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FACULTY OF ECONOMICS

MASTER’S THESIS

STRATEGY AND ACTION PLAN OF THE COMPANY RITES

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AUTHORSHIP STATEMENT

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INTRODUCTION

Transport is a key element in the infrastructure. It provides services essential for promoting development. It plays a significant role in influencing the pattern of distribution of economic activity and improving productivity. It acts as life-line linking markets, educational and health institutions. Above all, it connects the mosaic of cities, towns and villages of such a vast country as India, thereby underpinning its unity and integration. The transport system comprises a number of modes. The capacity of each has to be developed to meet its specific demand within the requirements of the transport system as a whole. The system has to be viewed at each step as an integrated structure, keeping in mind the relationship between different transport services.

The purpose of the master thesis is to assess the competitive edge and core competencies of RITES Ltd. (hereinafter: RITES), one of the largest and well-known public sector enterprises (hereinafter: PSE) in the domain of multi-modal transportation consultancy organizations in India amidst the rapidly changing global scenario and opening of the market which attracts a number of foreign players and multinational corporations vying for participation in the current boom being observed in the transportation infrastructure segment. The research objective in the present thesis attempts to formulate long term strategies and action plans for RITES to remain viable amidst the significant changes in the business environment in recent years including the way business is structured and operated in the increasingly competitive market conditions due to large Indian companies and foreign firms entering the market attracted by the mega infrastructure projects. The sectoral presence of the company in various segments has been studied and an attempt has been made through this research to determine what strategies and action plans need to be formulated for the firm to remain relevant and a strong player in its domain for the years to come. An attempt has also been made to gauge the effect of other factors such as focus on human resources, investment in knowledge management, brand development, etc. that may also influence to reshape the strategies of the company in future.

The major research questions the master's thesis attempts to answer are:

1. Which sector of operation does RITES need to focus on to survive the onslaught of open market economy bolstered with globalization?
2. Are the present strategies and action plans adopted presently by RITES enough to survive as a major player in the long run?
3. What are the long term strategies and action plans needed to be formulated by RITES to remain as a key player in the consultancy sector of multi-modal logistics?

Due to paucity of time and geographical barrier, the researcher mainly depends on data retrieved from secondary sources such as the company's web pages, annual reports, corporate plan, etc. instead of primary research through questionnaire and interviews among the employees. More than eighteen years of association with the company also comes in handy for the researcher as he falls in the category of internal researcher. A detailed SWOT analysis has been carried out to identify the strategies in the short, intermediate and long terms.

In accordance with the set objectives the master's thesis is divided into five main chapters. The first chapter describes the organizational overview of RITES including its major areas of operation, international presence, major divisions and activities.

The second chapter gives an overview of strategy formulation. Prior to the development of strategic management, an organization is dictated by framing the business policy with a top down approach. Business policy is very much intrinsic in nature originating from the effective synchronization of various disciplines contributing to the growth of the organization. But the uncertainties of the external environment are not being taken care of. However, with the development of strategic management, new horizons open up. Now more emphasis is laid on the scanning of the internal environment of an organization listing its strengths and weaknesses and also of the external environment comprising of opportunities and threats where the organization operates. In due course strategic management prevails over business policy.

The third chapter deals with a detailed literature review on strategic planning, formulation of strategy, SWOT analysis, and generation of strategic options. This decisive evaluation establishes that SWOT analysis is indeed a dominant tool for strategy formulation. The salient feature of strategy management is the strategic synchronization between external and internal environments. A formulation of a SWOT matrix is an effective culmination for evolving generic strategies.

The fourth chapter deals with research methodology including framing of research questions, data collection, and the research design. The fifth chapter includes the analysis part of the thesis encompassing scanning of the external environment to identify potential opportunities and threats being faced by RITES in the current scenario, scanning of the internal environment of the company to determine strengths and weaknesses, detailed SWOT analysis, and formulation of strategies and action plan.

Finally, in the conclusion part the most important findings and recommendations are being deliberated. This chapter shows direction to RITES to revisit its policy of taking up contracts from the government clients only and also take up jobs from private clients. RITES needs to come out from the government bias and collaborate with relevant private sector players, in particular as a domestic consultant for major foreign players in the big value projects funded by international lending agencies. The instant thesis also attempts to generalize the findings of the study to prepare a future roadmap which will ultimately facilitate the firm to achieve sustainable growth in the future.

1 ORGANIZATIONAL OVERVIEW OF RITES

RITES Ltd., a multi-faceted consultancy conglomerate, was formed in 1974 to facilitate Indian Railways to undertake certain prestigious consultancy assignments in some countries of Africa and Latin America. RITES is a public sector enterprise under the Ministry of Railways. RITES has a varied domain of operations in almost all the sectors of transportation, infrastructure and other associated fields. RITES is the first consultancy organization to have an ISO accreditation which has boosted up its opportunity to bag a number of global contracts. It is a one shop technology service provider and effectively transfers technology to various client bodies. In the last decade RITES has effectively entered into some fruitful local tie-ups with domestic companies of repute in its endeavor to aggressively bag the foreign consultancy contracts. During the journey of forty years since constitution in 1974, RITES has under its kitty operational experience over more than 63 countries spread in four continents. The cardinal areas of operational expertise are shown in Table 1.

Table 1. Key functionalities of RITES

SN	Description
1	Techno-economic feasibility studies, project appraisals and engineering surveys for transportation systems.
2	Detailed design, engineering and documentation for new lines electrification, gauge conversion and modernization.
3	Contract administration, construction supervision and project management.
4	Infrastructural and systems support services of highways and roads, ports and harbors, inland water transportation, airports, urban transport and energy management.
5	Staffing studies and manpower planning.
6	Staff training, planning and manning of training institutions.
7	Inspection of materials, components, equipment and rolling stock and quality assurance systems.
8	Operation and management of transport networks.
9	Computer services and management information systems.
10	Integrated expert packages including related services.

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

Since its establishment in 1974, RITES has successfully handled a number of international assignments in countries like Afghanistan, Algeria, Angola, Bangladesh, Botswana, Brunei, Cameroon, Cambodia, Djibouti, Dominican Republic, Egypt, Ethiopia, Ghana, Greece, Indonesia, Iran, Iraq, Zambia, Zimbabwe, Malawi, Malaysia, Mauritius, Mexico, Mozambique, Nepal, Nigeria, Laos, Philippines, Saudi Arabia, Sri Lanka, Sudan, Swaziland, Syria, Tanzania, Turkey, Uganda, UK, USA, Uzbekistan, Vanuatu, Vietnam and Yemen. The board of directors of RITES consists of a chairman-cum-managing director, director (finance), director (technical), director (projects) and two part-time directors (government nominees) from the Railway Ministry and the External Affairs Ministry in addition to three non-official independent directors. The corporate office of RITES, which markets for and monitors and supervises international projects, gives policy direction to the operating units, liaises with the government and other external organizations and provides staff support for personnel, finance and information systems. Various divisions function in the corporate office under the control of an officer of the level of executive director or group general manager and execute various activities indicated in Table 2.

Table 2. Major divisions and activities of RITES

SN	Division	Activities
1	Rail Infrastructure	Markets for and conducts and supervises studies and projects within India in the areas of rail transport, airports, construction management and quality assurance of civil works, geo-technical investigations, architectural design, construction supervision, design of major bridges and tunnels, etc. and which has offices at Gurgaon, Kolkata, Mumbai, Chennai, Nagpur, Bhubaneswar, Bangalore, Secunderabad and Lucknow.
2	Urban Infrastructure	Markets for and conducts and supervises studies and projects in the areas of urban transport, environmental engineering, structural engineering, project management, construction management, quality assurance and inspection, etc.
3	Transport Infrastructure	Markets for and supervises studies and projects both in India and abroad in the areas of highways, ports, inland water transportation, etc.
4	Quality Assurance (QA)	Involved in quality assurance and third party inspection of diverse range of equipment and material since 1974. The QA div. offers customized and integrated quality assurance and quality management services to railways, public sector undertakings, state governments and private sector clients as well as international clients. The division is providing comprehensive consultancy to various organizations for certification in ISO 9001, ISO 14001, OHSAS 18001, ISO/TS 16949, SA 8000, ISO/IEC 17025 standards.

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

RITES primarily operates through a number of strategic business units (hereinafter: SBU). These SBUs are formed for operational efficiency and the control of the same lies with the corporate body which consists of divisions and a board of directors. Hence the hierarchy of the organization demands the SBU head reports to the divisional head and the divisional head subsequently reports to directors and the board. Internal services are being provided by the supporting units like human resource development, personnel and administration, finance, business development, etc.

2 OVERVIEW OF STRATEGY FORMULATION

Strategy formulation cannot be defined in a single sentence. It is not an activity but culmination of a structured process, where the strengths and weaknesses of an organization are being evaluated vis-à-vis the opportunities, and the potential threats exist in the external environment of operation of the organization. The mission statement, policy objective and guidelines are being determined in an effective manner.

Today is the age of globalization and open economy. Lots of closed door economies in various parts of the world are opening their markets leading to wonderful opportunities and an unprecedented restructuring and rightsizing. Acquisitions and mergers are being observed among the major and minor global players. Privatization has also come in the big way. Information technology is in the boom. The burgeoning influence of strategic management as per today's global perspective and changing business scenario has major bearing even on the small to medium sized firms.

