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PREPARING BUSINESS AND MARKETING PLANS AND PROGRAMS

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INTRODUCTION

1. Making money from inventions, technology and research results means being in business. And being in business is like being at war! Planning is essential. You have to plan or you are sure to lose. However, if you slavishly stick to your original plan also when the situation changes, you are likely to lose the battle and maybe the war.

2. More than a hundred years ago Clausewitz, the brilliant military strategist, put the problem into focus, when he said:

Planning is essential. Plans are useless!
Clausewitz

3. The question is to know how much planning you need at the different stages of developing an invention or building a business to guarantee success.

4. The answer, of course, is that planning is a continuous process that has to go on beforehand, during the whole war, and even during each battle.

5. When developing their ideas inventors battle enemies such as electrons and molecules and the general perversity of inanimate objects and the laws of nature. In business innovators battle for financing and for a place in the marketplace.

6. The starting point to each enterprise is a detailed and well established plan of action and a business plan.

7. Many inventions are bound to die in the Darwinian “survival of the fittest" battle of the marketplace; however, many others die needlessly for lack of adequate planning.

PLANNING IS ESSENTIAL WHILE INVENTING NEW PRODUCTS OR PROCESSES

8. Inventors and engineers and many others feel uneasy when they aren't solving the hardware problems. We know that Clausewitz was right, but it takes an act of will to take time away from the hardware to spend the time and energy to plan. Many of us know that we need to develop format business plans in order to get financing to get our inventions into serious production. However, formal business plans require answers to questions that simply don’t make sense when inventions are still in the concept stage.

9. In the USA the Energy Related Inventions Program (ERIP) encountered this problem more than 20 years ago when it first began. The program has developed a planning process that balances business and technical planning while the invention matures.

10. The experts of the ERIP know that inventors will develop profitable businesses much sooner if they take time to plan. They and other successful program managers know that inventors need to do "business planning" while inventing the product. Then they must continue planning all the way to the market even though they can't "do a formal business plan” at first.

CAN ONE PLAN TOO MUCH?

11. Planning is assessing the environment, taking inventory of resources, developing strategy, and committing those resources (assets in military terminology).

12. You often meet someone who was “planning to market his invention.” More than a year later you find that he was still “planning to market the invention.”

13. Was he really planning or just sort of thinking about the idea of marketing the invention? Almost everyone, including me, has said, "I'm planning to ...." But the words are dangerous because they help me to avoid the reality that I'm not really doing anything about it. I’m not even making a clean decision to not do anything.

14. You can do all kinds of things that support planning, such as studying, gathering data, identifying alternatives, talking about what should be done, or should have been done. None of these important activities are planning.

Military commanders and successful inventors/entrepreneurs identify options and commit assets in order to succeed.

15. The wise military commander (or general) considers:
    a) the overall objective,
    b) his own assets,
    c) the assets of the enemy, and
    d) what the enemy is doing now and is likely to do in the future.

16. Frequently he will send out a patrol (commit part of his assets) to gain additional information because his knowledge of these considerations is imperfect. The wise inventor/ entrepreneur will also consider factors other than his invention and will commit his assets in stages.

CLASSICAL VS. MODERN PRODUCT DEVELOPMENT

17. Sometime ago, the classical model of product development assumed a series of sequential steps, beginning with basic research. Next it involved product development and it ended with distribution and sales. Product development was carried out in a process that was dominated by sequential activities: engineering, industrial engineering, and marketing.

18. Ford produced the *Taurus* in three years by simultaneously engineering, designing production, and developing marketing strategy in a team approach, while actually saving money.

19. The previous sequential approach took five years. One of the dangers of the five year approach is that the product may be obsolete by the time it is ready.

20. Between World War I and World War II France spent a fortune developing *the Maginot Line*, a defense line between Germany and France. In the Blitzkrieg the Germans simply went around the *Maginot Line*, which may well have been obsolete anyway.

21. Many inventors/entrepreneurs who work primarily on the technical aspects of their inventions risk obsolescence and they risk losing time and wasting money.

22. Good planning develops the technology and business together. Good planning involves a balanced approach, considering the invention, its manufacture and marketability. Inventors ask how can I know whether people will buy the product until I finish inventing it? It is a logical question that has to be addressed as early as possible in developing a new invention.

AVOIDING PARALYSIS BY DYNAMIC PLANNING: COMMITTING ASSETS IN STAGES

23. Dynamic planning commits assets in stages rather than relying on one great roll of the dice. Inventors should expect to throw away (reinvent) the first version of the invention and business concept. Most people realize that the early models of copiers were not suitable for mass market.

