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ARTICLE INFO	Guido Oelkers and Barry Elsey (2004). The 'strategic magnifier' - a cognitive tool for strategic thinking. <i>Problems and Perspectives in Management</i> , 2(3)
RELEASED ON	Friday, 12 November 2004
JOURNAL	"Problems and Perspectives in Management"
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

0



NUMBER OF FIGURES

0



NUMBER OF TABLES

0

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The 'Strategic Magnifier' – a Cognitive Tool for Strategic Thinking

Guido Oelkers¹, Barry Elsey²

Abstract

Driven by rapid change, uncertainty is a prevalent characteristic in today's world. For the sake of predictability and appropriate planning, business managers usually strive to minimize uncertainties when making decisions. However, both uncertainties and complex environments that are subject to fast rates of change also offer opportunities for early adopters and for those who can best anticipate future trends and developments. To optimise these opportunities, an intellectual framework, the 'strategic magnifier', which comprises three 'analytical lenses' (core competency, core potential and competitive advantage), has been developed to help managers focus on what strategically matters most when confronted with emerging change factors in a company's environment. The framework has its roots in strategy theory and combines aspects of resource-based as well as market-orientation perspectives. In order to demonstrate the validity of this framework, empirical research was conducted by using the example of the pharmaceutical industry in Indonesia. The research confirmed the need for three analytical lenses regarding strategic thinking in relation to managing the change process.

Introduction

The intention of this paper is to present and explain a cognitive framework – the 'strategic magnifier' – which has been developed to aid direct strategic thinking in a comprehensive and systematic way, in order to analyse and interpret the future significance of change events with far-reaching consequences for business organizations. The framework and its rationale were derived from a research study on strategic thinking associated with an intellectual property protection agreement undertaken by the pharmaceutical industry in Indonesia (Oelkers, 2001). The purpose of this paper is to describe and elaborate the model for strategic thinking, called the 'strategic magnifier', by explaining how it stems from various schools of thought (Mintzberg, 1998) and other concepts that together constitute a cognitive-analytic field of abstract ideas with concrete business outcomes. Its application is demonstrated through the Indonesian pharmaceutical industry case study.

Today's business environment is undoubtedly characterized by both present and future uncertainties. As a consequence, organizational behaviour needs to be constantly adjusted. Two main causes are often attributed to the current 'Age of Uncertainty'. One is the far-reaching momentum of *corporate globalisation*, which is spearheading a return to the classical conditions of market driven capitalism. The other is the driving force of the *technological revolution*, primarily in the areas of information technology and biotechnology, which has escalated the rate of innovation and change for many industries. Other forces are also at work, not least the clear and present danger of global terrorism with its devastating effects on industries such as the Airline Industry. Taken together, these forces are contributing to endogenous change in modern capitalism and technology through their successful harnessing of creativity and science, a process Schumpeter describes as 'creative destruction' (1947, pp. 149-159).

As a result of these changes, the role of industry leaders, especially at the strategic level, has become more complex and demands a greater ability to think in abstract and conceptual terms as a basis for managing the future. Accelerating rates of change and increasing demands from

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stakeholders – particularly the capital market – are intensifying the pressure on operations to generate profits and cash flows. In many cases the emphasis is placed upon efficiency gains, as the popularity of reengineering programs in the 1990s has demonstrated (Davenport, 1993).

A sole focus on the core competencies is insufficient to outpace competition and to guarantee survival. In today's world of continuous deconstruction, problem solutions are becoming obsolete at an increasing rate (Markides, 2002). It is the argument of the paper that to develop the opportunities offered by change it is necessary for industry leaders to comprehend and interpret the future using a systematic, cognitive approach to strategic thinking, relying less on the wisdom of experience and intuitive guesswork.

The 'strategic magnifier' has been developed as an intellectual framework to help industry leaders to comprehend emerging phenomena and understand their practical relevance for corporations. In this paper, the 'strategic magnifier' is presented and explained within the context of its development. A case study from the international pharmaceutical industry in Indonesia is then given as an example of its applicability.

Conceptual roots of strategic thinking

In the recent literature, strategic thinking appears to be on the verge of recognition as an academic and intellectual discourse in its own right (Sanders, 1998). In fact, strategic thinking as an intellectual discipline was discovered long ago, but it has taken some time to become incorporated in university curricula (Ohmae, 1982). Semantically, strategic thinking can be simply understood as thinking about strategy (Mintzberg, 1998). However, the umbrella concept of strategy, as an organized process comprising multiple activities, has been subject to different interpretations and 'schools of thought', leading to various approaches to strategic thinking.

A strategic rethinking process, as Markides (2002) has pointed out, is critical for redefining a business from time to time, offering the opportunity to re-energize an operation, change the rules of a given industry, outsmart competition or even create completely new prosperous industries. Hence the necessity to ensure that strategic thinking as a cognitive process is comprehensive and well conducted.

