A Packaging Approach for Evaluating Ideas

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4 A PACKAGING APPROACH FOR EVALUATING IDEAS

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INTRODUCTION

In this chapter an approach for idea evaluation is explored. Idea evaluation can be seen as the first stage in a sustainable business development process eventually resulting in solutions that are more sustainable – ecologically, socially and economically. Not all evaluated ideas become reality. However, the more the potentials of an idea are identified and expressed, the more likely it is for the idea to gain momentum and attract more resources. Our approach to idea evaluation differs from established theory in many ways. It combines characterization of future societal, customer and business utilities of an idea. It is not a full business plan committing stakeholders towards the execution of a business. It focuses on the creative packaging and communication of the idea in ways that enable future and often not yet identified stakeholders to be attracted to the idea, thereby hopefully helping to bring it forward.

We call our perspective the "packaging approach" to idea evaluation. Packaging ideas is seen as an activity of determining and communicating attributes around an idea relevant to various stakeholders as well as to society at large. Ideas can be seen as a package in both the "gift-wrapping" sense of the word – making ideas attractive – and the "parcel" sense of the word: giving ideas new destinations, inspiring new settings and people. Ultimately we believe that the knowledge economy is a place where well-packaged ideas mobilize new entrepreneurial mindsets in order to drive sustainable development.

A successful packaging of a new idea requires the ability to position an idea in a future attractive situation of use, while at the same time being very clear and realistic about the current state of the idea. This combined visionary and realistic packaging gives ideas the power to inspire towards long-term opportunities (visionary power) as well as lowering entrance barriers (through realistic descriptions and advice) for anyone aspiring to take the idea further. It is known from our innovation history that good ideas often take unexpected and parallel routes to success (see e.g. van de Ven et al., 2000). Making ideas well-packaged helps leverage this often non-linear, distributed and interactive stakeholder process around the nature of innovation processes.

In short, idea evaluation in our "packaging approach" results in a seven-page report and matched PowerPoint presentation. This format, of course, is not static. However, it is the pragmatic result of several years of idea evaluation practice in the Gothenburg innovation system. The format forces the evaluator to think through a clear disposition (package) of the idea evaluation and is sufficiently long (but not too long) for this package to attract the interest of new or existing stakeholders around an idea. We propose that an idea package address the following issues:

1. Describing the idea (functionality, novelty, freedom to operate, etc.)
2. Generating value visions around situations of use
3. Determining next steps in terms of further developments and financial needs

Before elaborating more in depth on these components of an idea evaluation, we first discuss different process perspectives and relate our approach to them.

PROCESS PERSPECTIVES

When literature tries to put the process of early-stage business development into perspective, it either tends to depict a rather linear development process, or focuses on an integrative process resulting in a final product. Both linear and integrative process perspectives try to capture the whole journey to a commercialized product, and thus they deal only in a limited way with the early idea-stage.

LINEAR PROCESS PERSPECTIVES

Linear processes often emphasize discrete steps such as research, development, manufacturing and marketing. Here, researchers are expected to focus on originality of discoveries and on new techniques. Developers focus on making it work. Manufacturers subsequently focus on how to produce it and marketers on how to sell the product. Linear models often miss out on the fact that ideas have their origin in the marketplace among customers and users, and that idea development can take place in interaction with customers (Von Hippel, 1988).

In the cases provided in this book, you hardly see any examples of linear models. The closest example might be NetClean with its focus on first the problem, then the product and finally the sales. However, in this case as in all the other cases, you still have a very clear focus not only on technology or research results from the beginning, but also on utilities – whether for customers, society or the company.

In conclusion, linear models mostly indicate how ideas sometimes evolve in and between established organizations – from one unit to the other – and, thus, are not very useful as an ideal model of how ideas should be developed. Hence, such linear sequences should not be seen as the most effective or efficient way to develop an idea. On the contrary, linear models can be seen as a description of the often long journey ideas need to travel (and persevere) through different organizational cultures in order to eventually become realized.

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INTEGRATIVE PROCESS PERSPECTIVES

Integrative product development models include a range of literature concerned with efficient and effective product development in increasingly competitive and fast-changing environments (see e.g. Wheelwright and Clark, 1992). They are called integrative process perspectives since they emphasize the complex task of integrating different subtasks into a distinct whole – a new product. Integrative models have been spread since the Eighties. They were a reaction to linear models being seen as too inefficient, and they had their origin primarily in attempts to understand the competitiveness of the Japanese consumer industry of the time. Integrative product development models focus on getting an often complex and investment-heavy product on the market in due time and with the right quality and costs.

As indicated in Table 1, product development is something distinctively different from commercializing new technology. A core distinguishing factor is that new ideas based upon technologies initially are much more open-ended and undefined as regards end-market use, whereas product development processes normally have an established product-user-situation as an outset when specifying and bringing together (integrating) parts and subsystems of a new product.

Characteristic	Product development	Technology commercialization
Object to be commercialized	Singular design	Multifaceted capability
Start of commercialization (and time scale)	Product conception (1-5 years)	As soon as a potentially valuable concept is proposed (10-20 years)
Stakeholders	Customers as end-users	Several whose mix and interest evolve with the technology
Nature of demand	Targeted segment	Derived from products
Competition	Other products for same function	Against other technologies for same product or function
Marketing Challenge	Unique selling proposition of finished product	Exploitation of whatever the technology can achieve at the point in time
Timing	End-user market opportunity	The time line of competing inventors, adopters and resource providers
Opportunity for value creation and appropriation	Revenue from making and selling products	Product sales and/or collateral benefits over life of technology

Table 1. Differences between product development and technology commercialization according to Jolly (1997, p.xvi).