24. Many people also know that the original marketing concept of selling $50,000 copiers caused IBM and Kodak to turn down the original concept of xerography. The turndowns caused the inventor (Chester Carson) and Battelle to reinvent the product concept. The machine was further improved and a new marketing concept, five cents per copy, started the copying revolution. If they had held to the original idea of selling expansive copying machines they could have been "planning to market" the invention for a long time. Quite possibly, the fledgling company would have gone broke if they had stubbornly continued to focus only on improving the copying machine.

25. Setting a clear goal of developing a "throwaway" gets things moving. With the “throwaway” product and marketing concept it is possible to investigate manufacturability and marketability. This process can be compared with sending out a patrol to get additional information. This vital information can help in reinventing the concept into a successful product.

Expect to throw away (reinvent) the first version of the invention

26. Several universities and innovation promotion organizations in the USA have developed programs helping inventors/innovators achieve a preliminary evaluation of their business concept. Many of these programs are disciplined planning approaches to finding out whether a concept deserves more investment (commitment) of assets. They are designed to help with planning while the concept is too immature to justify a formal business plan and to help show whether a formal business plan will be justified.

27. Many inventions/innovations have already been developed to the point where there is intellectual capital (patents, copyrights, unique processes, or designs) and preliminary evaluations are favorable. However, they are frequently not yet developed to a stage where major capital acquisition is likely to be successful.

28. In several countries programs have been implemented at the national or regional levels to help inventors get past this hurdle. In the USA the Energy Related Inventions Program (ERIP)

provides seed capital for commercialization planning and prototype development. Commercialization planning workshops help participants to begin to develop effective plans before they are provided with seed funds.

29. Mr. McCabe can give you more information on the program, the goal of which is to assure that use of the funding will result in both technical and business information so that subsequent partnering, venturing, or licensing can be successful. Many technology developments need to go through a commercialization planning and prototype development phase before developing the full-scale business plan to interest serious capital sources.

BUSINESS PLANS AND COMMERCIALIZATION OF INVENTIONS AND RESEARCH RESULTS

30. This brings us now back to the business plan. The business plan should identify and put together the different components of the innovation, namely invention, technology, the management, marketing and financial means necessary to succeed the innovation. The business plan for commercializing inventions and transfer of technology should be approached by the inventor or technology developer as soon as his invention or technology begins to have a real shape. He should never forget that only the results of commercialization can generate return on the investment made for the development of an invention or technology.

31. Even if an inventor is only interested in licensing his invention or technology, he might not need to be concerned with management or financing an enterprise. However, even if only licensing is the objective, the inventor has to give some financial framework to his invention so that a future licensee can be convinced of the usefulness of the proposed new technology or invention.

32. Generating marketing related information will help better presentation of the usefulness of products, process or services made possible by an invention or an idea. It will also be useful to identify potential licensees and users of the technology and facilitate the presentation of the idea or invention.

33. Inventors should always keep in mind that the gap between inventions and their application by industry is very wide and the benefits and potential of new inventions are not obvious to third parties, including potential interested licensees. A well elaborated business plan permits to place an invention or innovation, new product or process or service, in the market environment and to assess its chances of success.

34. The business plan depends on the objective of the undertaking or enterprise. If the objective is only to license an idea to someone else, it might be enough that only a product concept be developed and place this concept in an understanding of the market which has been targeted by the new product, service or idea.

35. The great majority if not all of small ventures and enterprises, and probably the great majority of independent ventures have been developed without any serious market analysis and business planning. And this is a mistake. The practice does not justify to act outside the real

world; everybody should remember that "If you don't know where you are going, any road will get you there." Many new enterprises and undertakings failed because they did not have a plan for their activities which they hope would lead to success in the undertaking.

36. All inventors launching a new product or invention should be involved in the preparing of the business plan. Plans reflect the inventor's ideas, plans, goals and objectives, not other people's ideas.

WHAT'S DIFFICULT ABOUT A BUSINESS PLAN?

37. Writing a formal business plan frequently intimidates an inventor/innovator starting a first business. Business plans are usually written to obtain financing. Less often they are written to make the business more successful long before additional financing is needed.

38. This paper is intended to help technically competent people to understand better what they face and, thus, to improve the efficiency of their planning process.

39. A thorough business planning process is essential to successful financing and it greatly improves the chances of business success.