Different lenses on strategic thinking

A close reading of several recent leading writers in the field of *strategic thinking* has identified a number of different perspectives (Sanders, 1998; Wells, 1998; Mintzberg, 1998, 1994; Rouse, 1997; Pellegrino, 1996; Bates & Dillard, 1993; Zabriskie & Huellmantel, 1991; Harper, 1991; Drobnis, 1991; Dixit & Nalebuff, 1991; Eden, 1990). In fact, the history of writing on strategic thinking began years earlier (Aguilar, 1967; Peters et al., 1974; Ansoff, 1977; Ohmae, 1982; Bandrowski, 1985; Stumpf, 1989). In reviewing these publications, it becomes apparent that the different perspectives on strategic thinking can be related to the ten schools of thought outlined by Mintzberg (1998), confirming the understanding of strategic thinking as thinking about strategy (Oelkers, 2001).

Strategic focus

As there exist many approaches to strategic thinking, managers need to make decisions about where to start and focus their efforts in terms of strategy development, particularly when time is a scarce resource.

A starting point for strategic thinking may begin with business imperatives, as a basis for recognizing priorities and taking direction, rather like a compass bearing. Enterprises usually strive for maximization of profits, or future cash flow streams, in order to satisfy shareholders' expectations. Otherwise, shareholders would see limited reason to invest in an enterprise in the first place. Thus, strategic management primarily needs to deal with variables that lay the foundation, pre-determine, or directly determine future profits or streams of future cash flows.

Simon (1988) and Porter (1980, 1985) are clear that competitive advantage undoubtedly plays a key role in outperforming competition, building the foundation for operating results. Competitive advantage is practically a "strategic precursor" for profit, and sets an upper limit when it

comes to its realization. Going one-step further in the chain of causality, the term 'potential' (or 'core potential' as referred to at a later stage) emerges. The semantic differentiation between 'core potential' and 'potential' should highlight that these potentials are critical for the future of entire enterprises, or for the future operating success of their business units. According to Gaelweiler's (1987) definition 'potentials have to be present when operating success is realized'. In this line of thought, potentials can be understood as factors that provide the opportunity for creating competitive advantages. Potentials mostly relate to immaterial areas such as the intellectual property of companies. Considering these connections, it is feasible to view a potential as an unrealized competitive advantage. Thus, potentials predetermine competitive advantages, or set upper limits when it comes to their realization ('vorsteuern').

In adopting this approach, the question arises as to which factors determine the creation of potentials within the chain of causality. The literature on strategy also reveals the widely acknowledged concept of core competencies. A resource-based perspective suggests that core competencies provide opportunities to create competitive advantages and should be of central strategic interest for every corporation (Prahalad & Hamel, 1990). Core competencies are defined as a bundle of critical skills that, in their entirety, lay the foundation for success in the market and for later economic results. As 'core competency' clearly goes further than the idea of potential, it may reasonably be claimed that core competencies predetermine future potentials (non-realized competitive advantages).

Applying Chandler's (1962) logic, *structure follows strategy*, it may be argued that competitive advantage follows core potential and core potentials follow core competencies. This connection is depicted in Figure 1.

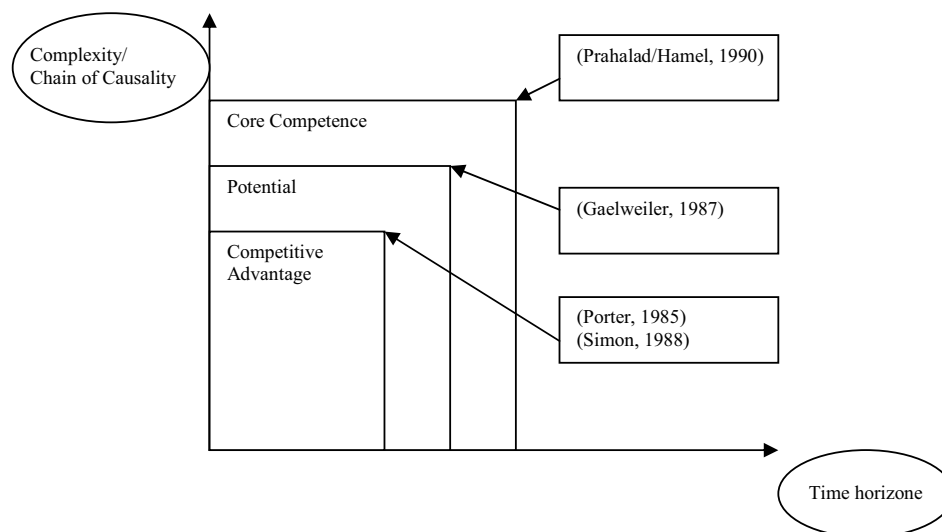


Fig. 1. Core Strategic Variables – Competitive Advantage follows Potential and Potential follows Core Competence

Figure 1 shows that the creation of core competencies is related to a rather longer time horizon and is therefore subject to a higher degree of complexity than the creation of core potential and competitive advantage. This chart also highlights that the creation of strong roots, in the form of core competencies for tomorrow's competitive advantages and operating success, is a rather risky undertaking in view of long time horizons and rapid rate of change. When value chains are continuously deconstructed, and the time horizon of building core competencies (to predetermine tomorrow's competitive advantages) is somewhat longitudinal, an envisaged 'problem solution' may become dated even before entering the market place. A sole focus on resource-orientation is

therefore insufficient in today's world of rapid change. Thus, environmental factors must be continuously studied in view of their potential impact on the chain of causality depicted above.