OVERLAPPING STAGE-MODEL

Jolly (1997) provides a synthesis between a linear and an integrative process perspective into what he calls an Overlapping Stage Model for Technology Commercialization (see Figure 1). This model is still linear in the sense that stages are carried out sequentially. However, it is also

integrative in the sense that each stage applies a holistic business-oriented reasoning, resulting in stage-relevant verification that helps bridge into the next stage by satisfying and mobilizing new stakeholders. The first bridge thus focuses on mobilizing interest and endorsement, sufficient to incubate the idea into the next integrative result: a demonstration. Subsequent bridges are around mobilizing market constituents and finally around mobilizing for delivery.

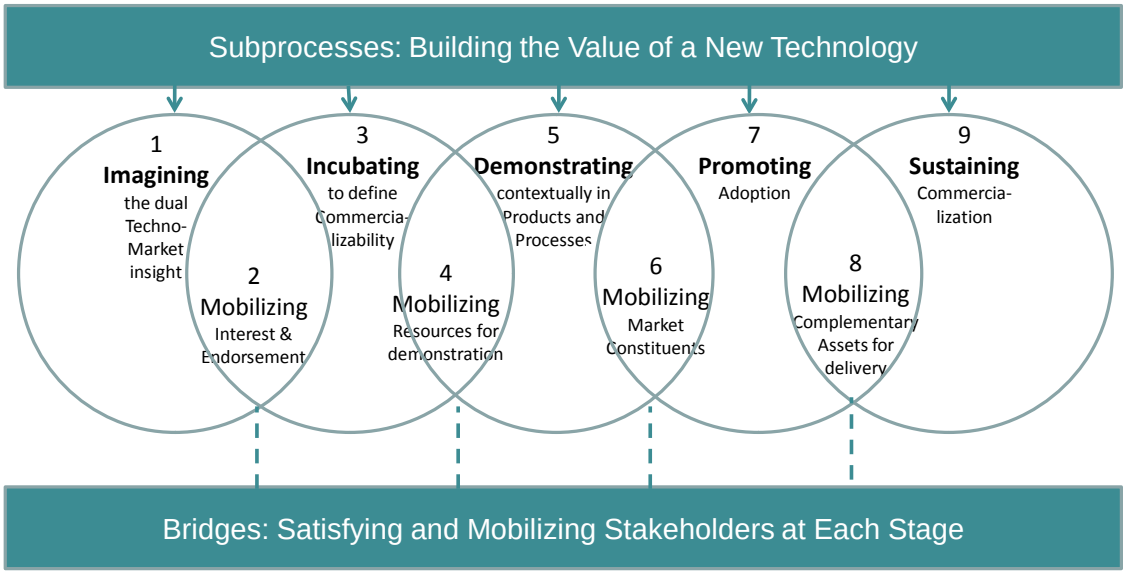

Figure 1. Jolly's overlapping stage-model in which the current approach to early-stage business development fits with the first stage. Source: Jolly (1997, p.4)

According to Jolly, new technological ideas can be challenging to commercialize for many reasons, and there are activities which typically can go wrong such as: the linking of technology discovery to a market opportunity, having the technology endorsed early, incubating the technology sufficiently to understand its true potential, mobilizing resources for verification, demonstrating the technology for the context in which it is to be used, mobilizing the market constituents for gaining market acceptance, promoting the final product(s), choosing the appropriate business formula (model) and sustaining commercialization to realize value from the technology (life cycle management) (Jolly, 1997 p.2). Figure 1 provides an overview of the different sub-processes and bridging activities needed in order to bring a technology to successful commercialization.

OUR PACKAGING APPROACH

Our packaging approach focuses on early-stage idea evaluation and idea growth. It expands upon the first step of Jolly's (1997) overlapping stage-model for technology commercialization (see Figure 1). However, our approach is suited not only for technological ideas but for all types of early-stage ideas to which some kind of positive utility – societal, customer or business utility –

can be attributed (Lundqvist, 2009). Sometimes the embryo of a promising idea comes from a technological opportunity. Other times an idea originates from an understanding of a need. Regardless of origin, the first important step for any idea according to our approach is to develop it into a dual techno-market insight.

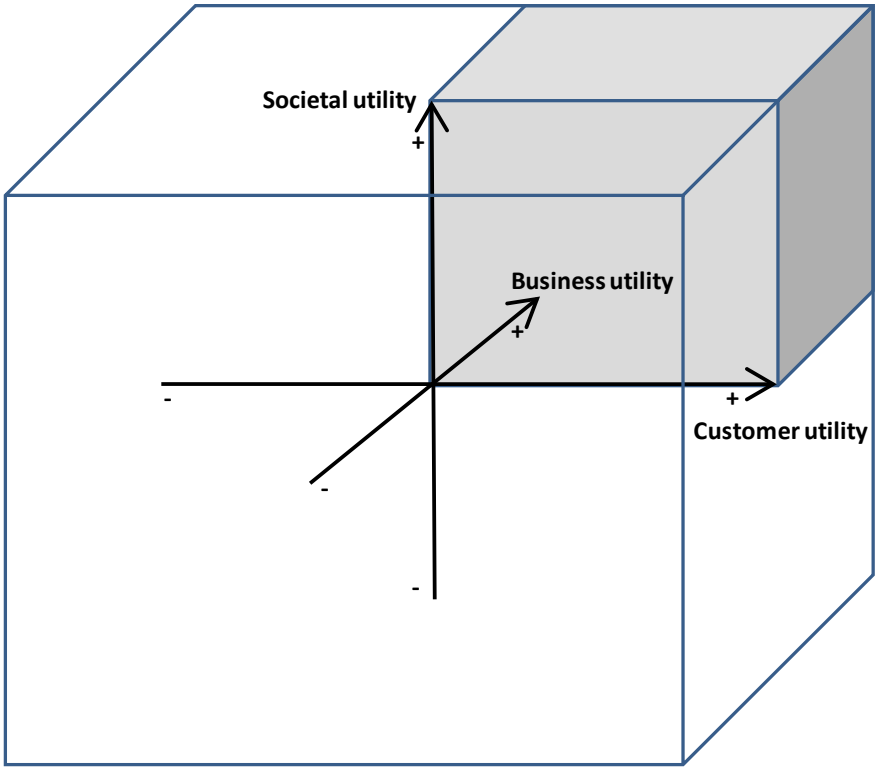

Figure 2. Three types of positive utilities of ideas should be striven for (see Lundqvist, 2009).