It is useful to consider strategy formulation as part of a strategic management process that comprises three phases: diagnosis, formulation, and implementation. Strategic management is an ongoing process to develop and revise future-oriented strategies that allow an organization to achieve its objectives, considering its capabilities, constraints, and the environment in which it operates. Formulation in the strategic management process, produces a clear set of recommendations, with supporting justification, that revise as necessary the mission and objectives of the organization, and supply the strategies for accomplishing them. In formulation, we are trying to modify the current objectives and strategies in ways to make the organization more successful. This includes trying to create "sustainable" competitive advantages -- although most competitive advantages are eroded steadily by the efforts of competitors

2.1 Why strategic management?

A rich dividend can be reaped by a firm by effective implementation of strategic management. Strategic management does not satiate the instant goal but in the long term it facilitates the firm to maximize benefit. In a way strategic management plays a pivotal role in making a leeway for the firm and also warns the firm at the same time of any imminent danger and acts as a protective gear against any unprecedented development arising on the business scenario. Maximization of revenues by rightful deployment of limited resources is also guided by strategic management. It also facilitates the firm to decide on the investment options, bolster the management with development of systems and mechanisms favorable for the overall growth of the firm.

2.1.1 Defining strategy

Management is a concept which is being developed not all of a sudden. Rather the present management science is indebted to the real life and practical experiences of managers. Some of the best definitions of strategy provided by the pioneers in the field of strategic management are stated herewith. According to Glueck and Jausch (1984), a strategy is a unified, comprehensive and integrated plan that relates the strategic advantages of the firm to the challenges of the environment and one that is designed to ensure that the basic objectives of the enterprise are achieved through proper execution by the organization. Learned, Christensen, Andrews and Guth (1965) in the concept of corporate strategy define strategy as the pattern of objectives, purposes, goals and the major policies and plans for achieving these goals stated in such a way so as to define what business the company is in or is to be and the kind of company it is or is to be. Chandler, Jr. (1962) in Strategy and Structure of the American enterprise states strategy as the determination of the basic long-range goals and objectives of an enterprise and the adoption of the courses of action and the allocation of resources necessary for carrying out this goal. Mintzberg (1979) states strategy to be a mediating force between the organization and its environment dealing with consistent patterns of streams of organizational decisions dealing with the environment.

Short term gain is now not the mantra of the majority of firms, rather every competitive firm operates at present with a look in the future. The concept of strategic management comes handy to them. Beinhocker (2006) in his research work established that the recipe for the success of an achieving firm is not restricted to the business prospect prevailing at present, but the domain should be wide and open to be flexible in the changing future market. Previously it has been established that the archaic terminology of business policy has been superseded by more scientific terminology strategic management but it is not limited to strategy formulation, but also involves strategy implementation, environmental assessment and industry analysis.

2.1.2 Benefits of strategic management

The business environment is undergoing rapid transformation. What seems relevant today may not be an attractive option for tomorrow. The benefit of strategic management lies here. A clear strategic vision is essential for a present day firm to sustain in this fiercely competitive market. Wilson (1994) shows us a few companies can do so in the longer run, whereas the majority of companies can handle the spurt in the growth of the market for a brief period.

2.2 Creating a learning organization

Varying competitive advantage was previously unknown to the majority of firms, as they used to operate in a stable environment. The approach was much more bureaucratic, a yardstick was generally earmarked as a part of strategy formulation and the firms tried to achieve it. The firm tried to defend its competitive edge and tried to stay ahead of its nearest competitors. But now the business environment lost its stability, rather it is becoming much more complex day by day. The static factor gradually fades away leading to room for the dynamic one. So now there is no such thing called permanent competitive advantage. It has been established by Lau (1996) through his enriched contribution that development of strategic flexibility is the need of the hour where there should be leverage to change from one strategy to the other.

In today's changing global scenario, only those firms survive in the long run, which are innovative and exert continuously to develop new products. All firms operate with their limited resources, some of which are very much critical. So the rightful deployment of these critical resources demands a firm to be much more insightful, having an astounding knowledge base. Hitt, Keats and Demarie (1998) reiterate that this particular acquisition of this skill by a firm makes it a learning organization and has the competitive edge to sustain in the long term.

A learning organization operates through its proficiencies such as adaptability in the changing environment, acquisition of knowledge from the surroundings as well as its recent past, and most important of all is the efficient transferability of the knowledge gathered to every nuke and corner of the organization. Garvin (1993) derives the aforementioned factors through his powerful research work.

2.3 Environmental scanning

Scanning the environment (both internal and external), formulation of strategy, implementation of strategy and its evaluation and control are four important pillars of strategic management. Out of the four, the most important is the environmental scanning. Environment is a very broad term and can be classified as internal and external. An internal environment of a firm is quite defined and known to the management of the firm where they are aware of their respective strengths and weaknesses. But external environment is very much uncertain, which also may be called in broader sense the industry where the firm operates. Its control is generally outside the purview of the firm. This is subject to continual change providing opportunities for some firms or posing threats to others. Hence two major variables are opportunities and threats. The existence of a firm thus depends on these four basic variables – strengths, weaknesses, opportunities and threats and their interplay. The analytical tool for scanning the environment is SWOT. By resorting to SWOT analysis, a firm can capitalize its strengths to overcome its inherent weaknesses, so that the external opportunities could be grabbed and the potential threats could be simultaneously nullified.

2.4 Strategy formulation

An organization and to be specific the company RITES, I select for strategy formulation, is a conglomerate consultancy house operating through various divisions and SBUs. All these units need to work in tandem to achieve the common goal and objective of the organization, which is the set target. To achieve the target, a number of activities need to be conducted such as reviewing the position of the firm and its nearest competitors, external threats, framing of various alternatives and assessing each of them based on their individual merit and selecting the most relevant one. This is how the best possible strategy of the firm may be formulated to achieve growth in turnover or consolidate its market share. The key to a successful strategy is a firm should capitalize its core competencies (strengths) as competitive advantage and should reduce competitive disadvantage by managing its core deficiencies (weaknesses).

2.4.1 Mission

A mission statement is a very powerful tool for an organization. By having a powerful mission statement and organization justifies its existence proclaiming its domain of operation, values and ethos not only to the business world outside, but also to its employees. A firm with a structured mission statement lays down the goals and objectives to be achieved in a more transparent manner. Sometimes a lot of confusion arises separating the mission and vision of an organization. The present status of the organization is generally defined by mission. Vision tells about the likeable position the firm will achieve in future. Sidhu (2004) establishes that an organization with a well-defined mission statement is a better performer compared to the firms having none or obscure statements. Other academics such as Campbell and Young (1991) come out with the idea of a single mission statement clubbing both mission and vision of an organization.

2.4.2 Objectives

Objectives are basically quantified. These are the culmination of a well-orchestrated strategy and action plan. This is the measurement of the achievement of an organization in a particular area that may be growth in turnover or increase in market share or increase in profitability or may be effective utilization of resources or increase in shareholders' wealth. Sometimes we use the terminology goal to be achieved by the firm, but that generally comes out without quantification and any time commitment. A corporate objective could be stated achieved only when corporate mission is satiated.

2.4.3 Strategies

The comprehensive blue print of an organization depicting the methodology to achieve mission and objectives is defined as the strategy of the organization. Core competencies of the firm are generally being highlighted over core deficiencies to achieve the set target. The domain of operation, roadmap to reach there, differentiators to dominate the market segment, speed and sequence of moves to reach there and the economic justification are five major steps behind a successful strategy. Hambrick and Fredrickson (2001) have been able to establish the same. Corporate, business and functional are mainly three types of strategy being contemplated by any standard organization.

Corporate strategy is generally being formulated at the apex level within the corporate body. It governs basically all the business units to work in cohesion to achieve growth. Corporate strategy time to time is being modified pertaining to stability, growth and retrenchment policies of an organization. Business strategy whereas is being framed by the individual business unit considering its competitive advantage in the industrial sector where the business unit operates. Cooperative and competitive strategies are two important engines for business strategy. Functional strategy is the synchronization of the corporate and business strategies where an effective amalgamation of two perspectives is being reached to foster an idiosyncratic proficiency to render a corporate or a business unit competitive edge. All these three types of strategy are being operated by a business organization.

A step by step structured approach is generally being followed to arrive at a successful strategy. At first, the current financial performance including turnover, profitability, return on investment, etc. of an organization is assessed. The extant policies, strategies, objectives and the mission statement of the organization are reviewed in depth along with the performance of the board and most important the corporate governance. The four variables such as strengths, weaknesses, opportunities and threats are being listed by scanning internal and external environments respectively. SWOT analysis is resorted to identify the bottlenecks and also revise corporate objectives and mission statement, if necessary. From the outcome of above the best possible strategy is chalked out. All the three strategies mentioned in the previous paragraph are not formulated in isolation, rather they are nested into the organizational strategy where a hierarchy is established. In general, functional strategies support business strategies, which, in turn, prop up the corporate strategies.

2.5 Managing the strategic planning process

Initially, strategic planning came from the top as a part of the top down approach, where a corporate strategy was formulated and the plans and programs of the business units and functional areas needed to be fit into the overall corporate plan. But under the changed circumstances, the majority of organizations changed themselves into learning organizations for future sustainability. Now the initiatives for strategic planning could be generated from any part of the firm. This bottom-up approach is now very much preferred by the big corporate houses, where the onus of the strategy formulation does not lie on the selected top, but everybody has a prerogative to contribute in the same. But the discretionary power generally rests with the top management, as ultimately evaluation, assessment and providing feedback on the plan rests with them. The success of the strategic management is not possible without encouragement by the top management and their valuable support. The top management can be convinced about the successful strategy only when overall objectives can be achieved with the available resources of the organization. Mankins and Steele (2006) also establish this fact in their finding.