Emerging factors such as new technologies, competitors, or changes in legal frameworks need to be strategically re-thought in view of their impact on strategy formation as well as their direct relevance for operating success and liquidity. Thus, a new environmental phenomenon can assume the role of a catalyst for strategic thinking. If such catalysts suggest consequent action or decision-making, they should be termed 'change drivers'.

Mintzberg's research (1994) suggests that managers spend a good deal of their time responding to high-pressure disturbances. This behaviour seems to arise not only because poor managers allow problems to deteriorate, but also because good managers promote changes that are necessarily disruptive. Effective managers are not those who avoid all crises, but those who exploit in opportunistic ways the crises they know they cannot avoid. Managers work in calculated chaos.

The question is, how can they ensure that new disturbances are anticipated? There seems to be a need for constant scanning of the environment and for guidance on how to assess these phenomena from a strategic angle. This assessment should be executed in a simple but systematic manner, while encouraging creative and intuitive strategic thinking. As Mintzberg (1994) points out, a too formalistic procedure during this phase does not actually benefit companies, and may even put them at risk.

Planning, as well as strategic thinking, in the corporate world requires input from both hemispheres of the human brain, that is, an analytical process via the left hemisphere together with an intuitive process via the right hemisphere (Sanders, 1998).

The 'strategic magnifier' has been developed to provide systematic guidance in interpreting emerging changes without suppressing the creative aspects of strategic thinking.

The 'strategic magnifier' framework

As indicated, new developments or phenomena are constantly emerging and represent challenges for corporations in today's business environment. Industry leaders need to scan these phenomena and understand the related strategic opportunities and threats for their business. The 'art' of recognizing opportunities and threats, and of conceiving adequate organizational responses, is an area where great leaders can be distinguished from mediocre ones (Ohmae, 1982). Successful leaders succeed in capitalizing on the opportunities offered by change and avoid or reduce the impact of threats. Thus, various external phenomena could have the potential to qualify as change drivers that determine the future fate of corporations or industries. Indeed, change drivers can make shifts in corporate or competitive strategy necessary or desirable. They may even offer opportunities for strategic breakpoints such that a business is re-engineered or elevated to a new S-curve (Johansson et al., 1993).

The 'strategic magnifier' has been developed as a framework through which it's possible to understand the role of emerging phenomena from a strategic angle in a systematic way. The five Cs — change driver, context, competitive advantage, core potential and core competence — construct an intellectual framework for testing new phenomena regarding their 'change driver properties'. Even though the core elements within this framework can be detected at first sight, their underlying interconnections and interplays need to be 'magnified' to bring them to the surface. In view of these tasks, the term 'magnifying' seems more appropriate than the commonly used term 'scanning'. While scanning aims only at generating a snapshot of a momentary situation, magnifying expresses the 'real' work of strategists. Interconnections and interplays are carved out and clarified, in order to make them manageable in daily operation, and to integrate them into strategic concepts.

This process involves groundwork to reveal or magnify underlying connections that are not obvious at first sight. Today's world seems particularly to be characterized by many underlying and connected problems that are not obvious, as well as by an accelerated speed of change causing the emergence of complex problems. However, increasingly demanding environments conflict with practical time constraints, forcing managers to focus their efforts selectively. Thus, emerging phenomena are best investigated from certain perspectives or 'strategic filters' (Figure 2).

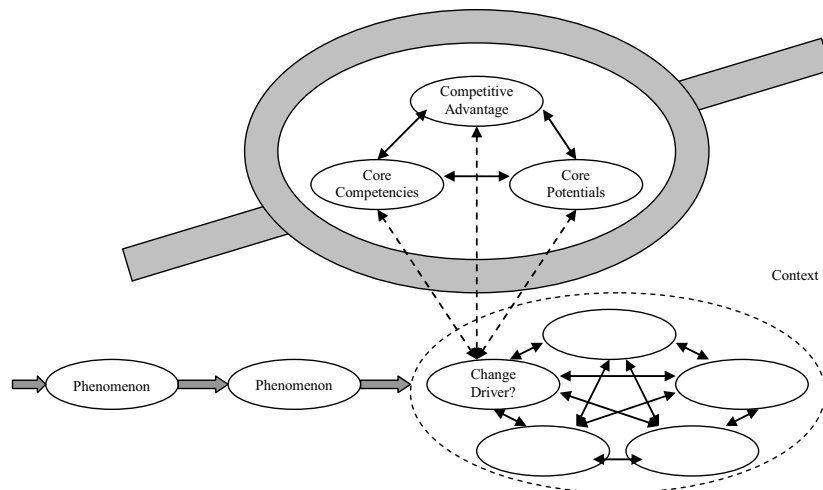


Fig. 2. The 'Strategic Magnifier'