'Imagining the dual techno-market insight' – Jolly's labeling of the first stage – builds upon an insight that dates back to Koestler's famous book "The Act of Creation" (1964). Critical in the packaging of new ideas is the creative combination of technical and market reasoning, in all possible creative ways. One-sided reasoning, either technical or market-oriented, is rarely enough. The beauty of techno-market insights is that they are acts of creation – combining dimensions from a world of technical functionalities and a world of utilities – into something often unexpectedly new.

Once a promising techno-market insight is formulated, then a more analytical process starts: breaking down, testing and refining what the idea is about. Doing this helps in accomplishing Jolly's first bridge – 'Mobilizing interest and endorsement' – which is needed to go into a stage of 'Incubation'. Our approach to idea packaging ends with the generation of an 'idea evaluation report' that hopefully enables such mobilization.

In many of the cases in this book, you will be able to learn more about the early idea evaluation stage as well as about later business development stages. For instance, Ecoera is a good example of how the act of Imagining can evolve from agro-pellets into a whole platform of doing carbon sequestration (i.e. reducing CO_2 levels in the atmosphere) while also producing better food,

sustainable energy and taking care of agricultural waste. It also shows a non-linear process going back and forth between different stages in an iterative way. Cefibra gives the reader a good example of how to secure endorsements and mobilize resources. Vehco and Netclean are examples of ideas having walked all the way to a sustainable commercialization, generating revenues and sales growth. These cases help us put our early-stage approach in perspective and sensitize our ability to anticipate and prepare for challenges in later stages. Subsequently this chapter will focus on our packaging approach for early-stage idea evaluation.

THE IDEA EVALUATION REPORT

A way to describe our packaging approach is to start with the end-result – the package. As already indicated, our experience is that a useful idea evaluation is a seven-page report and a complementary PowerPoint presentation. The report consists of four major sections.

1. **A Summary**, primarily framing the essence of the idea and its potential future value in terms as attractive as possible (thereby inviting the reader to read further).
2. **An Idea description**, capturing the idea and its setting (including a technical description, and a novelty and freedom to operate (FTO) analysis and idea provider presentation).
3. **Value visions** for specified situations of use, generated through scenarios and identification of customer, societal and business utilities for relevant situations.
4. **Next steps**, indicating market potential and how it can be analyzed further, any needs of further development and verification, and crude financial estimations.

Two general remarks on the idea evaluation process are worthy of comment, before attending to each component of the report depicted in Text Box 1. First, the report is not necessarily indicative of the order in which you do the idea evaluation work. The moment you have only a crude sense of the idea, you should probably start working on the different components in parallel. The more you allow yourself to generate hypotheses and state assumptions, the faster you will make progress as these hypotheses are either substantiated or replaced by better ones. Secondly, when you get an idea presented to you (assuming that it is not your own), it is very easy to initially become judgmental rather than explorative and curious. We therefore encourage idea evaluators to be humble and open-minded towards all types of ideas. Even if, for instance, novelty turns out not to be as high as the idea provider thought, it normally does not prevent you from generating value visions or indicating development steps. So, although we have chosen to call the process an "idea evaluation" (since this expression is more established), we really would like you to think of it as "idea appreciation" and "idea growth".

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Text box 1. A typical **Table of contents** for an idea evaluation

1. **Summary** (0.5 page)
2. **Idea description** (1-3 pages)
    a. Technical/functional description
    b. Idea providers – backgrounds and interests
    c. Novelty
    d. Freedom to operate (FTO) analysis
3. **Value visions** (1-4 pages)
    a. Identifying and prioritizing situations of use
    b. Temporal analysis for prioritized situation(s) of use
    c. Customer utilities for prioritized use
    d. Societal utilities for prioritized use
    e. Business utilities including indicative business model
    f. Market quantification
4. **Next steps** (1-3 pages)
    a. Further verification and development of idea
    b. Competence requirements
    c. Risk analysis
    d. Financial estimates
5. **Appendices**
    a. Log book (who did what when)
    b. Other important data

THE SUMMARY

The section normally written last – the Summary – is the most important part of the report. As regards idea evaluations, the main purpose is to create a more attractive package, allowing the idea to mobilize new interest and endorsement. The Summary should therefore focus on capturing the essence of the idea in as illustrative and communicative terms possible. Therefore, do not hesitate to sell the idea through simplification, use of metaphor or other rhetorical means. You have the rest of the report to explain all complexities and worries, so the Summary can and should prioritize the essence and the strength of the idea. That said, a few sentences in the end of the Summary indicating other major findings of the report is of course adequate in most of the cases. A Summary for a seven-page idea evaluation is normally around half a page long and should not be more than a page.

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THE IDEA DESCRIPTION

The section describing the idea contains a short illustrative description of the original idea and of the idea providers. Depending upon how technical the idea is, the section also includes a more or less elaborate analysis of novelty and freedom to operate (FTO).

TECHNICAL/FUNCTIONAL DESCRIPTION

Assuming that the Summary has given the essence of the idea, the Technical/Functional Description subsection gives a more systematic account of the initial idea, using illustrations and tables if helpful. Regardless of whether the initial idea is technical or not, a description focusing on functionalities is often a relevant part. "Functionalities" is the language of designers and engineers rather than of customers and users, and is a language concerned with describing performances in qualitative and – if possible – even in quantitative terms. Having isolated more or less unique functionalities of an idea is also helpful in order to identify potential user needs and customer utilities, accounted for in the subsequent section.