Some Background

40. In the old days bankers spent many hours working with potential clients to learn the information needed to be certain that they weren't just helping someone get into deep water. Bankers didn't want to take over anyone's business or farm. If they had wanted to run a farm or another business they wouldn't have become bankers. As bankers, they couldn't make money making bad loans.

41. There were many times when potential clients didn't appreciate the help bankers were providing by asking the tough questions. Things have changed and most borrowers won't find many bankers that would spent much time with them. Instead they get to write business plans and thus submit their entrepreneurial ideas to venture capitalists, development banks or other institutions, where they hope to receive financial support.

42. Challenges Faced by New Business Start-ups

- Business plans need to be written in business language. Most inventors, engineers, and scientists don't speak Business language. Even worse, they frequently look at "business stuff" as a nuisance.

- You can't hire anyone to develop a good business plan for you. A good loan committee will spot right away if someone else has done your planning. It has to be *your* plan that you believe in and that you are determined to make work.

- Yes, you can hire someone to help you package your plan attractively and to translate it into Business language.

You can't hire anyone to develop a good business plan for you.

Start-ups usually have little or no track record. It is easier to get financing to enlarge a successful small business into a larger one than to get start-up funds.

43. Numerous guides to business planning are available. The following comments and the annexed Example of an Outline of a Business Plan won't take the place of a detailed guide. They may help in approaching the planning process with a better attitude. That, in turn, can reduce apprehension and help to arrive at a better product.

44. Executive Summary

No matter how well you write the business plan, few lenders will read it. Many won't even finish reading the executive summary - especially if it lacks punch and focus. Its purpose should be to help the reader to decide whether he could profit from reading the rest of the plan.

Some people receive hundreds of business plans per year. Do you think they read through all of them?

45. Objective

Be up front. If you need $50,000 to develop a prototype, say so. Gradually sneaking up on the purpose of your proposal will very quickly get your plan into the round file. Be sure you have a sharp clear focus to your objective.

46. Product

Know what you are selling and what your customers are buying. Frequently they aren't the same.

Are your products protected by intellectual capital? Are they new or mature or aging. What are you doing to improve your products, etc.?

47. IBM dominated the computer business for years by selling service. Yes, of course, they did sell hardware. Other companies tried for years to competes by selling superior hardware et a lower price. The IBM strategy worked well as long as most computers were bought by the data-processing managers of large companies.

48. Markets

What is going on out there in the marketplace? What are the trends?
Who are your customers and how are you holding on to them and trying to penetrate additional market sectors?

What are the competitive products now? What new ones are about to enter the market? Are there any regulatory constraints? Is legislation pending that could change that?

A rosy projection of what is out there may convince a loan committee that you don't understand the business.

49. Financial Plans

Cash flow projections are especially tough. Optimistic projections that subsequently aren't met destroy the confidence of the financial community.

50. If the company grows faster than expected or, on the other hand, fails to meet sales expectations it will likely need to again access the financial market. Financiers know that cash management problems can quickly kill a company.

51. Realistic plans deal with the range of probable outcomes and show how the lender will be able to get his money out.

It is a very big red flag for the entrepreneur to expect to risk only other people's money

52. A word of caution here! It is a red flag when highly paid people, without substantial personal savings, leave large organizations to start a new company. For example, families used to high spending patterns shouldn't expect to continue this pattern while starting a new company. Financiers expect the principal owners in a start-up to also risk their personal fortunes.

53. It is a very big red flag for the entrepreneur to expect to risk only other people's money or, even worse, to expect to make large cash draws from the company.

Management Team

54. Experienced financiers have learned the hard way that it is better to go with a medium product with a superior management team having out-standing key employees than an outstanding product managed with a mediocre team. They are not impressed by a one-man-band.

55. The start-up needs to find a way to gel a good team to commit without up front wages. On the other hand, if everyone is keeping their day jobs, who is going to mind the store?

Exit Strategy

56. Nobody can expect to borrow money unless the lender knows how he will get his money and a profit out of the business.

Summary

57. Contrary to popular opinion there is plenty of money available out there. It just isn't available at low interest rates for high risk ventures.

58. The principals starting a new venture naturally don't see how it can fail. On the other hand, so many other start-ups do fail that it makes start-up funds hard to come by. There is an incredibly large number of investment opportunities competing with any new invention/innovation.

59. The good news for an inventor/innovator is that most of them are probable losers. The bad news is that unless an inventor/innovator does a thorough planning job, the business is also a probable loser, and the natural caution of investors will be justified.

60. Anybody can greatly decrease his/her chances of failure by doing a thorough job of business planning and continually updating it. This living business plan can help overcome the concerns and well justified caution of investors.