2.6 Scanning external and internal environments of an organization

Environment both internal and external is very much significant for existence of an organization. Formulation of an effective strategy is not at all possible without micro and macro scanning of the organizational and the business environment. The policy makers of an organization need to be intimated with the information arising from scanning, monitoring and evaluating various parameters. The internal and external equilibrium of a successful organization should be maintained and the firm should be shielded from the strategic surprises. It has been already discussed in previous articles about growing uncertainty and complexity of the external business environment. The environment is undergoing constant dynamic changes with increased globalization and subsequent erasing of international boundaries. It is really a burgeoning task for a strategist of an organization to formulate long range plans to ensure on the one hand the growth of the organization and on the other maintain equilibrium with its external environment. But the environmental uncertainty is not always bad, sometimes it opens up new avenues for a creative organization to grab the opportunity and take the advantage of the first comer. An innovative firm also may capitalize on this opportunity. Hence a strategic fit between the offerings of the environment and the needs of the organization should be maintained.

2.6.1 Hyper competition

The consultancy segment is fiercely competitive globally due to minimum capital involvement, low entry and exit barriers. In a highly competitive and changing market it is also not possible for any organization to sustain competitive advantage for a long time. Initially like other fields, in the consultancy sector there were few major and dominant players. But with globalization and opening of some closed door economies, established players from other fields inroad into this sunrise segment and rapidly eat up the competitive advantage of the dominant incumbents. Not only bolstered with aggressive marketing and pricing, these new entrants are very fast learners and emulate the successful strategies of the incumbents. Hence there is an overall spurt in competitive intensity. This phenomenon is called hyper competition. The need for organizational flexibility in the turbulent market of the present era as suggested by Wiggins and Ruefli (2005) has become very much pertinent amidst the fast erosion of the competitive advantage in the business environment.

2.6.2 A resource based approach to organizational analysis

The identification, listing and subsequent analysis of opportunities and threats by scanning the external environment in which the organization operates is not sufficient to proclaim the company is ahead of the competitors. Simultaneously its internal environment also needs to be scrutinized and its core efficiencies, i.e., strengths and core deficiencies, i.e., weaknesses need to be identified as well as analyzed. If the scanning for external environment is coined as industry analysis, scanning internal resources of the company can be termed as organizational analysis. The internal competencies of an organization are the factors that determine the future prospect of the company, susceptibility and adaptability to the changing environment. Besides above, not only the present scenario, but also the past performance of the organization needs to be considered. The performance of the close competitors, their market share, market standing of the organization vis-à-vis its closest competitors also requires to be analyzed. As a whole the industry in which the organization operates has to be critically analyzed to zero in on the key resources which ultimately could become the strategic factor for the organization. Once the strategic factor is identified, formulation of strategy can be conveniently performed.

2.6.3 Business models

It is important to know the business interest of an organization and the business model it is following prior to analysis of the same to be more elaborate, business model dictates the way to maximize the revenue of the organization with resulting profitability. Business model of an organization provides the information pertaining to the particular segment being served by the organization, service portfolio, generation of revenue, differentiation either in cost or quality or both and last but not the least the methodology of provision of service. This has also been reiterated in a research finding by Abraham (2003). RITES, the company discussed in the instant thesis, follows customer solutions model, which is a consulting model. The intrinsic property of any business model is to earn revenue exceeding the expenses towards provision of service.

2.6.4 Industry value-chain analysis

The industry value-chain is the entire chain on which the organization may operate or it may operate in a particular section. Even for the organizations operating up and down the entire value-chain, the specialization of the respective organization may be different. Some may be located at middle, some at up, or some below the value chain. It may be defined some organizations may have expertise in the supplier side, some in the production segment and some may be strong in retail and post retail service. An organization's core competence lies at the segment where it first started its operation. Porter (1985) states that differences among competitor value chains are a key source of competitive advantage. If the varying activities of an organization are being minutely screened, the strengths and weaknesses can better be identified.

2.6.5 Scanning functional resources and capabilities

It is not very simple to analyze the value chain of an organization if it has varying business interests and has presence in the entire value chain. The value chain of an organization is diligently examined, particularly its core area of operation for identification of core efficiencies and core deficiencies. Functional resources and capabilities of an organization mainly focus on the capability of the employees belonging to particular functional areas in development of action plan and formulation of strategies besides taking into account physical assets of the organization along with its human and financial assets.

2.7 Basic organizational structure

Every organization has conceived its basic structure based on sectors of operation, geographical jurisdiction and segments of operations. A conglomerate and presently the firm under discussion RITES operates through creation of a number of SBUs under some major divisions. A SBU is created not only to increase operational efficiency but also to decentralize for providing effective management. The SBU is generally bestowed with authority to take decision independently in its functional area of operation. SBUs are given liberty by an ideal organization to frame competitive policies, strategies and objectives in commensurate with the mission statement of the organization and corporate objective. Leontiades (1983) in his paper strongly advocates for creation of SBUs irrespective of any size or level provided they should abstain from doing anything contrary to the interest of the organization.

2.7.1 Corporate culture: the company way

The employees of an organization generation-wise inherit a legacy from the organization they serve and are bound by the common thread which in business language is called corporate culture. Cultural integration and cultural intensity are two important facets of corporate culture. These two attributes have been propounded by Rousseau (1990) in his seminal research. A common corporate culture shared by all SBUs irrespective of their areas and sectors of operation is called cultural integration, whereas the intensity of acceptance of the values, ethos, etc. of the corporate culture by the units is called cultural intensity. The effective and strong corporate culture does not only bind the employees of an organization with a common thread, but also motivates them to scale further heights and facilitates to place the organization with superior competitive advantage. Sorensen (2002) defines the corporate culture not on its literal term but on its intrinsic value. Ravasi and Schultz (2006) point out employee identity, commitment, sense of belongingness, etc. owe substantially to a strong corporate culture.

2.7.2 Strategic human resource management issue

Modern day organizations impose lots of value to the human resources and believe that efficient human resource is the secret of the sustainability of an organization in the competitive market. Competitive advantage in form of distinctive competency of a particular organization may be rapidly emulated by the nearest competitors, but human resources cannot always be persuaded to change the organization. That is why Gottschalg and Zollo (2007) strongly advocate that skilled human resources is the only long term resource advantage in possession of an organization. Employees should be made part of the decision making process and should be also given needful autonomy to facilitate an organization to survive in a turbulent environment.

2.8 SWOT analysis

Strategic planning involves long range planning with an eye on the future. The policies, strategies, objectives and the mission statement are end results of effective strategy formulation. In earlier articles it has been discussed that a strategic fit between the organization and the environment in which it operates is prime mover in connection with situation analysis. There is always interplay between internal strengths and external opportunities on the one side and external threats and internal weaknesses on the other. These are four important variables for SWOT analysis. The competition is intensified with entry of financially solvent new incumbents with state-of-the-art technology, innovativeness and aggressive pricing policy to grab the limited opportunity existing in the global market. The erstwhile stable business environment is now gradually getting transformed into a more dynamic and complex one. The situation is now much more complicated with frequent changes in the government's fiscal, trade, legal and other policies and also increasing intervention. The organization needs to assess through SWOT analysis its strengths and weaknesses vis-à-vis its competitors and also opportunities and threats in the external environment which the organization may use to its advantage in the future.

2.8.1 Finding a propitious niche

A propitious niche is an opportunity where an organization can take advantage of ahead of its competitors by utilizing its distinctive competency. An early mover to grab this particular market opportunity will definitely favor the organization to become the market leader in that particular segment in the future. Newman (1967) in his pioneering work propounds that niche is a requirement in the market that still needs to be fulfilled and if it fits strategically the external and the internal environments of an organization, it will be almost impossible for the competitors to challenge the organization.

2.8.2 Business strategy

In the previous article it has been discussed that business strategy of an organization operates either through cooperation among the competing firms called the cooperative strategy or through competition or rivalry among the competitors called the competitive strategy. It has been established by a number of research works in this particular field and particularly by a very interesting work by Misangyi, Elms, Greckhamer and Lepine (2006) that the business strategy has much greater bearing on the overall performance of the organization, which even the corporate strategy and industry effects combined cannot surpass.

2.8.3 Hyper competition and competitive advantage sustainability

D'Aveni (1994, pp. xiii-xiv) in his book Hyper competition observes “Market stability is threatened by short product life cycles, short product design cycles, new technologies, frequent entry by unexpected outsiders, repositioning by incumbents and tactical redefinitions of market boundaries as diverse industries merge.” The above quote quite amply clarifies the concept of hyper competition. In today's competitive world it is difficult for any organization to retain competitive advantage on perpetual basis. Bou and Satorra (2007) also observe that the majority of organizations have lost competitive advantage, on the contrary, a few firms have been able to retain their supremacy, but are under constant threat. Aggressive pricing by the new entrants to grab the market pie has definitely undermined the cost of the product or the service. Lower cost is welcome up to that level when the quality of the product or service should not be compromised, but not beyond that. Rather the organization should strive to add value to the product or service continually through continuous improvement programs.