Often technical ideas need descriptions other than only in functional terms. Depending upon how obvious the idea is, how complex it is, and how little verified it is, a technical description can be anything from a very short explanation to elaborate drawings and listing of subsystems, their status and functionalities. One way to develop an initial idea is through using a database[1] of 1400 examples of biomimic design solutions. It can be used to inspire stakeholders around the idea to see new opportunities and perhaps look beyond initial obvious technical understanding of the idea. Do not be afraid of trying to grasp your technology in different terms. Ultimately it is your technological insight and imagination that constitute half of any techno-market insight upon which 'value visions' will be constructed. Of course, to the extent that the idea has unique functionalities or performs established functionalities in new and better ways, you may have sufficient novelty to be able to apply for patent protection.

Ideas that do not initially include a technical solution need to be dealt with somewhat differently. Such ideas can be a service idea or an idea about a specific need. In these cases the starting point of the idea evaluation is different, first focusing on situations of use (dealt with in the next section). Based upon a more thorough and systematized description of what value is created, the idea evaluation can then start identifying critical assets describable as technologies or at least "techniques" that are critical for the provision of that value. Once this is done, the structure of the idea evaluation section proposed here should be relatively adequate. However, since technologies or techniques in these cases are not the starting point, you might want to add a paragraph about how the determination of your techniques was done, and perhaps also add a table where your choice is compared with alternative ways of producing a utility.

[1] Biomimicry Institute – www.AskNature.org

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NOVELTY AND FTO

A whole chapter in this book – chapter 7 – is dedicated to the use of patent information to determine patentability (including novelty) and freedom to operate (FTO). Here we therefore focus explaining why novelty and FTO are critical to examine in early idea evaluation. Determining the novelty of any idea – even one not close to being patentable – is critical for subsequent choice of business strategy. Often early ideas appear more novel than they are, and often only a few hours of searching the web with fresh eyes offer valuable inputs, upon which a more realistic strategy can be built. Identifying competing solutions nurtures creativity and gives you something to relate to. Thus, contrary to the first gut reaction – "this idea is dead since it is obviously not new" – a more appropriate reaction should be "how can we learn and adapt our idea based upon this knowledge?" So, in our packaging approach, novelty search is a valuable tool for development and adaptation and not only a critical step to determining patentability.

FTO analysis in many ways complements the novelty search. When using the patent system for a novelty search you also analyze FTO. However, FTO also depends upon an exercise where any claims by anyone upon the idea (friends, employers, partners, financiers, etc.) are clarified and acted upon. We call this activity 'degunkification' (Petrusson 2004, p. 161). Ideas are often 'gunky' and initially they may seem hopeless to develop further. However, just as in the case of many novelty searches, a closer examination of where ideas are gunky can also reveal opportunities to proceed, at least regarding where negotiation needs to occur for FTO to be established.

In the idea evaluation report, this first part of describing the ideas as well as determining any novelty and FTO should be seen as an act of communication rather than giving a full account. Focus on making descriptions as clear as possible. Also include a listing of key actors around the idea, their interests and background. Often it is a big advantage to communicate with the support of tables and pictures. Any details of the technology and its potential can be put in an appendix.

GENERATING VALUE VISIONS FOR SPECIFIED SITUATIONS OF USE

When you are in the early idea evaluation stage, the generation of value visions should be a highly creative and iterative process. Failing to be creative here can mean missing out on a huge opportunity, since many ideas can have multiple situations of use, all normally also allowing flexibilities around what business model to build. However, being creative is not only about new techno-market insights depicting new situations of use. Creativity is also needed to become as concrete as possible, at least regarding one chosen situation of use. Concreteness with, for instance, customer utilities and a business model normally requires multiple iterations of hypothesis testing: generating assumptions and then finding ways to question these assumptions, which in turn generates new assumptions.

This section is designed to help you generate value visions indicating the overall potential of the idea, as well as becoming as concrete as possible regarding at least one prioritized situation of use. The concept of value vision in our approach encompasses two challenging paradoxes: the generate-select paradox and the endogenous-exogenous paradox. The generate-select paradox has to do with the time-constraint put on the process of idea evaluation and captures the difficulty of both thinking broadly and creatively about situations of use, while also becoming concrete enough regarding at least one situation. This paradox needs to be resolved case-by-case with the sometimes unpleasant decision to select just one area of use in order to focus. The section is structured around the more generative side of finding areas of use and creating scenarios in the initial paragraphs, and ends with concepts more adequate for one or at most two concretizations.

Borrowing language from biology, the endogenous-exogenous duality captures the need both to think "from within" a solution (endogenously) while taking the external for granted, and in parallel also to recognize external (exogenous) factors and how they can change. The proposed starting point for generating value visions – finding situations of use – helps bridge the paradox in allowing you to capture something both endogenously (the "use" where a solution addresses a need) and exogenously (the "situation" which can be seen as determined primarily by external factors). After that, an exogenous analysis is recommended in the form of temporal analysis, allowing creative analysis of different types of future situations. Subsequently, the temporal analysis and three paragraphs focusing on different types of utility then signify a more endogenous – from within – construction of the idea in use, given a certain selected environment. The section rounds up again with a more exogenous analysis, in which the market potential is indicated for the prioritized situation of use.

IDENTIFYING SITUATIONS OF USE

"Use", "User" and "Utility" are a key concept to elaborate in an idea evaluation. "Use" is a broader word – being both a noun and a verb – and is suitable as a starting point along with the relatively flexible word "situation". The expression "situation of use" should help you think creatively about how, where and for whom an idea can be applied – and put into use. Once such situations of use are established, the step towards the more business-oriented translation of a use into "utility" or "utilities" is closer at hand.