Strategic filters focus the analysis of a phenomenon on its likely interaction with a company's environment, and induce the question of what these anticipated interactions mean for the filter variable. The phenomena could relate to classical environmental areas (such as changes in legislation), but also could include industry drivers such as new technologies. As we have seen, the three 'filters' or strategic variables (competitive advantage, core potential and core competence) determine the short- to long-term strategic success of a firm. Executives are encouraged to look, through a kind of strategic lens made up of the three filters, at the interaction of an emerging phenomenon within the firm's environmental context. Such a lens provides a better understanding of the strategic role of emerging phenomena and/or change drivers within the respective context from a strategic perspective. The strategic thought process needs to cover all elements of this framework and their respective interplay with each other.

Context

Every emergent change driver needs to be understood within its respective context. A 'contextual' analysis provides a holistic understanding of the social, political and economic environment, the industry and/or corporation, and other change drivers influencing the industry. An influence diagram using the system approach (Figure 7) facilitates the visualization of interplay between change drivers, and helps an understanding of their interactions, the power of various factors to impact on others, or their ability to be influenced. Clusters of key change drivers can be identified by this approach. It is very important in the course of this contextual analysis to identify the underlying role of the potential change driver as well as the role of the corporation and/or industry. Focus group interviews, surveys and structured interviews are useful tools for developing a deeper understanding. As a structural frame, Porter's (1980) competitive forces are useful in conducting an industry analysis. In order to generate a deep understanding of underlying interconnections, a matrix of interdependencies (Ulrich & Probst, 1991) appears to be indicated. Following contextual analysis, a better understanding of the change drivers and their interaction with other contextual variables can be obtained. These findings provide important hints and form the basis for consecutive strategic thinking. The art of this environmental scanning or magnifying process is to balance two different extremes, that is, avoiding a myopic or too narrow perspective while ensuring a practical and time-efficient approach.

Strategic variables and/or filters

Understanding a potential change driver's impact on the primary strategic variables (core competencies, core potentials and competitive advantages) follows contextual understanding the phenomenon from a strategic perspective. The perceptions and strategic intents of senior informants or decision-makers are acceptable as evidence in this context. As explained, the relationship between the strategic variables follows Gaelweiler's (1987) logic of predetermining ('*vorsteuernde*') variables – core competencies lay the foundation for the creation of potentials, and these provide the opportunity to generate a competitive advantage. Should an emerging phenomenon create the need to rethink or amend one of the three strategic variables, it is definitely of strategic relevance and qualifies as a change driver. The necessity for change could stem from the change driver's interaction with the firm's context. The three 'strategic filters' focus the analytical mind on questions about how a 'newly anticipated environment' interacts with any of the company's core competencies, core potentials or competitive advantages. The filter of competitive advantage and core potentials raises questions about whether current or future competitive advantages are, or will be, affected by the external phenomenon. Moreover, it forces the mind to think within the chain of causality whether the foundation for future competitive advantages may need to be laid by creating or amending potentials, or even core competencies. A holistic understanding the environment, and an evaluation of the anticipated impact of a change driver, is the basis for this step of the strategic analysis. The strategist needs to project an anticipated future and identify opportunities and threats related to this environment. Sketched scenarios help to identify the potential consequences for amending core competencies.

The mind of the strategist continues to work after having gained a comprehensive understanding the strategic relevance of the emerging phenomenon. Strategic thinking is also about positioning, and searching for innovative solutions. Its creative dimension may be applied in radically rethinking ways of doing business. It encourages thinking 'out of the box' and searching for new patterns (Ohmae, 1982) and breakpoints (Johansson et al., 1993). An important function of strategic thinking is the overall generation of objectives and vision.

The 'strategic magnifier' framework provides an important foundation for crafting a superior strategic position. It can also be used as an intellectual framework to initiate a process of redefining a given business. By analyzing external factors through the 'strategic magnifier', the strategic thinker has an excellent starting position from which to initiate a potential redefinition of business. Thinking about new phenomena in the light of the 'strategic magnifier' can lead to the creation of a new organizational focal point.