2.8.4 Corporate strategy

Corporate strategy in a broad sense is basically an amalgamation of their significant constituents. Almost every medium to large organization has its individual well defined corporate strategy. Due to operational efficiency and better corporate governance the organization operates through a number of divisions and subsequently a number of SBUs. But the coordination control, allocation of resources and development of product or service lines rests with the corporate management and the strategy implemented for ensuring smooth coordination is called parenting strategy. An organization has a number of business interests and the specific business line is being looked after by a particular SBU. The analysis of an organization considering its interest of operation in particular industries or market is called portfolio analysis. The corporate management is overall responsible for deciding the direction of organization either towards growth, stability or rightsizing and the strategy implemented to accomplish the same is called directional strategy.

A number of influential contributions have been made by the strategy scholars in the segment of corporate strategy. Porter (1990) deliberates that effective corporate strategy conceived by an organization determines the deployment of physical and financial assets commensurate with the requirements of various business lines. The expertise so developed in one business line can be utilized optimally in other business lines, if need arises. This ultimately results into a smooth synchronization of operation of various disciplines where the interest of the organization as a whole is preferred over the individual business lines. Rumelt, Schendel and Teece (1994) discuss the various aspects of the corporate strategy including portfolio analysis and directional strategy. But the most important contribution of their high end research work is defining the role of corporate headquarters as organizational parent and the business units as children, whereas the research works by Campbell, Goold and Alexander (1995) throws light on an entirely different aspect.

Different SBUs operate with their own strategies that may be either competitive or cooperative depending on the business environment and industry position. But these conflicting strategies of the SBUs should not come into play when the business interest of the organization matters, rather the success of the organization as a family should be ensured by ensuring synergy among various business strategies.

2.8.5 Strategic positioning

Porter (1996) observes the essence of strategy is what to do and what not to do. The word strategy comes from the Greek word strategia which means the idea to conceive a war and the ultimate goal is to win the same. This concept can be very easily translated to the corporate world of today where the strategies are being formulated by the strategists not to win the war but to achieve the target. Continual up gradation of strategy formulation is resorted to by a number of organizations to remain relevant in this fiercely competitive world. Here comes the importance of strategic positioning, which differentiates an organization from its competitors. Hindle (1994) propounds that an organization can come up with effective strategic objectives only when its business policy is ably supported by the corporate policy. Each organization has its own business policy, but those organizations remain sustainable when the competitors find it tough to emulate their products or business lines. The concepts of sustainable strategic positioning and strategic fit enjoy the relationship of substitution and the selection among the two needs to be made. A unique business process for an organization cannot be devised which can perform equally in all dimensions. All strategies could not be satisfied by a single business process. Hence strategic fit demands business processes to be consistent with prevailing business strategy.

2.8.6 The strategic hierarchy

Strategic planning involves various tiers of an organization. Corporate strategy at the apex level determines the sectors of operation to be participated by the organization and also acquisition and allocation of critical resources to be needed by each sector. The purpose of the corporate strategy for a multi-business organization is not the individual achievement of business units, but the collective assertion to achieve the corporate objective keeping competitive advantage intact. Business strategy stands in the next tier. It earmarks the domain of each division or SBU, the products or services it will render, the market segments it will compete and subsequent delivery of the products or services with competitive advantage. To sustain competitive advantage in the long run the organization needs to differentiate itself from its competitors by establishing competitive priorities either in quality or cost. A two pronged analysis is involved in formulating an effective business strategy. One is the industry analysis to assess the inter se position of the organization vis-à-vis the competitors and the other one is organizational analysis to zero in on the core competencies belonging to the organization. The lowest tier of the hierarchy is occupied by the functional strategy which is the composite function of three most important disciplines of any organization – marketing, operation and finance.

3 LITERATURE REVIEW

Modern day organizations can keep their legacy going only by drawing long term strategies amidst stiff competition being faced by them to remain relevant in the business world as well as to retain their positions. It has been suggested by Porter (1980; 1985), one of the stalwarts in the field of strategic management, that an organization should continually develop a competitive strategy to be the market leader with competitive advantage over the nearest competitors. Hence this field of strategic planning attracts a lot of quality research works over the last few decades and in one of the pioneering works Miller and Cardinal (1994) established that performance of an organization has a direct and positive bearing to strategic planning.

By stalwarts a constant innovation in this field results into formulation and management of strategies based on solid theoretical background. Even the global majors such as Boston Consulting Group (BCG), General Electric Company (GE) have contributed substantially in creation of path-breaking strategic management approaches. Michael Porter, Peter

Drucker, Igor Ansoff, Alfred Chandler and Philip Selznik are some of the maestros in the domain of strategic management who through their seminal works enriched the one of the most happening areas of today's business world.

Various authors and researchers like Venegas and Alarcon (1997), Betts and Ofroi (1992; 1994), Warszawki (1996), Haan, Voordijk and Joostern (2002) suggested that like other sectors strategic planning and management are very much significant in the sector of infrastructure creation since this sector thrives amidst lots of uncertainties and is undergoing sea change in technology with progressive decades. So to remain viable, the organizations related to construction industry should not avoid conducting strategic planning to zero in on the most effective long term strategy. Betts, Cher, Mathur and Ofroi (1991), Lu, Shen and Yam (2008), Kale (2002), Flanagan, Lu, Shen and Jewell (2007), Kale and Adriti (2002) have been successful in establishing the intimate connection between the various concepts of strategic management and the infrastructure sector, though the construction industry is one of the non-homogeneous trades.

Strategy is often defined by the pioneers in the field such as Porter (1980), Andrews (1987) and others in the management literature with a more theoretical bias. Good or bad strategies could not be inferred based on the specific recommendations but on the mode of implementability. The academic literature deviates generally a lot from the practical aspects based on which strategy is formulated specific to the needs of sustainability of the organization. Bower (1970) and Burgelman (1994) showed in their research studies how deployment of resources influences the directive as well as dictates the strategy of an organization. The decision of a company is influenced by the top management and their vision formulating the strategy of a company. This has been established by Hambrick and Mason (1984) in their 'upper echelons theory'. A powerful literary contribution by Levinthal (1997) inferred an optimal position of the organization could be reached through the concerted contribution of the organizational structure and processes. The significance of emergent strategy was zeroed in through an excellent literary work by Mintzberg and Waters (1985). The current thesis tries to find the answer towards formulation of strategy of a multifaceted company RITES through planning and execution. It is not going literally by the theoretical definition of strategy but rather exploring the practical implication of the same. This results into somewhat different, complementary, insights for strategy. A different approach taken by Ghemawat (1991) and Casadesus-Masanell and Ricart (2010) has been rather effective.

The literature comes very close to the current work which focuses mainly on the specific strategy having impact on the organization. Sometimes narrowing down the focus by preferring to undertake a particular work or by favoring one SBU over the other results into the improved performance of an organization reducing the impact of interdisciplinary conflict and the same has been illustrated by Rotemberg and Saloner (1994, 1995) in their pioneering work. There is a specific distinguishing parameter between strategy and plan and that is quite fundamental in nature, which Milgrom and Roberts (1992) discussed in their literature. It shows substantial variation in impact when an organization is strategy specific or price specific. Mailath, Nocke and Postlewaite (2004) in their seminal work showed mergers may sometimes result into unfruitful venture when the business strategy of a firm is at logger-head with the strategy specific human capital. The findings in this paper may rather be intricately linked to team theory propounded by Marschak and Radner (1972). The performance of the organization rests on specific or interactive decisions coming out of the lots of brainstorming sessions held to make good decisions.

The basic essence of the paper somewhat differs from existing team theory models developed by Dessein and Santos (2006), Geanakoplos and Milgrom (1991), or Van Zandt (2003) which show the sensitivity of the organization under varying decision and communication structure and the outcome thereof. The formulation of the strategy should be flexible rather than predetermined and the strategy-maker should have considerable freedom to assess, to communicate and to zero in on the decision. Van den Steen (2012) also reiterated the same in his seminal work where the balanced outcome will depend on the achievable scenario. The instant thesis attempts to come out with optimal strategy, which may be unique in nature, without getting bogged down by the strong biases such as defined organizational hierarchy and pre-determined measures discussed by Garicano (2000) and Van Zandt (2003) or allocated task as per Dessein and Santos (2006). Strategy as defined here is the firmed up centrally taken decision which is unique in nature and may be the only solution under circumstantial perspective, entirely opposite in nature of the routine and repeated decisions.

The primary objective of this thesis is to formulate a strategy having its own characteristic independent of either a basket of prime decisions or a fully fledged plan and to assess the impact and influence of a strategic decision on the organization and the far reaching consequences anticipated on the present perspective. In this thesis the researcher attempts to highlight certain unconventional strategies unheard specially in the current service spectra of the organization but having huge future stock value and the organization could reap rich dividends in the future with rightful implementation of the same. It also introspects on the value of the organization more broadly.

The arena of strategic management has seen an astounding growth particularly in the last two decades. The early works on strategic management revolve round the pioneering works mainly by Chandler (1962) in Strategy and Structure. This tells primarily about the strategic fit which is nothing but a fit between strategy and organizational structure having internal strengths and weaknesses. The work of Porter (1980) has widened the horizon of strategic management bolstered by his valuable contributions on economics of various industries. The industrial organization (IO) economics propounded by Porter contributed phenomenally to the development of various econometric methods and enriched strategic management with introduction of 'transaction cost economics' and 'agency theory'. The more dominating strategic management theory in vogue today is the resource-based view of the organization which owed its origin to Edith Penrose's work in late 1950. Knowledge management and strategic leadership based on the resource-oriented view of an organization are the most dominating areas of research and the most sought after fields of operation for the future sustainability of the organization amidst stiff competition and globalization.