The concept of utility is central in several disciplines including economics, sociology, law and psychology, and can easily become challenging and complex. Consider, for instance, the question of whether a human need comes from within (endogenous understanding) or through societal norms that we more or less implicitly adapt to (exogenous understanding). Traditional business development, building upon assumptions from marketing, finance and management literature, focuses on established situations of use and thus on well-known customer demands and market segments. Here you have established transactions, and well-known consumers and user behaviors – i.e. you have a clear and exogenous understanding of utility. Although there is nothing wrong with looking at established behaviors, it will normally not do the job for our type of idea evaluation. As we learn from e.g. the Vehco, NetClean and Ecoera cases in this book, an entrepreneurial venture can actually create new demands and establish new transactions. In doing so, it also creates new economic value, not just replacing an established offering with an

incrementally better one. Hence, for many reasons, we need to apply a wider concept of utility while still being pragmatic and practical (and in most cases economical) about what to achieve. In broadly searching for situations of use, we hopefully also do a better job finding unconventional applications of our idea.

TEMPORAL ANALYSIS: SCENARIO PLANNING, BACKCASTING AND PREDICTIONS

By temporal analysis we mean any attempt to "look into" the future. For idea evaluations such analysis normally requires different techniques depending upon time scale among other things. We normally think of temporal analysis in terms of extrapolating a present into the future. Such techniques are often used in market analysis but have diminishing value the more innovative the idea is or the longer one want to predict the future. For idea evaluations we therefore propose temporal analysis techniques that are more suitable for long-term analysis and for more innovative ideas, namely scenario planning, backcasting and prediction through web-based tools.

Scenario planning is a very powerful tool deserving a separate treatment in this book – Chapter 6. Put into the context of idea evaluation, it can either be used prior to selecting one or a few situations of use, or be fruitful as an instrument for one selected area of use. The latter – doing scenarios for one chosen situation – is normally recommended. However, often the scenario planning exercise itself helps generate new situations of use, as external factors are manipulated and the idea with its intended use is put in a new light. One of the advantages of scenario planning is thus its creative generative power and the fact that it opens up new paths.

Backcasting, just like scenario planning, help us break with our default "here and now" understanding of the future. Backcasting, which is treated in Chapter 5, "place us" in a desirable sustainable future as a starting point. Backcasting and scenario planning opens up our minds and prepares us for alternative futures. These techniques thus have stronger potential in identifying and qualifying different situations of use than traditional extrapolating techniques, given the current rate of change in many societal sectors. For instance, the quick depreciation of the value of large fuel-consuming cars (SUVs, etc.) after Gore's film "An inconvenient truth" (see Chapter 2) would have been more easily anticipated through scenario techniques than through more linear extrapolating techniques.

The Internet offers opportunities for a new set of predictive temporal analysis. One such tool is patent databases (see Chapter 7) which can offer strong indications of how "hot" an area might become in a more distant future. Another way of using the Internet is simply to identify and evaluate what different key stakeholders are expressing about an area. Such prediction power increases the more systematically the web can be searched. The new Gothenburg startup Recorded Future offers such a systematic predictive tool[2].

[2] Big Data for the Future – Unlocking the Predictive Power of the Web (Truvé, 2011, Recorded Future AB)

CUSTOMER UTILITY

Customer utility is almost always a key issue to explore in idea evaluations. A customer perspective is relevant in most cases where a user of some product or service has a choice of using it or not, or has a choice between different offerings. Even if the customer is not paying for the service or product, he or she still needs to be addressed in terms of what are the relevant customer utilities. Studies of, for instance, environmental cars (Williander, 2006) indicate that customers are happy to buy more environmentally sound cars (having higher societal utility) just as long as customer utilities (convenience, design, costs of use) are not worse than alternative solutions. This might sound cynical, but in the case of our packaging approach it leads us to single out ideas that end up in the "positive cube" depicted in Figure 2. In other words, why bother to develop ideas that cannot have positive customer, societal and business utilities? If you are situated in an industry with negative societal utility, then it is understandable that new products have negative but still improved societal utility – i.e. being outside "the positive cube". However, if you are investing voluntary time in new ideas, why settle for that?

There are several ways to categorize customers: as paying customers, end customers, customers as a system of users, purchasers, decision-makers (a purchasing system), etc. Of course, the way you want to make your specific categorization of "the customer" depends upon the idea and your prioritized situation of use. However, as a rule of thumb, starting with any user who has some kind of expressible need is normally fruitful. Once such a customer is identified, a second question is what are the utilities desired by this customer. The third question concerns how and by whom the use of the offered utilities will be paid for. Once these questions are answered, the listing of specific utilities becomes a powerful tool, in order to make comparisons with other competing solutions, to determine how strong your chosen technology or technique is, etc.

Many situations of use are, at least partly, not paid for by users/customers. These include infrastructure, healthcare and schools as well as dealing with safety, security and environmental concerns. Thus, for much of the economy, customer utilities are not a direct economic concern for the user, other than in indirect ways (through affecting public opinion, influencing democratic elections, etc.). Nevertheless, for these situations of use, customer utilities are still relevant to carefully address. For instance, even if you consume healthcare for free you still want to apply a customer (patient) perspective upon the service given. In some cases, however, the "customer and user perspective" falls short and instead societal utilities exist only together with what we can call a citizen perspective. E.g. we are not normally customers for investments in the environment, into safety and security, etc.; these societal utilities we tend to appreciate more as citizens (and by being taxpayers and voters).

We often have developed countries in mind when analyzing customer utilities, but increasingly we are learning that large economic potentials for new ideas are often at the bottom of the pyramid (BOP), i.e. among the most poor. Prahalad's (2006) insight about BOP in his breakthrough book helps us to see and search for customer utility in new ways, as indicated in text box 2.

Text box 2. The Bottom Of the Pyramid (BOP).