Case Study: Indonesia

To demonstrate the 'strategic magnifier' (SM) in context, the magnifier was applied in a relevant case study of the international pharmaceutical industry in Indonesia. The first aim of the case study was to confirm the validity of the SM as a cognitive tool. This was done through an empirical study involving physicians who comprised major decision-makers for the consumption of research-based pharmaceutical products. The second aim was to explore the applicability of this tool. This was done by using an interpretive approach in which industry leaders were invited to anticipate the implications of the enactment of TRIPS (Trade Related Aspects on Intellectual Property Rights) agreement, between members of the World Trade Organization (WTO) in the late 1990s. Companies had to assess what the impact of this stronger protection of their intellectual property would mean for their corporate strategies.

Establishing the validity of the strategic magnifier

In order to establish the validity of the strategic magnifier, a survey targeted at key customers/decision makers for the pharmaceutical industry, notably prescribing physicians was conducted in Indonesia.

Randomly selected physicians (n=151) were asked to evaluate 22 leading pharmaceutical companies in Indonesia (international, n=13; national companies, n=9 [IMS, 1999;]) with regard to

19 corporate attributes (which had been considered relevant during informal pre-discussions with industry leaders). When the results were transferred to a matrix of competitive advantages, the competitive advantages/disadvantages of MNCs versus local companies became apparent. In this matrix (Figure 3) the vertical axis depicts relative importance, meaning a criterion's importance divided by the average importance of all criteria multiplied by 100. The horizontal axis depicts relative performance — the percentage of counts divided by the average frequency of counts per criterion.

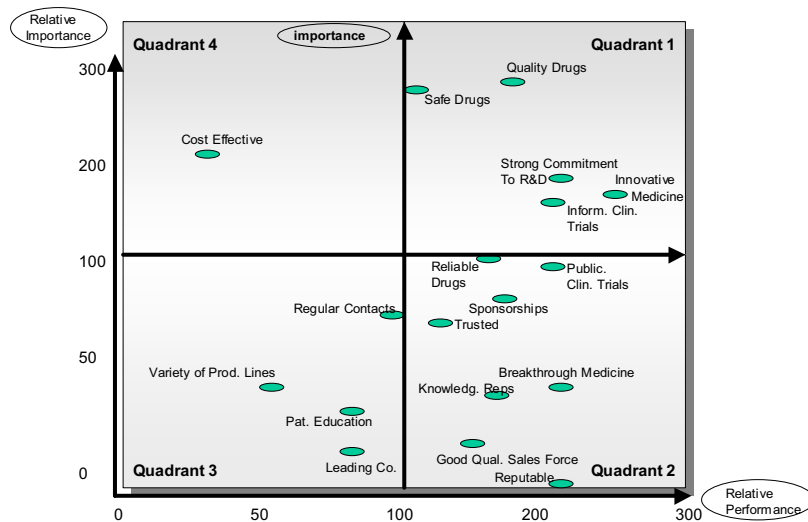


Fig. 3. Matrix of Competitive Advantage of IPMG Companies Benchmarking versus Local Companies

The positioning of attributes in quadrants 1 and 2 shows that IPMG companies have managed to differentiate themselves in the areas of quality and/or safe drugs and innovation (strong commitment to R&D, innovative medicine), as well as providing information on clinical trials. Local companies, on the other hand, obtained a superior performance in cost effectiveness and to a lesser extent in areas such as regular contact with physicians, variety of product lines and patient support (demonstrated by the relative positioning of the attributes in quadrants 3 and 4).

The correlation analyses (Figure 4) demonstrated that various parameters highly correlated with MNCs' sales performance (after two companies were excluded due to extraordinary developments: a) change of name, b) extraordinary sales due to a monopoly situation in an important therapeutic area).

	Correlation Coefficient		Significance
	Pearson	Spearman	Spearman
Reliable Drugs	0.729	0.861	0.01
Reputable wellknown	0.591	0.741	0.01
Knowledgable Med Reps	0.621	0.737	0.01
Quality Drugs	0.545	0.708	0.05
One of the leading co.	0.646	0.664	0.05
Safe Drugs	0.595	0.648	0.05
Good Quality Sales Force	0.574	0.639	0.05
Trusted	0.631	0.627	0.05
Patient Education	0.541	0.581	
Commitment to R&D	0.556	0.562	
Publications on Clin. Stud.	0.475	0.556	
Maintains Regular Contact	0.529	0.545	
Information on Clinical Dev.	0.419	0.524	
Innovative Medicine	0.48	0.474	
Regul. Sponsorship	0.449	0.434	
Breakthrough Medicine	0.476	0.431	
Variety of Product Lines	0.473	0.356	
Cost Effectiveness	0.092	-0.083	
Index of Comp. Strengths	0.592	0.615	0.05

Fig. 4. Correlation analyses

Significance levels of 0.01 and 0.05 were obtained for various parameters. Inter-correlations confirmed the MNC's strong positioning in the field of quality/safety/trusted products, as well as innovation (research/breakthrough medicine/innovative/medicine/information on clinical studies/publication), and knowledgeable/quality field force.

Various other parameters did not directly correlate with operating success, but appeared to have a more indirect impact as well as seeming to lay the foundation for operating success. The area of cost effectiveness was clearly the most strongly associated with local pharmaceutical companies.

