service is important in a mature market whereas marketing is not. Cost of sales and marketing is typically less than 3% of sales. The customer base already knows who all the suppliers are and what each is good at. Typically all the supplier's contacts with the customer will be only through the purchasing agent. The salesmen do not need to be industry experts in the product. They just need to take good care of the customer and make sure the sales process goes well. They can be characterized more as order takers and are typically not highly paid.

It is interesting that, in a mature market, sales will continue for some time even if the sales and marketing efforts are severely reduced.

The R&D expenses for a mature market company are typically only about 1% of sales. The technology is well known and if knowledge is needed it can be easily hired. The engineering efforts are focused on small continuous product enhancements aimed at improving quality and reducing cost.

Recognizing the Right Stage

The customer's knowledge determines what stage the market is at. Interviewing the actual and potential customer base will show what their knowledge level is. In the pioneer market especially this is not easy. The potential customers are not obvious and it can be difficult to find them. There are no databases listing customers that need the technology. This is an area where the person doing the searching must understand both the new technology and the competitive technologies. It is somewhat of a treasure hunt.

In contrast, one of the characteristics of a mature market is that there are lists that can be purchased giving not only the names and addresses of companies needing that technology, but also including the contacts at each company.

Changing Stages

The interesting part starts when it is sensed that the market is changing. Many times it is difficult to determine what to do as people very much tend to use their past experience to define what to do in the future. The personalities of key managers that are well matched with one stage are not necessarily the correct ones for the next stage. In addition, their experience is too often a filter, keeping them from seeing the signs and clues that the next stage is coming, or worse yet, has already arrived.

It is very important to get everyone in the company to agree what the market is and what the near term future holds. As noted elsewhere, when pragmatic buyers start to contact the entrepreneurs who were instrumental in introducing this 'neat new' technology, the transition to an emerging market stage has begun.

Generally making this transition requires outside capital to help pay the costs for developing the products further, doing real marketing, and growing the infrastructure. Normally, however, much of the available money is from people that have run mature market companies, the stage where cash is most easily generated. Emerging market companies return value by growing and becoming a market leader, not by generating cash in the near term. The returns are in the future and will not be achieved if the strategy is to reduce costs by reducing sales, marketing and product development. The financial investor must be comfortable with the market they are investing in and the way their investment will be returned.

Probably one of the most difficult transitions to make is from the pioneer to the emerging market. To make the transition successfully, the pioneer market supplier must change their focus from technology to marketing. Entrepreneurs in the pioneer market, having learned in that stage the best technology is the path to success, find it almost impossible to build a 'good enough' total solution product and to concentrate on getting the customer to know about it. This is key, however. One writer has described this transition as a "chasm" and written about the tactics required to cross it [1,2].

By contrast, the transition from emerging to mature market is somewhat easier. There is a natural tendency for people to become more organized, just the behavior required as a market matures. This transition is not, however, without upheaval, especially in the marketing and engineering groups.

The need for superstar salesmen and brilliant marketing disappears in the mature market since all the suppliers are well known and the customer understands where to use the technology. The customer will have his purchasing agent call when they have determined that they need your technology. The supplier's job is then just to take good care of the customer during the sales process and provide a solution that meets the needs cost effectively.

The need for major reengineering also disappears in the mature market. The engineering group must focus on refining the product, not coming up with revolutionary solutions. The customer will not pay for extra options they do not need. It is very seldom in a mature market that there are any major technological developments.

Conclusion

Entrepreneurs and business managers that wish to grow a new technology into a rewarding business must not only concentrate on the technology but must be aware of how the new technology fits into the world. If the enterprise is to become more than a footnote in the history of the technology, the key people in the organization must watch, learn and observe the market and its actions. They must be ready to change the organization's focus when it becomes apparent a new set of customers is appearing. This requires good timing so as not to be too early and die from a lack of customers to support the required growth or too slow and miss the opportunity.

The biggest challenge for the entrepreneur is to know his own personality well enough and be ready to take the necessary steps to follow the market even though it may not fit his real talents and interests. This may require bringing in people to run the company in the way that best matches the new market. He or she may need to relinquish control and even sell the company in order to save it. Though this is a very challenging time for an entrepreneur, the rewards will be great for the person who is able to do what needs to be done to keep the organization operating as appropriate for the business situation.

References

[1] Moore, G.A. (1991) Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers, Harper Business, 223pp.

[2] Moore, G.A. (1995) Inside the Tornado: Marketing Strategies from Silicon Valley's Cutting Edge, Harper Business, 244pp.

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