The Bottom Of the Pyramid (BOP) market includes 4 billion potential customers having a purchasing power of less than $1500 a year. BOP markets can be approached by questioning the following dominant assumptions (Prahalad, 2006):

1. There is money at the BOP although the main assumption is that the poor have no purchasing power. For instance the countries of China, India, Brazil, Russia, Indonesia, Turkey, South Africa and Thailand are home to about 3 billion people representing 70% of the developing world population. The purchasing power of these nations is larger than that of Japan, Germany, France, U.K. and Italy combined.
2. Contrary to common belief, BOP markets are not always difficult to access. For instance 23 cities in developing countries have dense populations above 10 million residents allowing intense distribution opportunities.
3. The poor are not only brand-conscious, they are also extremely value-conscious by necessity.
4. BOP markets are connected and rapidly exploiting the benefits of information networks.
5. Contrary to popular belief, the BOP customer accepts advanced technology readily.

Market development imperatives on BOP markets are the following (Prahalad, 2006, pp. 16-21):

1. Create a capacity to consume. Avoid providing products and services free of charge since that might be difficult to sustain and to scale. Focus on principles of affordability, access and availability.
2. When the poor become consumers they also acquire the dignity of attention and choices previously reserved for the middle-class and rich.
3. Private sector firms approaching the BOP market must focus on building trust between themselves and consumers in order to bridge an historical gap of mistrust from both sides.

The following twelve principles of innovation on BOP markets are proposed by Prahalad (2006, pp. 25-46):

1. Focus not only on price but on creating a new price-performance envelope.
2. Blend old and new technologies into hybrid solutions.
3. Solutions should be scalable and transportable across countries, cultures and languages.
4. All innovations must focus on conserving resources: recycle as well as eliminate and reduce waste.
5. Product functionality is crucial. Marginal changes to products developed for rich economies will rarely do.
6. Process innovations are as important as product innovation, since the presence of a logistic infrastructure cannot be assumed.
7. De-skilling work is critical. Product and services need to take into account the skill levels, poor infrastructure, and difficulty of access for service in remote areas.
8. Educating customers on product usage is essential, often through creative approaches such as video mounted on trucks and low-cost theatrical productions.
9. Products must be robust and work in hostile environments.
10. Understanding variety in terms of language, skill levels, familiarity with function, etc., in often heterogeneous consumer populations is indispensable.
11. Innovate in methods of distribution.
12. Product developers should focus on the product platform in order to embrace sometimes rapid changes on BOP markets.

SOCIETAL UTILITY

Societal utility can be determined by analyzing ideas from the perspective of how they help make the world a better place. It is then not only the chosen situation of use that should be considered, but also the whole life-cycle, including also production and potential recycling. Societal utility can sometimes be expressed in monetary terms, such as reduced healthcare costs. Doing so normally

is a good exercise and also has strong communicative value when used properly. However, we also need to be careful about giving the impression that only the measurable or the economic effects are important. In many types of social entrepreneurship – see chapter on this and the case of Dem Collective – it is really a variety of effects aspired for: changing the behavior of an established business, of a local community, of engaged citizens, or viewed as corporate social responsibility (CSR) activities (see also chapter about CSR at IKEA).

Societal utility at its core involves values about society that we hope will stick to others and eventually to something institutionalized into structures (like a social security system, environmental protection system, etc.). They all begin with ideas and, in the example of the car safety-belt invented by Volvo in the Sixties, it ended up being a commercial product (with customer and business utilities) as well as increasingly shared values about safety (a societal utility) that have spread around the globe. As we learn from the chapter about Vehco, societal utility of saving fuel in truck driving is easier to achieve than driving more safely, and in this case primarily because of the cost pressure within this industry. However, that did not imply that there were no ways to influence the customers of truck companies – the general public or companies with CSR policies – to ask for safer transports, now that we know there are Vehco technologies to provide them. Such opinions can then eventually have an impact also on cost-driven or conservative industries.

Societal utilities, although specific from case to case, can be identified by using theories about sustainability, lock-ins and backcasting (see Chapters 2, 3 and 5). Deriving specific societal utilities based upon the four system conditions in the backcasting methodology (chapter 5) is normally worthy of an attempt especially to determine the ecological sustainability of an idea. These principles help you operative within planetary boundaries' being aware of future constrained resource conditions. An important aspect to this is to avoid business models based upon sales of consumables to drive profits or the reliance upon rare elements.

Determining any impact on social sustainability normally requires other types of reasoning, not least about how different stakeholders – users, producers, communities – are affected by the use or production, etc.

BUSINESS UTILITY AND BUSINESS MODELS

Business utility is linked to the development of a viable investment opportunity. This third form of utility addresses the economic sustainability of an idea in a situation of use. This utility is important to consider when you want to sustain a diffusion of an idea beyond your own and others' private or social engagement. A key point in most business plans is to differentiate between investment needs (how to reach a certain future state) and how much value this future state has compared to the current value of an idea or venture. A return of investment (ROI) calculation wants the investment to be less than the increase of the value, including also a substantial risk factor. The discounted cash flow analysis is a way of quantitatively estimating such business utility including a risk. However, it is of course inherently difficult to make accurate assumptions and predictions about such business utility in early stages. Therefore, a reasonable achievement in this stage is to generate an indicative business model.

Business models, generally speaking, are ways to describe how value is created and captured (Lindgren and Sundelin, 2010). There are different business model frameworks offered today. Some focus more on the internal activities behind producing a value proposition. Others place more emphasis on external relationships and especially on transactions with customer, suppliers and partners. In the cases of this book you get different examples of business models. An indicative business model for your idea evaluation might combine some internal activities with some key external actors, in order to indicate some kind of realistic economic sustainable business, in which the original idea is a part. A key transaction to discuss in any indicative business model is of course the value proposition towards the target customer. Developing an indicative business model will also help you make any financial predictions.