In order to understand the role of competitive advantages versus core potentials and core competencies, the complete set of findings was discussed in focus group interviews with informed executives. The focus group discussed what these findings could mean for the strategic roots of competitive advantages (core potentials and core competencies).

It became clear that the primary role/activity of a pharmaceutical subsidiary was directed towards optimising the commercialisation of strategic core brands. Thus, the objectives for all other functions performed in these enterprises would have to support this overarching goal.

The topic, commercialisation process, directly leads to the topic of life cycle management. As is commonly known, products go through different phases related to introduction, growth, maturity and decline during their life. As far as pharmaceuticals are concerned, the introduction and growth phase is particularly important to achieve fast penetration for their block buster research products and to recuperate their investment fast (DG Bank, 1999). In line with the stages of the product life cycle, competencies of pharmaceutical subsidiaries must be particularly related to the pre-launch and launch phases (pre-launch competency, launch competency) and eventually to life cycle management competency (growth phase till phase of decline). It should be noted that the application of the term of core competencies is a little stretched here, in comparison with the original concept which relates to operations at a global level (Prahalad & Hamel, 1990). However it is considered a useful frame for understanding the sources of future competitive advantages.

When thinking of the industry's competitive positioning (MNC) and their strengths with regard to new products, members of the focus group interview concluded that the following core competencies are crucial for sustaining competitive advantages as described earlier.

- *Clinical development* – to develop specific areas of product usage (such as indications, dosages) and to win support from opinion leaders.

- *Medical writings* – to improve the image of the company's competence in certain diseases, and to enhance perceptions of products.
- *Medical education* – dissemination of the latest product and/or disease knowledge appeared to be a key task for a research-based pharmaceutical company.
- *Brand management* – overall, a company needs to strengthen the value of its brands in order to position them even after patent expiry.

The focus group discussions emphasized that the differentiation between the different categories is somewhat fluid, for instance, knowledgeable medical representatives can be categorized as competitive advantages as well as core potentials (Figure 5).

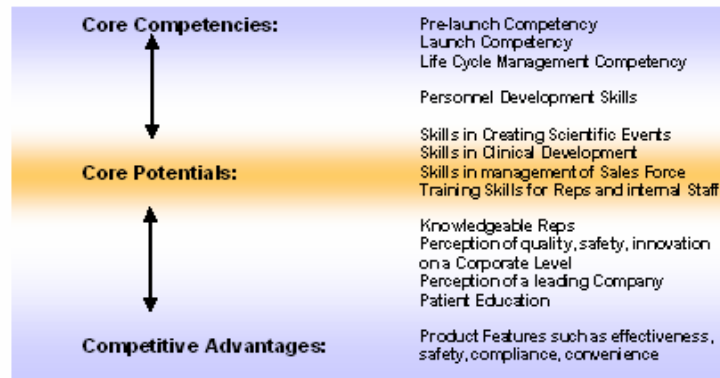


Fig. 5. Integrated Concept of Competitive Advantage, Core Potential and Core Competency – using the example of the Research Based Pharmaceutical Industry in Indonesia

The application of this concept (Figure 5), which developed out of the research and was subsequently discussed with industry leaders, underlines the usefulness of thinking in terms of the strategic roots of the 'strategy tree'. It is appropriate to trace the roots of competitive advantage and to use this concept of core competencies as a guide for thinking systematically about them. In this respect, the lenses of the 'strategic magnifier' provide a useful cognitive framework for reviewing the strategic positioning of a corporation in response to emerging environmental changes.

Establishing the applicability of the strategic magnifier

As the global pharmaceutical industry is knowledge-intensive, with substantial investment in R&D for new products, protection of intellectual property (patent protection in particular) is of prime strategic importance. Some of the implications of TRIPS for pharmaceutical companies in Indonesia were obvious to CEOs of the international pharmaceutical industry in Indonesia. Local competitors would no longer be able to freely copy the new products of the originators, as patents would be legally protected. Implications for marketing and sales were easy to predict. Industry leaders were quick to draw the conclusion that TRIPS was going to increase the revenue expectations of international companies in the country due to the elimination of copy products.

Predicting the future for this or any industry requires analytical thinking. For instance, although industry leaders could readily understand that patent protection was a change driver of significance, how it related to and interplayed with other forces of primary importance for the industry was not so immediately predictable. It seemed rather difficult for them (because of the strong operational focus of their position responsibilities) to develop a holistic perspective on the opportunities and threats that related to changes in intellectual property protection. Questions about how it could possibly change the industry or its underlying competitive forces were seen more from singular viewpoints than by the industry as a systematic whole. Basically, such an analysis required more thought. Using the strategic magnifier as a guide, CEOs were invited to think about the strategic significance of the TRIPS agreement for the future.