According to Wheelen and Hunger (1995) the generic processes such as scanning for the environment (both outside and inside the organization), formulation, implementation, evaluation and control of the strategies are the cardinal constituents of strategic management. Hence strategic planning is a very important part of strategic management which also includes implementation of strategies with subsequent evaluation and control. An effective strategy for an organization can only be drawn based on micro analysis of its internal scenario and external environment. The most popular tool for conducting scanning of the internal and external environments of an organization is SWOT analysis.

SWOT is an acronym for strengths, weaknesses, opportunities and threats. The strategic planning resorted by most of the organizations use this tool frequently for its universal acceptance and also versatility. This theory found its origin in the work of Learned, Christensen, Andrews and Guth (1965). Weihrich (1982) did further works in the domain of strategic management using this tool and also showed application of the same in the construction sector as like most other fields. The applicability of this tool was effectively utilized by Lu, Li, Shen and Huang (2009), when they showed the influence of Chinese construction companies in the international market. Similarly Shen, Zhao and Drew (2006) resorted to this tool when they analyzed the inter-se positions of the foreign construction companies in the developing economy of China.

As every analysis, whether analytical or empirical, has its pros and cons, SWOT is also not an exception. In spite of its versatility and universal acceptability, sometimes lack of synchronization is observed between SWOT analysis and its consequent output that is development of strategy. Sometimes SWOT analysis results simply yield to codification of four variables such as strengths, weaknesses, opportunities and threats and which become irrelevant after a certain span of time. Hill and Westbrook (1997) found this breach or the gap in their highly acclaimed analysis.

A very rational conflict of interest has been observed between two groups of strategic management experts. One group believes that the best possible strategy can be derived from the effective SWOT analysis and is the logical conclusion. A strategic management model propounded by Wheelen and Hunger (1995) is a glowing example in this regard, where a number of logical sequences have been followed to ultimately derive a definite strategic objective. But Khatri and Ng (2000) and Elbanna and Child (2007), on the contrary, showed through their research that strategic planning depends sometimes on vague abstraction and has no root based on scientific analysis.

A bridge between the two schools of interest has been effectively established by some enriched research works by Cooke and Slack (1991) and also by Ribeux and Poppleton (1978). They propounded that effective planning of long drawn strategy is not possible without creative thinking and a relationship of direct proportionality exists between the two. The existence of one does depend on the existence of the other and they are not at loggerheads. Boden (1995) and Dyson (2004) interlink the scientific analysis with the creativity to simulate the most effective strategic option with subsequent refinement of the information collected through SWOT analysis. Hence strategic management is not the abstract mechanism, rather it involves management science to the hilt to develop effective but long drawn strategy using a versatile tool like SWOT analysis. Refinement of the analytical information is required for creation of fruitful strategic options.

Kotler (1988) and Wheelan and Hunger (1995) define SWOT as a universal tool for scanning internal and external environments of an organization to have a firsthand information on the situation of strategic management. The basic essence on the backdrop of the SWOT analysis is what strategies an organization should adopt considering its inherent weaknesses and strengths to grab the opportunities and to cater the threats the external environment offers. Adoption of the best feasible strategy commensurate with the situational analysis is the job of the strategist. Beer, Voelpel, Leibold and Tekie (2005) successfully established a strategic fit between an organization's weaknesses and strengths and the threats and opportunities caused by its external environment. The flexibility and simplicity of SWOT analysis is its latent strength which can be capitalized by various organizations and even by individuals. Piercy (1991) rightly told SWOT analysis is a simple but systematic and powerful tool for a strategic planner.

The theory mentioned above is the fundamental principle of modern strategic management. The methodology for analysis of the strengths, weaknesses, opportunities, threats and combinations thereof have been proposed by Weihrich (1982). To initiate the analysis identification and evaluation of threats and opportunities through external scanning and weaknesses and strengths through internal scanning of the environments need to be carried out. The factors are entered in matrix form sometimes called SWOT matrix. The work of the strategist is next to formulate strategies based on the analysis. Four strategic options can be generated. The opportunity-strength options utilize strength to make use of the opportunities. The threat-strength options encourage using strength to ward off threat. The opportunity-weakness options maximize opportunities and minimize weaknesses. Finally the threat-weakness options minimize both threats and weaknesses.

Glaister and Falshaw (1999) rightly observed that although a number of sophisticated theories have emerged in the horizon of strategic management none could still surpass the popularity of SWOT analysis due to its universal applicability and synchronization with various forms of analysis, e.g., scenario analysis, Porter's five forces model, resource-based approach, etc. A number of modifications to augment the intrinsic value of the SWOT analysis have been suggested by numerous scholars and researchers in the field of strategic management. Panagiotou (2003) suggested an innovative TELESCOPE OBSERVATIONS framework with each letter representing (S, W, O, T) variables. These and other subsequent developments try to make the approach full-proof ensuring inclusion of all possible variables relating to internal and external environments. Some valuable research work has also been carried out in the quantification of SWOT factors, notable among them are Kurttila, Pesonen, Kangas and Kajanus (2000), Saaty (1980), etc.

Like every strength has its related weakness, traditional SWOT analysis has also a limitation which has not been identified at initial stage but actually has come to light with extensive experimentation and use of this universal mechanism. Amram and Kulatilaka (1998) and Bowman and Moskowitz (2001) through their separate studies correctly observed that the generation of strategic options should depend on scanning of external and internal environments and on subsequent analysis by the strategist, rather than by the derivation of SWOT matrix where all the inputs are fed in a structured manner. Cooke and Slack (1991) in their seminal work suggested the strategic analysts to be more creative and exert all their experience to close the fissure between a SWOT analysis and generation of strategic options. Hill and Westbrook (1997) reported that SWOT analysis was frequently misused as simple codification of external and internal factors and most of the time was merely discarded post analysis. Hence without building a hypothetical catalog of SWOT factors, a focused approach is always welcome with an effective number of variables.

In a nutshell, this decisive evaluation establishes that SWOT analysis is indeed a dominant tool for strategy formulation. The salient feature of strategy management is the strategic synchronization between external and internal environments. A formulation of SWOT matrix is an effective culmination for evolving generic strategies.

4 RESEARCH METHODOLOGY

4.1 Research problem

The research objective in the present thesis is to formulate long term strategies and action plans for RITES to remain viable amidst the significant transformation in the business environment in recent years including the way business is structured and operated and the increasingly competitive market conditions due to large Indian companies and foreign firms entering the market attracted by the mega infrastructure projects. The sectoral presence of the company in the various segments will be studied and an attempt will be made through this research study what strategies and action plans need to be formulated for RITES to remain relevant and a strong player in its domain for the years to come. An attempt has also been made to gauge the effect of other factors that may also influence to reshape the strategies of the company in future.

The major research questions the master's thesis attempts to answer are:

1. Which sector of operation does RITES need to focus on to survive the onslaught of open market economy bolstered with globalization?
2. Are the present strategies and action plans adopted presently by RITES enough to survive as a major player in the long run?
3. What are the long term strategies and action plans needed to be formulated by RITES to remain as a key player in the consultancy sector of multi-modal logistics?

The master's thesis will be of practical value to RITES management. In addition, it will try to generalize the findings of the study to prepare a future roadmap which will ultimately facilitate the firm to achieve a sustainable growth in future.

4.2 Data collection

Although the best way to conduct the research is through collection of primary data by interviewing a selected group of professionals (representative sample) out of the total employees (population), but since the researcher has to conduct the study within a very tight and stipulated time frame and moreover handicapped by the geographical barrier as the location of the company is in India, hence the researcher is constrained to limit his scope of data collection towards availing the secondary data only. The researcher falls in the category of participant observer being the employee of the firm and hence the access to the corporate data from the annual reports published as well as the corporate web pages will not be unethical. The other tools of primary data collection such as through questionnaire, telephonic interviews, mail and web surveys are difficult to be resorted by the researcher considering the expenditure involved. Hence the researcher will be very much dependent on the secondary data collected from the written materials under documentary source and the area-specific data from the government publications and journals under multiple source data repository. The general data about the firm will be obtained from the company's official website, while the other pertinent data on corporate objectives and other independent variables used in the empirical project, will be requisitioned from the corporate management.

4.3 Research design

The formulation of strategy of a particular organization is the culmination of an exhaustive analysis being carried out through efficient strategic planning. The goals and objectives of the organization are determined by devising effective long term strategy. The accomplishment of an organization thus does depend on the correctness of the formulated strategy. Hence generation of various strategic options and selection of the most worthy one constitute the core of the entire strategic planning process. Like every scientific process, strategic planning process also goes through some well-defined steps. A successful organization could not sustain in the long term without setting future goals assessing the present business scenario. First of all corporate vision and corporate mission statements of an organization need to be chalked out. The internal environment of an organization needs to be reviewed in the next step as a part of organizational analysis. The core competencies that are strengths and the core deficiencies that are weaknesses of the organization need to be identified through scanning of the internal environment. It is to be understood that the organization has its own control on its internal parameters, but it does not have any control on the external environment which has been undergoing rapid transformation. The external environment needs to be scanned through industry analysis, competitor analysis, etc. specific to the domain of operation of the organization and potential threats and opportunities need to be identified. Strategic planning, therefore, is used as a powerful tool for methodical study of the external and internal environments of an organization.