CONCLUSION

61. Writing the business plan isn't easy but the really hard part is planning the plan. A good business plan is a summary of commitments that are in place. It isn’t an examination of alternatives or a list of dreams.

62. Puffery and overly rosy predictions are so frequently encountered by the financial community that they will check out every statement, made by an inventors, seeking their support. They will check out the consistency and reasonableness of the plan and check out outside information. The job of the inventor isn't to sell them.

A good business plan is a summary of commitments that are in place.

63. As already said, there are many books and guides on how to write a business plan, which may help in writing the plan. However, it is more important to carefully assemble the commitments and get the facts that will give you the confidence to risk your own assets. Then you will be ready to sell your team and your business concept.

[Annex follows]

EXAMPLE OF AN OUTLINE OF A BUSINESS PLAN

Any business plan should have the following components:

- cover page,
- title,
- table of contents,
- short statements of purpose.

Depending on the objective, all or some of the following should be prepared

Part I: Executive Summary

1. Description of the business concept or idea
   i) Description of the product
   ii) Description of the management approach to production, marketing, enterprise, etc.
   iii) Key staff needed

2. Marketing
   i) Presentation or listing of products existing on the market
   ii) Target market or target market segment or niche
   iii) Approaches, channels and strategies

3. Financial summary
   i) Projected sales (first three to four years)
   ii) Projected profits (first three to four years)
   iii) Actual capital needs
   iv) Future capital needs

4. Business objectives and priorities
   i) Immediate objectives and priorities
   ii) Intermediate objectives and priorities
   iii) Long-term objectives and priorities

Part II: Description of the Enterprise or Idea

What do you plan to do?
What do you want to achieve?

1. Summary

2. Description of the production
   i) Technical description
   ii) Non-technical description

3. Product (technology, invention) evaluation
   i) Technical
   ii) Non-technical

4. Competitive advantages over existing products or solutions

5. Expected product life

6. Intellectual property rights

   i) Domestic patents and patent applications
   ii) Foreign patents and patent applications
   iii) Situation of competitors, third parties industrial property rights
   iv) Other intellectual property rights (trademarks, industrial designs, software, etc.)

Part III: Background or Historical Information Including Information Necessary for Others to Understand the Enterprise, Invention, Technology, etc.

1. Brief history of the invention technology or enterprise
2. Description of the industrial framework (existing industry)
3. Regulations affecting the new invention technology or enterprise (health, environment, public interest, etc.)

Part IV: Market Analysis

What is the situation on the market?

1. Market size
2. Description of the market segments
3. Profile and description of the competition
4. Strength and weakness of the competition
5. Variety of products existing on the market
6. Advantages or disadvantages of your innovation or invention

Part V: Marketing Strategies

How do you intend to approach your market segment?

1. Summary

2. Targeted market segments

3. Development of the product

4. Pricing strategies (inventors should always keep in mind that cost is different from price)
   i) Price
   ii) Discount or minimum prices

5. Distribution channels
   i) Direct distribution
   ii) Going through dealers or intermediaries

6. Communications (including publicity)
   i) Advertising
   ii) Public relations
   iii) Direct trade promotion (word-of-mouth)
   iv) Internet

7. Customers services: what advantages or benefits are you offering your customers?

Part VI: <u>Sales Projections</u>

How much do you expect to sale? (total and on individual markets)

1. Current industry sales
2. Projected sales first year
3. Projected sales second year
4. Projected sales third year

Part VII: <u>Operational Strategies</u>

How do you intend to organize your new enterprise or venture?

1. Summary

2. Manufacturing
   i) Subcontracting
   ii) In-house manufacturing and operations

3. Management
   i) Strategy
   ii) Key personnel
   iii) Organization

4. Research and development
   i) Product improvement
   ii) Product line expansion, diversification

5. Manufacturing plant and equipment

6. Physical distribution (including packaging)

Part VIII: Financial Analysis

This is necessary for financial decision makers and investors.

1. Background
2. Present financial condition
3. Revenue projections
4. Operating budgets
5. Financial projections
6. Ratio analysis
7. Contingent liabilities

Part IX: Proposed Financing

Here we have to state how much money you will need.

1. Capital requirements and sources
2. Equity policy and royalty arrangements
3. Financing proposals

Part X: Supporting Data

Any additional information should be presented here.

1. Résumés for key personnel
2. Intellectual property right status
3. Product cost analysis
4. Preliminary innovation and evaluation report.

[End of Annex and of document]