Situational context

In April 1994, the previous President of Indonesia, Mr. Suharto, committed the country to comply with the TRIPS agreement and to protect intellectual property rights (IPR) (*State Gazette of the Republic of Indonesia*, 1997). As a result, from the year 2000, Indonesian political and business communities have been expected to craft, implement and enforce laws and regulations protecting patents and other forms of intellectual property (trade secrets and trademarks). Indonesia will be carefully monitored by the WTO to ensure that, whatever legal framework transpires, it conforms in both spirit and form to the expectations of the global trading community. This represents a major shift in national business and trade practice. Previously, local companies had faced no restraint in copying intellectual property, typically, that of international corporations who had invested venture capital and taken risks in the prolonged process of R&D for new products (Biro Okroi Rosseno, 1997). A prime example comes from the knowledge-intensive pharmaceutical industry, which substantially invests in R&D, particularly for new generations of drug-based treatments in health care (PhRMA, 1996).

Expressed simply, by entering into the TRIPS agreement and establishing an effective legal framework, the nature of doing business in the country conforms to international standards and changes forever the behaviour of local pharmaceutical companies. This recognition, of course, is quite superficial and could have been anticipated without the help of an analytical framework. However, the question is, how can research-based pharmaceutical companies take advantage of this change? In this case, the 'strategic magnifier' was applied to generate a much better basis for decision-making in the changing climate.

In order to develop a holistic perspective on the contextual situation a mainly interpretative research methodology was designed which included six different focus group discussions with industry leaders in Indonesia complemented with an industry survey of international pharmaceutical companies (n = 35) (Oelkers & Elsey, 2003).

Research sample

Participants were invited from the International Pharmaceutical Manufacturer Group (IPMG), which represented about 50% of the Indonesian pharmaceutical market (IMS, 1999). The global organizations of IPMG companies contributed 54% of total world market sales, as well as around 78% of worldwide spending in pharmaceutical research and development in 1999 (Oelkers, 2001). Among the IPMG companies there are 24 of the leading 30 pharmaceutical manufacturers in the world (Script, 1998; *IPMG Open Sales Exchange Report*, 1999).

Contextual analysis

To identify the role of IPR and its potential impact on the research-based pharmaceutical industry in Indonesia, various open-ended questions were raised in focus-group interviews, and in an industry-wide survey (as mentioned). The first set of findings was based on perceptions of what CEOs and senior managers thought was emerging in the industry as a consequence of anticipated changes to patent protection laws in the country. Their ideas about strategic options were based on these perceptions. The findings suggest that IPR (particularly patent protection), in accordance with TRIPS, would be a catalyst for more foreign direct investment, technology transfer, knowledge spillovers, strategic alliances, innovative activities and economic benefits for the research-based pharmaceutical industry of Indonesia, and the country generally. An important finding relates to the time factor. It was agreed that the expected effects would take some years to make a significant difference; this is in line with the long time horizon of the pharmaceutical industry generally.

25 of 35 pharmaceutical companies responded to a number of questions. The findings were triangulated with two additional focus group interviews involving senior executives of the industry. The TRIPS Agreement was confirmed as an important change driver for the pharmaceutical industry in Indonesia across all research items. IPR scored highly in terms of importance compared to industry-related change drivers and macro-level key factors. In this survey of international pharmaceutical companies (IPMG-members), CEOs considered that a major portion of their

future business (average of 54%) would be affected by IPR in the long-term, thus confirming the importance of IPR as a change driver. 39% of the CEOs anticipated an increase of revenues and profits with the stricter IPR legislation (Figure 6).

Industry Survey IPMG Companies

Long-term impacts (beyond 5 years) expected due to the TRIPS Agreement in Indonesia

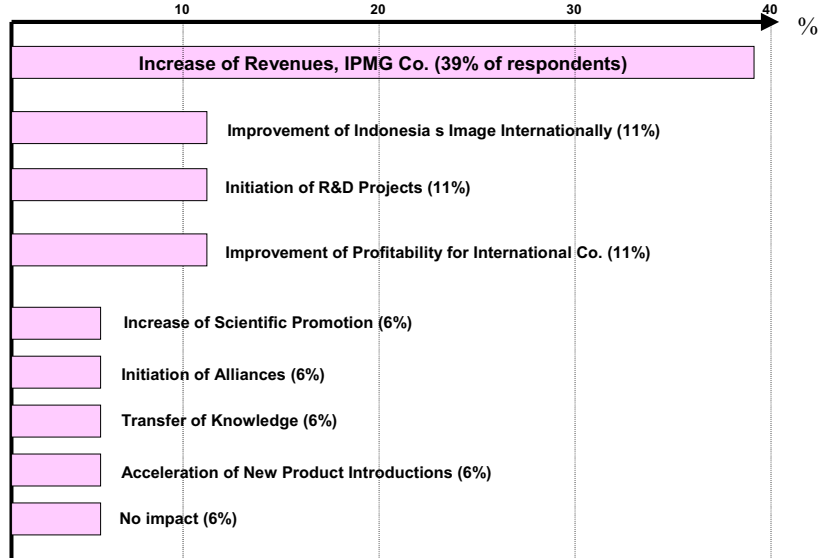


Fig. 6. IPMG Survey (Oelkers, 2001)

During follow-up focus group interviews with a selected number of well-informed CEOs of Pharmaceutical multi-national companies (MNCs) in Indonesia, discussions were deepened through a more structured and systematic approach.