MARKET QUANTIFICATION

Indicating a market potential and a competitive landscape normally adds a lot of attractiveness to the idea evaluation. Market potential is a highly flexible construct, as indicated in Figure 3, which describes different levels of inclusiveness in the pharmaceutical industry. As long as you are clear about what you mean by market potential, you can choose to make estimates about the following:

1. Overall potential (i.e. future sold units) of a business area in which your solution is just one of many different solutions. I.e. how wide do you draw the circle around "your market"?
2. What growth will you anticipate for you chosen market and how will you argue for it? Through analogies, extrapolations, scenarios, good reasoning, or combinations?
3. For a specific need, should you include everyone with the need, only those with the need translated into a demand, or only those able to pay for the supply?
4. National, regional or global market?
5. Should you indicate market potential for your future use of an idea only (i.e. market share), or an overall potential?
6. What measure of market potential do you choose: sold units/services, sales, after-sales, etc.?

Being in an early uncertain stage, where no one yet has invested money and uncertainty is high, an idea evaluation can normally answer the questions above by emphasizing opportunity while remaining trustworthy. Hence, emphasis on taking a larger measure (global, overall market, high expectations of growth) rather than a smaller one (regional market, only our future product, only customers who currently can pay, etc.) is normally wise in order to increase attractiveness of the idea packaging, as long as the argumentation is clear and the assumptions made are reasonable.

Chapter 4 in Alänge, S. & Lundqvist, M. eds. (2014) *Sustainable Business Development: Frameworks for Idea Evaluation and Cases of Realized Ideas.* Chalmers University Press, Gothenburg ISBN 978-91-87463-03-7
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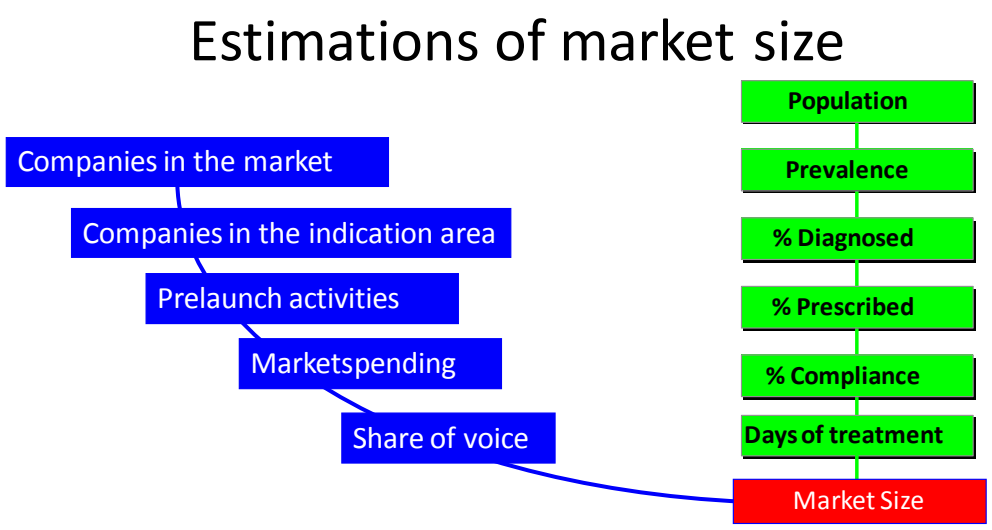

Figure 3. Factors in pharma industry to relate to when specifying market size (adaptation of slide by Boo Edgar)

NEXT STEPS

The last part of the idea evaluation report is written to give the idea some "momentum" forward. "Next steps" is used as a heading to help you and the reader to focus on what can be done in the near future, and avoid making too extensive plans around later stages that normally are unpredictable at this stage anyhow. The next steps that often are relevant to focus on concern further verification of the market, further verification and development of the idea, competence requirements, risk analysis and financial estimates.

FURTHER VERIFICATION OF THE MARKET

A huge area often worthy of further verification concerns the market and how it will be reached. Depending upon the chosen situation of use, the initial questions to ask might differ. Apart from verifying any market potential discussed above, another key question is to determine a realistic rate of diffusion – which in turn requires careful selection of target market, target segment and target customer. All these choices normally are worthy of further verification, which can be done in multiple ways: through secondary data on the Internet and elsewhere, through market surveys on the Internet, through interviews, clinics, close acquaintance with customer, etc. Yet other ideas depend upon macroeconomic developments such as changes in legislation or international agreements. Such issues might also be worthy of further investigation, apart from the above and any further substantiation of the value visions depicted in the previous section.

FURTHER VERIFICATION AND DEVELOPMENT OF THE IDEA

Verification is increasingly a term used to describe specific further development and testing of an idea. Verification plans can serve as means for applying for government grants or other funds. If granted such financing, you can then conduct critical development work in order to prove the value or reduce the risk of an idea. Verification plans should therefore take the idea into a more

proven state. Think about what you would like to have confirmed in order to believe more in the idea. Think about yourself as an investor. What would you like to know in the next one to two steps in order to appreciate a claimed value of the idea or a reduced risk in securing the value? Verification plans ultimately are written for potential future stakeholders, i.e. actors who will engage in the idea. It may thus differ how much these actors value risk reduction and/or the assurance of technological functionalities, but most likely all these factors are more or less important. An idea evaluation should at least give indications of such next steps of developments in order to inspire others to take action.

COMPETENCE REQUIREMENTS

Attracting the right competences is often critical. Normally, good ideas are surrounded by competent persons. However, for the idea to evolve, very often new competences are required. It is often difficult to determine these competences, especially for idea providers who have carried an idea for a long time. Your role as an idea evaluator therefore needs to be to indicate some key competences you find important to attract to take the idea a few steps further.