4.3.1 External factors evaluation

It has been discussed under previous heading that scanning for external factors is very important for the future sustainability of an organization. The particular organization actually has no control on the external environment where it operates. Due to increased globalization and glocalization effects, the external business environment has become dynamic and complex. Here lie a lot of opportunities along with probable threats. The opportunities for a particular organization may be threat to others and vice versa. These variables are particularly influenced by different forces such as political, environmental, societal, technological, ecological and legal. The changes in the policies in vogue for a particular industry have huge bearing on the future of any organization.

4.3.2 Internal factors evaluation

An organization has absolute control of its internal resources may it be physical, human or financial assets. But through organizational analysis as part of scanning the internal environment, the facilitating and the inhibiting factors need to be determined. The bottleneck needs to be identified for future reinforcement either through augmentation, redistribution or allocation of critical resources. The significant variables need to be studied to find out the competencies and the deficiencies of the organization are corporate management and organization structure, human resources, marketing, finance, research and development, etc.

4.3.3 Generating alternative strategies using a SWOT matrix

This is an analytical step which yields a number of generic strategies by combining the variables so obtained from scanning of the external and internal environments. It has already been discussed earlier that corporate strategy involves three particular constituents – growth, stability and retrenchment. This is very important for the future direction of the organization and devising its business strategy. A SWOT matrix needs to be formed having four blocks. Strengths, weaknesses, opportunities and threats identified through scanning of external and internal environments are listed in the respective blocks. Now the combination rather interplay of two variables are resorted to create a number of generic strategies. Strength-opportunity strategies are formulated considering the capitalization of strengths of organization for availing opportunities. Strength-threat strategies determine the organization’s capability to nullify possible threat with its core competencies. Weakness-opportunity strategies show how an organization can avail of the opportunities by prevailing over weaknesses. Weakness-threat strategies are fundamentally weak spots for the organization, where an organization mainly tries to reduce weaknesses and also threats.

4.3.4 Evaluating and prioritizing the strategies

As discussed in the previous clause, a number of generic strategies are evolved from the interplay of the four variables in the SWOT matrix. Now it is up to the strategist of an organization to select the best possible strategies by prioritizing among these four sets of strategies, which may be implemented in the entire organization or for any particular business unit for the long term interest of the organization.

5 ANALYSES

RITES was set up in 1974 by the Ministry of Railways for providing consultancy services in the rail sector. Over the years it has diversified and now offers services spanning the entire Transportation Infrastructure Sector – be it railways or highways, ports or airports, waterways or ropeways, container depots or logistics parks, institutional buildings or residential complexes, power transmission or rural electrification. With work experience in 63 countries, RITES is today established as a leading consultancy organization and recognized by multilateral funding agencies. Clientele includes government agencies in India and abroad as well as top industrial groups in the country. RITES enjoys Mini Ratna Category-I status and has been upgraded to Schedule 'A' status during FY 2007–08. It is one of the first public sector undertakings (hereinafter: PSU) to have achieved ISO 9001-2008 certification for its entire range of services. RITES is the only consultancy organization in the country which understands the growth requirement of all modes of transport as they would integrate into the developmental plans of the country. Ministries/departments of government of India and state governments have been patronizing RITES one-stop-shop consultancy services during the last three decades for developing national/state level transport plans/projects.

5.1 Snapshot of the evolution of RITES

RITES has evolved from being a primarily railway related consultant to a multi-service firm with presence in various infrastructure sectors. Table 3 below presents a snapshot of the evolution of the firm in this regard.

Table 3. Snapshot of the evolution of RITES

Sector	Domain	Entry period
Railway related	Consulting	1974 onwards
Total transportation	Consulting	1984 onwards
Project management consultancy, operations and management	Operations/value added services/equity participation	1989 onwards
Exports	Operations/value added services/equity participation	1994 onwards
Privatisation & concession	Operations/value added services/equity participation	1999 onwards

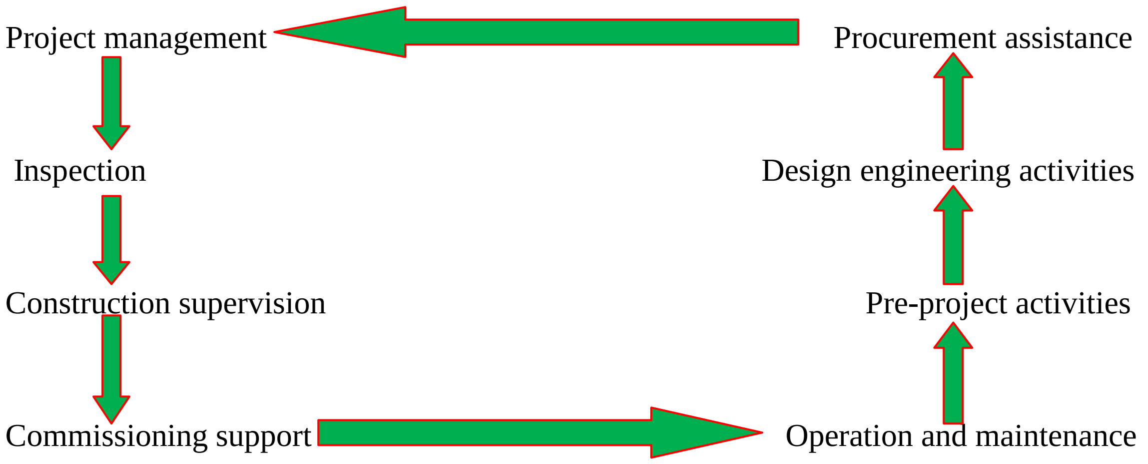
Source: RITES Ltd., *RITES corporate plan 2007–12,* 2007.

In the recent past RITES has shown a strong growth trend in its business. Significant future investments are planned in various infrastructure sectors in which RITES operates. This offers potential for sustained growth in the future. However, there are significant challenges along the way including stiff challenges from the private sector, restructuring investments in the infrastructure sector – for example through public private partnerships (hereinafter: PPP) and restricting exodus of the talented manpower, especially on account of competition from the private sector. In this context, RITES needs to review options to consolidate its position and build on its capabilities in existing sectors/services as well as explore opportunities in emerging areas. The aim of this study is to undertake an analysis of RITES in-terms of its present offerings and capabilities, business environment in which it is operating, possible opportunities and threats and develop a coherent strategy for the future. The preparation of a well-formulated strategy will help RITES focus on where its business is now, what it could target, how it will get there including what steps must be taken in order to maximize its chances of success. The mission statement of RITES reads as:

"To be one of the most admired companies, in India and abroad, rendering state-of-the-art consultancy, engineering and project management services, in the field of transportation, infrastructure and related technologies. The company would aim at leadership in every business by synergizing value, integrity and drive for technology and innovative spirits, ensuring value for money to its clients and benefits to society, at large." (RITES Ltd., 2014)

RITES is a major player in the consultancy, engineering and project management disciplines of transportation and infrastructure business in India. Set up to provide consultancy to the railways sector, RITES has expanded its scope of operations to include the entire gamut of transportation infrastructure and related areas – including roads, airports, ports, etc. In the last 33 years, RITES has established its presence in the entire value chain (excluding construction) of an engineering project (given below).

Figure 1. RITES presence in the entire value chain



Unlike other big consultancy houses in India which have mainly predominant presence in the domestic market, RITES from its inception has taken in its stride to be present in the international market also besides the domestic market. The same legacy still continues and is substantiated by the fact that till date RITES has an astounding experience to provide consultancy services in more than 63 countries spanning in four continents. Recently RITES has entered aggressively in the concession business and won contracts in few African and Latin American countries such as Tanzania, Mozambique and Columbia besides providing consultancy services in the infrastructure sectors mainly railways, highways and airports. Another major revenue earner in the international business segment of RITES is export of rolling stock including locos and wagons. Significant future investments are planned in various infrastructure sectors in which RITES operates in India and overseas. This offers potential for sustained growth in the future. However, at the same time, the organization faces significant challenges in terms of resources, growing competition and changes in the way the infrastructure business is being structured and operated. In this context, RITES needs to revisit options to consolidate its position and build on its capabilities in existing sectors/services as well as explore opportunities in emerging areas.

5.2 Presentation of RITES

RITES has emerged as one of the leading players in the engineering consultants and project management space in the country. Table 4 presents a snapshot of turnover of selected major technical/engineering consultants in India. From the table it is conspicuous that RITES is the second largest consultancy service provider of India after Engineers India Ltd.

Table 4. Turnover of selected major technical/engineering consultants in India

turnover in millions of USD

SN	Name of the firm	Turnover
1	Engineers India Ltd.	464
2	RITES Ltd.	199
3	MECON Ltd.	119
4	Water & Power Consultancies Services (India) Ltd.	109
5	TATA Consulting Engineers Ltd.	81
6	Intercontinental Consultants & Technocrats Pvt. Ltd.	38
7	Projects & Development India Ltd.	16

Source: RITES Ltd., *RITES corporate plan 2007–12,* 2007.

5.2.1 Financial ratios – mixed trends

Table 5 presents the trends in selected financial ratios. As there are incidences of extraordinary items, the ratios have been calculated after excluding these. The trends indicate that the operating profit margin ratio shows ascendancy till FY 2011, dips a bit in FY 2012 due to economic slowdown, but again improves substantially in the FY 2013. However, the net profit margin and PAT/turnover ratio takes a dip in FY 2009 due to wage revision and payment of arrears and in FY 2012 due to economic recession and also on account of higher tax incidence. The total asset turnover shows an increasing trend in FY 2013 vis-à-vis the previous year and is 40.65 % in FY 2013. This indicates that RITES is able to generate more revenue with its assets.