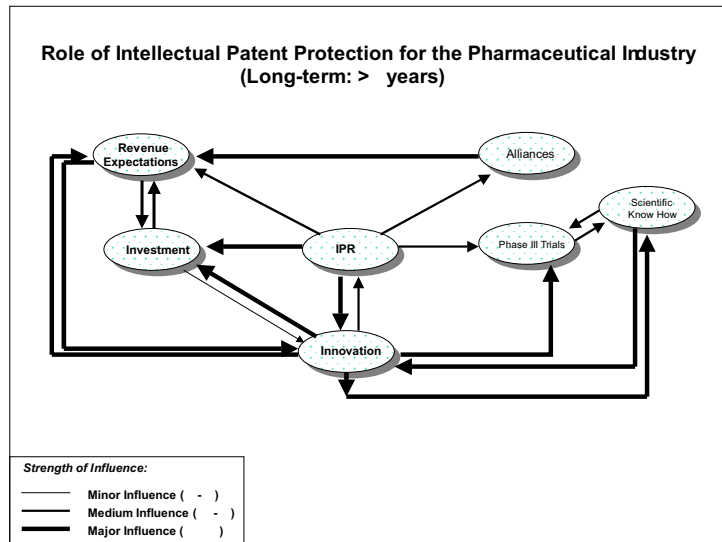


Fig. 7. Role of Intellectual Patent Protection for the Pharmaceutical Industry

Using tools of system management theory, such as matrices of interdependencies (Ulrich & Probst, 1991), the aim was to uncover underlying interconnections between the key factors driving the industry in relation to IPR. The overall purpose was to generate a holistic view of the subject matter as part of the process of context analysis (see Figure 7). As the influence of IPR seemed to be somewhat time-dependent (e.g. related to the rather longitudinal R+D-process), this matrix of influences was evaluated in three stages (short, medium and long-term). In Figure 7, IPR's long-term influence is depicted on the basis of informed executives opinion. IPR appeared to show longitudinal change driver properties in the analysis.

This mapping laid the foundation for the recognition that IPR reduces risk and improves revenue expectation, enhancing NPV (net present value) expectations and increasing overall readiness for investment.

In terms of IPR's implications on the three strategic variables, the participants of the focus group discussions considered TRIPS to be an enhancer for the upper branches of the strategy tree (competitive advantage and core potential) the question emerges as to whether its roots (core competencies) should be adjusted in turn (Prahalad and Hamel, 1990). The question is derived from the fact that the time it takes to build up core competencies is significantly longer than that taken for competitive advantages. As the TRIPS Agreement does not necessitate a fundamental rethinking of the role of the Indonesian subsidiary over the next five years, the focus will remain on optimizing the commercialization process of global brands. Thus, core competencies do not need to be fundamentally rethought either. In fact, TRIPS does encourage companies to seek opportunities to enhance these competencies. It becomes evident that, in view of these anticipated trends, the traditional orthodoxies of 'medical marketing' in Indonesia may be insufficient to outperform the market in the medium- to long-term future. TRIPS becomes a business enhancer for core competencies in science, innovation and quality regarding the commercialization process. In terms of pre-launch competency, a stronger emphasis appears to be possible on clinical development (Phase III) in particular, in coordination with Regulatory and Marketing departments. In order to improve the efficiency and effectiveness of the system, process clarity and re-engineering need to be pursued. The basic philosophy among the research participants was that TRIPS was a change driver that would accelerate the rate of change in the Indonesian environment towards that of a developed country. Thus, over time, competencies and skills must be upgraded in the core functions towards the levels attained by developed countries.

Discussion and Conclusion

In view of ever-changing business assumptions and newly emerging phenomena, business leaders are forced to constantly reassess their environment and their organizational responses. The 'strategic magnifier' provides a framework that focuses strategic thinking on essential areas of strategy formation. The framework guides leaders to carve out an understanding the interplays between emerging phenomena and industry related drivers. The concept of strategic variables leads managers directly to questions related to the primary role of a corporation (particularly as, at the beginning of such a process, benefits could be expected from the consistent realignment of objectives at various organizational levels). Clarifying the composition of the strategy tree and understanding the interplays of an emerging change driver facilitate the strategic evaluation of such a phenomenon.

As demonstrated in the example of the Indonesian Pharmaceutical Industry, the application of this framework proved to be useful in conceptualizing appropriate and manageable responses to change.

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