A good starting point for specifying new competence is the chosen situation of use. Normally you can quickly specify a competence just by reflecting upon what persons might have experience of such a situation. Another point of departure is the business model. What are the components depicted in the model, and what competences should you attract to build those components? A third source is from a so called Concept-Knowledge (C-K) mapping[3], where you can identify the knowledge required to support a newfound concept. All this said, the main competence needed in an early stage has to do with the further development and verification of the idea. Thus, depending upon your identified verification needs as regards both securing the future market and developing the solution, you should be able to propose needs for competences.

Competences are not the same as hiring personnel. In early-stage business development, a lot of valuable work is done either pro bono or by persons hoping to gain a future share of a venture. Around universities there is also an invaluable network of alumni who are willing to offer advice and contacts. Hence, specify what you really want in terms of competences and leave it to subsequent idea developers to try to attract the best expertise possible as well as engaged developers.

RISK ANALYSIS

The risk analysis is typically an exercise done at the end of the idea evaluation. At this stage you would normally be positively surprised about how much experience you have gained around the idea. Displaying parts of these experiences in a structured risk analysis table is therefore often very valuable.

[3] Shai et al. (2009)

The concept of risk is more complex than you might first consider. For instance, is a risk objective or subjective? And how much can risks actually be managed, especially if you consider (exogenous) changes in the environment? For the purpose of an idea evaluation, the risk analysis can be simplified into trying to answer the following questions in a way not overly pessimistic or optimistic:

1. What are the main risks regarding market and solution?
2. What is the likelihood of a specific risk happening – low, medium or high?
3. What is the negative impact of a specific risk – low, medium or high?
4. What measures can you carry out to – as much as possible – prevent a specific risk?

When answering the above questions for the packaged report, you normally end up bundling risks together into 3-7 categories. A reason you do such bundling, is to enable for any reader and future stakeholder to actually gain confidence in the idea. By packaging the ideas in a confidence-building way, without of course disguising any relevant information, then you enable any future stakeholder to become attracted to the idea. The packaging approach, as stated initially in this chapter, is ultimately about enabling good ideas to gain momentum. Risk analysis can therefore be seen as part of a "rhetoric" where the Summary captures the interest, the subsequent chapters adds information and detail, while the Next Steps and especially the risk analysis enables readers to gain confidence and increase willingness to engage.

FINANCIAL ESTIMATES

Idea evaluations that include financial estimates normally increase attractiveness and help build confidence. However, unlike for instance a risk analysis, this type of "financial confidence" easily just invokes a false confidence, given the early stage of the idea and unpredictability of most factors. Anyhow, sometimes it can be useful to add a product calculus based upon reasonable assumptions around component costs as well as a future price. Also, when a business model can be made fairly concrete, then rough estimations of future cash flows (discounted or not) can be made. Be very clear about what assumptions you make, and try to make your assumptions moderate. However, often financial estimates are avoided in these early stage idea evaluations for the reasons stated above.

PACKAGING FOR COMMUNICATION

Finally, the perhaps most important component in our approach – the packaging – will be discussed. So far we have dealt with important components of an idea evaluation. Critical in our approach is to take control over your idea presentations and package them from the perspective of the receiver, not the messenger. In short, we want receivers to (1) **get a grip**, i.e. to quickly get a first comprehensive image and understanding of the idea and its potential, (2) be able to **substantiate** that image with facts and arguments covering aspects of the idea that a reader typically would have questions about, and (3) present **next steps** in order to indicate where efforts are needed as well as to build confidence.

Planting the **main "image" of the idea (1)** is the focus of an Abstract/Summary as well as a PowerPoint presentation. As already stated, do not underestimate the power of images, analogies, metaphors, stories, etc., when capturing the essence of an idea. Such descriptions are normally very powerful and, of course, also risky to use if they lead the thoughts in a wrong direction. As discussed and exemplified more in the chapter "Frame the Claim", an initial labeling of an idea, such as using the word "embryonic" about stem cells, can have tremendous effects on subsequent developments – for good and for bad. Nevertheless, try to find forceful idea-descriptions. Look at the communication provided in some of the cases in this book – about technologies, products, etc. – and you will hopefully find some inspiration.

The **substantiation part (2)** of a report is where you create credibility, trust and realism in the idea. This part is mainly written for persons who give the idea a deeper interest. It is also the part where you have most degrees of freedom to arrange your description. Normally the reader is not another technological expert in the same area as the idea provider. When writing, you should rather think of receivers who might have complementary competence to add to the idea. You should also emphasize credibility as if you had a journalist or an investor digging into the idea. Always be aware of the way you use references as well[4]. Be realistic about risks and challenges; more so here than in the first part where making a clear mark in the head of the receiver is the prime interest.

Finally, the idea evaluation and presentation should involve at least a page about **next steps (3)**. Avoid depicting a full action plan or business plan. Instead, outline what you would do if you had this or that resource at hand, to take the idea one or two substantial steps further. In this section, you can also add any financial estimates for any preliminary cash flow or investment need. Note, however, that these estimates are generally more applicable for ideas closer to a market introduction. In any way, financial estimates are needed if the receiver of the idea evaluation report is an investor.

With these three parts – the substantiation part being the most flexible – you have done what one can expect for an early-stage idea evaluation. Most likely you have acted under secrecy, and it is now up to those owning the idea to take further steps. Apart from that, you can expect, having done a good job, that the idea from now on is more easily expressed by those concerned with it, in turn creating leverage and a bigger likelihood of progress and development. Now dare to let go of the idea. Adding value to the ideas of others is perhaps one of the best ways also to make you both useful and attractive in the knowledge economy. If you do a good job, people will come back and ask you for more! Then the snowball continues to roll, and value is created.

[4] Guidance for making references can be found on http://kib.ki.se/vetartikel/player.html and on http://www.ub.gu.se/ref/Refero/1intro.php, both in Swedish or a guide in English http://education.exeter.ac.uk/dll/studyskills/harvard_referencing.htm.

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