Table 5. Selected financial ratios of RITES (FY 2008 – FY 2013)

Ratio	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Operating profit margin	20.02%	23.74%	31.21%	30.94%	25.34%	29.52%
Net profit margin	15.73%	13.99%	17.98%	27.69%	17.56%	22.77%
PBT/Turnover	27.23%	22.32%	26.65%	41.20%	27.41%	32.06%
PBT/Capital employed	41.38%	29.94%	30.86%	52.69%	42.52%	44.17%
PAT/Turnover	15.73%	13.99%	17.98%	27.69%	17.56%	22.77%
Total Asset Turnover	57.59%	44.46%	34.62%	43.02%	36.96%	40.65%

Legend: FY – Financial Year, PBT – Profit Before Tax, PAT – Profit After Tax

Source: *RITES audited Annual Reports 2008, 2009, 2010, 2011, 2012 and 2013.*

5.2.2 AS-IS analysis of RITES

RITES provides a broad array of services to various infrastructure sectors. Table 6 presents an overview of the major sectors in which RITES operates and the key services that it offers. In addition to what is shown below, RITES also exports locomotives and rolling stock and runs concessions in the railway sector in the international market. It also undertakes third party procurement activities and consultancy services in quality management systems, ropeway projects, IT and financial services for selected clients. RITES also makes foray in construction, operation, and maintenance of multi-functional complexes (MFCs) at/in the vicinity of the railway stations on the government land. RITES also has three subsidiaries abroad of which RITES Afrika (PTY) Limited, Botswana is currently active. Botswana has good potential for business in the area of infrastructure development, civil construction, and information technology

Table 6. Sector and service spectra of RITES

Service / Sector	Material inspection	Feasibility studies, DE & DPR	PMC/IE	O&M	Training
Indian Railways	QA Div	RI Div, EED, RSD, A&P	RI Div, EED	-	Training
Railways International	-	RI Div, EED	RI Div, EED	Expotech / P&C	Training
Highways Domestic	-	Highways	Highways	-	-
Highways International	-	Highways	Highways	-	-
Airports Domestic	-	Airports	Airports	-	-
Airports International	-	Airports	Airports	-	-
Ports	-	Ports	Ports	-	-
Inspection	QA Div				-
Metals & other industries	-	RI Div, EED, RSD	RI Div, EED	O&M	-
Water & Sanitation	QA Div	UE	UE, CP	-	-
Power (Distribution & Transmission)	QA Div	EED	EED	-	-
Irrigation	QA Div			-	-
Government housing and building	-	CP, A&P	CP	-	-
Urban Infrastructure	-	UI Div.	UI Div.	-	-

Legend: RI Div – Rail Infrastructure Division, QA Div – Quality Assurance Division, EED – Electrical Engineering Unit, O&M – Operation & Maintenance Management Unit, P&C – Privatization & Concessioning Unit, RSD – Rolling Stock Design Unit, A&P – Architecture & Planning Unit, UI – Urban Infrastructure Division, CP – Construction Projects, PMC – Project Management Consultant, IE – Independent Engineer, O&M – Operation and Maintenance

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

5.3 RITES positioning in the engineering consultancy market

While RITES is a unique company in many ways, it is useful to examine the broad trends emerging in the engineering consultancy market worldwide and RITES positioning therein gives certain pointers, which would be hard to ignore in charting the way forward for the company.

5.3.1 Size of organization

RITES has emerged as one of the top engineering consultancy and project management companies in the country and belongs to the group of top 100 technical consultancy firms worldwide in terms of manpower strength. However, on the basis of turnover RITES falls in the category of smaller/medium sized consulting firms in the world.

5.3.2 Sectors of operation

Worldwide technical consultancies are offering a wide range of solutions in the transportation sector including railways, roads, aviation and maritime. RITES has, however, a strong focus on the railway sector, is a recognized player in the highway and urban transport fields and has a much smaller and declining presence in other transportation sectors.

Technical consultancies are increasingly focusing on providing solutions for sustainability and protection of the environment. RITES presence in the sector is limited with minor contribution to the overall business. Internationally engineering consultants earn significant revenues in areas such as transport, industrial/commercial building and facilities, land development, water and sanitation (environment engineering), energy (oil, gas and power, etc.). RITES has some presence in third party inspection activity in the power and oil sector but is not present elsewhere in the energy sector. Similarly, RITES has very limited presence in the area of water supply and sewerage, industrial buildings, etc. while other technical consulting firms have a significant presence in some or all of these areas.

5.3.3 Source of business

More than 40% of the business for most large technical consultancies comes from the private sector while the rest is contributed by the government sector. RITES, on the other hand, has small level of business emanating from the private sector and that too is limited mainly to the railway sector.

5.3.4 Method of securing business

Technical consultancies around the world get work predominantly from selection by tender though qualification based selection, design and build contracts and public private participation (PPP) based selection are also increasingly becoming important sources of getting work. RITES, however, still gets significant proportion of its business on nomination basis but this trend is getting reversed as tendering is being increasingly adopted as the preferred mode for awarding work in the government sector.

5.3.5 Geographical areas of operation

The technical consultancy opportunity has a direct correlation with the gross domestic product (GDP) of the country. The share of regions in global GDP is roughly indicated in Table 7 although the majority of the share for technical consultancy opportunity is from the developed part of the world, where the presence of RITES is meager to nil.

Table 7. GDP share of various regions of the world

SN	Geographical area	Share
1	Developed Countries	53%
2	Pacific and East Asia	19%
3	Caribbean and Latin America	8%
4	Less developed countries in Europe and Central Asia	7%
5	Southern Asia	8%
6	Northern Africa and Middle East	3%
7	Sub Saharan Africa	2%

Legend: GDP – Gross Domestic Product

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

Large consultancies from developed countries are operating in the bigger markets of the Middle East, Western Europe and North America and have focused on either partnering with local firms or by opening their own offices in international destinations. RITES is present mainly in the smaller markets comprising Sub-Sahara Africa, SAARC countries and South East Asia with minor exposure in Latin America and the Middle East. RITES has not established any branch office in other countries to tap emerging opportunities except for a token presence by way of RITES Africa Limited in Botswana. RITES needs to shift from its region based approach to country specific approach and also needs to consider opening of some international offices in some nodal centers. It will provide strategic advantage as a first mover ahead of the potential competitors.

5.4 Key contributors to RITES growth

Gross turnover of the company consists of earnings generated from the following business streams such as consultancy abroad, equipment exports, equipment lease, inspection, domestic consultancy, construction projects and extraordinary/other income. Table 8 gives the actual turnover figures as per aforesaid revenue streams from 2008 to 2013.

Table 8. Segment-wise break up of turnover in million USD and share (%)

Item	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
(A) Consultancy fees abroad	12.61 11.79%	4.97 4.97%	5.79 5.62%	7.47 5.79%	5.84 3.77%	2.69 1.53%
(B) Exports	38.58 36.06%	11.00 11.00%	8.74 8.49%	27.51 21.33%	53.73 34.66%	56.86 32.31%
(C) Leasing	3.53 3.3%	9.31 9.31%	3.18 3.09%	4.03 3.12%	4.48 2.89%	7.99 4.54%
(D) Inspection fees	10.15 9.49%	13.88 13.88%	14.06 13.65%	15.00 11.63%	15.87 10.24%	18.26 10.38%
(E) Domestic consultancy fees	42.64 39.85%	56.64 56.64%	68.10 66.12%	74.35 57.64%	71.76 46.30%	79.75 45.31%
(F) Construction projects	-	3.77 3.77%	3.09 3.00%	0.95 0.74%	3.07 1.98%	10.93 6.21%
(G) Operating turnover = (A+B+C+D+E+F)	**107.00**	**100.00**	**103.00**	**129.00**	**155.00**	**176.00**
(H) Other Income	15.00	25.00	12.00	34.00	18.00	23.00
Total turnover = (G+H)	**122.00**	**125.00**	**115.00**	**163.00**	**173.00**	**199.00**

Source: *RITES audited Annual Reports 2008, 2009, 2010, 2011, 2012 and 2013*.

The share of international business (foreign consultancy, exports and leasing) in the operating turnover has decreased from 51.14% in financial year (FY) 2008 to 38.38% in FY 2013. International consultancy business in particular has reduced significantly. Exports which formed 36.06% of the operating turnover in FY 2008 have decreased marginally to 32.31% in FY 2013. The leasing business has been relatively stable in the period of analysis and is on the upswing due to the domestic loco leasing business picking up. During the period FY 2008 to FY 2013, domestic consultancy business has grown at a compounded annual growth rate (CAGR) of 13.34% while inspection fee has increased at a CAGR of 12.46%.

5.4.1 Revenue mix (division-wise)

Table 9 gives the share of each division in the operating turnover of the organization at the beginning and end of the 6th corporate plan period 2007–12. Expotech, rail infrastructure, technical services and quality assurance divisions have been the major contributors to the company's total revenues from operations amounting to almost 80% in FY 2012. There has been a spurt in the growth of urban infrastructure division and technical services division having registered a CAGR of 22.6% and 17% respectively. Though RITES image is mainly associated with the railway sector the organization earns significant revenue from non-railway business as well.

Table 9. Division-wise share in revenue

Division	**Distribution of Revenues (%)**		**CAGR**
	FY 2007-08	**FY 2011-12**	
Expotech	38.3%	35.5%	7.3%
Rail Infrastructure	17.9%	21.5%	14.3%
Quality Assurance	9.3%	10.2%	11.1%
Buildings & Airports	8.3%	7.2%	5.6%
Transport Infra	4.7%	4.7%	10.6%
Technical Services	7.4%	12.5%	17.0%
Urban Infrastructure	5.1%	7.7%	22.6%
Other SBUs	9.0%	0.7%	-46.3%
Total	100%	100%	

Legend: FY – Financial Year, CAGR – Compounded Annual Growth Rate

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

5.4.2 Contribution of divisional profit to the RITES' profit

The contribution of each division at the beginning and end of 6th corporate plan period is shown in Table 10. Although expotech, rail infrastructure and quality assurance divisions continue to contribute more than 65% of RITES operating profits, the share of the expotech division has been reduced to less than half of what it was in 2007–08. This windfall decline is due to the stiff competition in the global scenario with entry of some major and key players in the field of procurement, leasing and supplying. But the loss in the expotech sector is being compensated by steady increase in the market share of providing consultancy services in the railway infrastructure both in the domestic and international markets. The contributions of the urban infrastructure division, Technical services division and transport infrastructure in the overall gross profit of RITES have also increased.

Table 10. Share of divisional profits in total profit of RITES

Divisions	2007–08	2011–12
Expotech	34.1%	15.6%
Rail Infrastructure	15.9%	34.6%
Quality Assurance	16.4%	18.9%
Buildings & Airports	14.0%	7.9%
Technical Services	3.3%	7.9%
Urban Infrastructure	5.3%	8.9%
Transport Infrastructure	2.1%	6.2%
Others	9.0%	0%
Total	100%	100%

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

5.5 Emerging business scenario

RITES operates in a wide range of areas in the infrastructure sector. Therefore, planned investments in the infrastructure sector of the country and select target international markets present significant growth opportunities for RITES.

5.5.1 Infrastructure development strategy

The approach paper to the 12th five year plan (2012–17) circulated by the Planning Commission envisages a growth rate of 9% during the plan period with focus on faster, sustainable and more inclusive growth. Key drivers of growth in the 12th five year plan have been identified as industry, power, infrastructure and agriculture. Industrial growth in 12th five year plan period is targeted at 11 to 12% compared to 8% in the 11th five year plan. New power capacity addition in the 12th five year plan is envisaged as 100,000 MW (Mega Watt) against achievement of 53,122 MW in the 11th five year plan. Agriculture growth is targeted at 4% against an achievement of 3% in the previous plan. To achieve this healthy growth in these prime movers of economy such as industry, power, infrastructure and agriculture the planning commission also stresses on the development of logistics and transportation infrastructures in the country which compared to the developed countries is less than adequate.

To sustain gross domestic product (GDP) growth at a level of around 9% per annum will need increased level of investments in infrastructure sectors such as road, rail, air and water transport, power generation, transmission and distribution, telecommunications, water supply and storage. Investment in the infrastructure sector, expressed as a percentage of GDP, is expected to go up from the level of 8.4% in the terminal year of the 11th five year plan to approximately 10% in the 12th five year plan. However, the GDP growth rate of 9% estimated in the 12th plan approach document is now being reviewed due to the deteriorating global situation. The growth rate was about 6.5% in FY 2011–12 and is expected to remain subdued during the next 1/2 years.

Nevertheless, high levels of investments in infrastructure are likely to continue well beyond the 12^{th} five year plan period, i.e., for the next 15 years or so to meet the full requirements of infrastructure needed for the growing economy. At the same time it is also becoming important that the quality of infrastructure is improved significantly. Therefore, investments will flow towards increasing both size and quality of infrastructure in the country. To achieve the stiff target as earmarked by the planning commission in the 12^{th} five year plan and referred in the earlier paragraph, the first and foremost requirement is to aggressively undertake capacity enhancement of the logistics sector and multi-modal transportation and bring it to the level of the developed countries in the world. The quantum of investment required to execute the planned objective is quite substantial which comes to almost double that of the previous plan period. Since the same is a great burden on the government treasury, it has been decided that requisite funds will be raised through public resources, private capital and foreign direct investment.

It has been observed since the last plan period that the influence of the private sector is increasing as is evident from the statistics mentioned below. Private investment in the infrastructure sector during the 11^{th} plan period was 36% of the total outlay, whereas as per the estimate of the planning commission if the target for development of infrastructure needs to be achieved the investment of the private sector should go up to 50%. Initially in the railway sector private sector was not very much inclined to invest, but with the changing scenario with some important policy makeovers it is expected to yield positive results under the current plan period. If the private sector is encouraged to invest then not only the current deficit can be fulfilled but also the competition in this field will increase which was once the monopoly of the public sector.

The government has come up with some very positive measures to encourage substantial private sector participation in the infrastructure sector. Certain reforms undertaken by the government include restructuring of National Highways Authority of India (hereinafter: NHAI), establishing a separate organization to oversee the development of expressways in the country and corporatization of ports. Maintenance of existing assets is as important as creation of new ones. So augmenting the existing facilities through technological up gradation and modernization has also been stressed upon under the current plan period. Reforms towards restructuring of the organization structure of various transportation modes have been pursued aggressively by the government to reduce bureaucratic stranglehold.

The negative impacts on the society resulting from environmental pollution and energy crisis have been considered in the 12^{th} five year plan. It advocates for paradigm shift on the movement of the bulk freight through rail, which was earlier transported through road.

Although this policy decision has created lots of opportunities towards development of railway infrastructure of the country at the same time large scale investment are also needed. The government proposes to setup a high speed rail authority to usher in the era of high speed rail travel in India. This authority will decide on ownership and management, operator, fixed infrastructure and rolling stock matters of each high speed corridor. Another very important stride has been made by the government on the safety aspect of the transport operations. With modernization and technological up gradation of infrastructure, the speed of the vehicles has increased manifold endangering safety of life and assets. A new concept of safety audit has been introduced specially for the highways and expressways, wherein the potential bottlenecks will be identified and subsequently taken care of.

During the 12th Five Year Plan period, infrastructure investments will continue to be made through various government programs such as National Highways Development Programmes (hereinafter: NHDP), Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Special Accelerated Road Development Programme (SARDP), Pradan Mantri Grammin Sadak Yojana (PMGSY), Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), Accelerated Power Development Reform (APDR) Programme, Bharat Nirman Programme, etc.

5.5.2 Roads and highways

At present, the National Highway (hereinafter: NH) network consists of about 71,772 km and the same comprises only 2.17% of the total length of roads. But 40% of the total traffic uses this network spread in various parts of the country. The NH network is expected to grow to about 85,000 km during 12th five year plan to serve development of the regions which are not connected by NHs. The government has launched several projects under the National Highway Development Programme (NHDP). A large proportion of the investments required under NHDP for modernization and up gradation of national highways is being handled by NHAI. As per the recent gazette, NHAI has 28,740 km lengths, State Public Works Departments (hereinafter: PWD) have 38,629 km and Border Roads Organization (hereinafter: BRO) has 3,565 km of NHs under their respective possession. In the long run NHAI will have administrative control over the majority of NHs, since gradually the NH under possession of state PWDs is being handed over to NHAI under NHDP.

Development of NHDP NHs

Four laning of Delhi-Mumbai-Chennai-Kolkata Golden Quadrilateral (NHDP-1) with length of 5,846 km and the North-South and East-West corridor (NHDP2) with a length of 7,472 km, were taken up during 10th five year plan (2002–07). The inclusion of NHDP-3 & 4 and extension beyond NHDP-1 & 2 were suggested in the 11th Five Year Plan (2007–12). The government had accorded clearance for six laning of golden quadrilateral (hereinafter: GQ) and 800 km of other sections under NHDP-5. It was also under the plan to construct 1,000 km of Expressways under NHDP-6 and ring roads, bypasses, etc. under NHDP-7. Over 9,000 km lengths of roads have been completed under NHDP during the 11th Five Year Plan. It has been reserved by the government that all contracts from NHDP-3 onwards are slated to be awarded only on build operate transfer (BOT) basis and the traditional construction contract will only be awarded under exceptional circumstances.

A very stiff target has been kept during the 12th five year plan (2012–17). The ongoing phases of NHDP-1, 2, 3 & 5 involving up gradation to 4 or more lanes of about 32,750 km including overlapping length of about 5,850 km under GQ and NHDP-5 are required to be completed within the plan period. It will also be required to convert all single lane national highways to double lane under NHDP-4. The priority of the government is to complete various phases of NHDP in progress, but at the same time development of expressway network for increased mobility has also been contemplated. It has been targeted under the current plan to construct 500 km of expressways in addition to the initiatives taken up under NHDP-6 to develop about 1,000 km length of expressways. The master plan envisages a national expressways network with a total length of about 18,637 km.

Development of non-NHDP NHs

The government has not only laid stress on the development of NHDP NHs, but has also put significant emphasis on the development of non-NHDP national highways. A provision of outlay has separately been reserved for these highways being maintained generally by the states/union territories through the state PWDs and BRO. Although a separate nodal authority in form of NHAI for overseeing the development of NHs in the country has been created and phases wise NHs under the jurisdiction of the state authorities are being transferred to NHAI, a substantial length of NH still remains with the state PWDs. A separate body has been created by the majority of the state PWDs to develop national highways. The remaining NHs (9,220 km) of less than dual lane capacity prior to 12th five year plan are proposed to be developed to minimum 2-lane NH standards during the plan period. Up gradation of another 200 km length of NHs to at least four lane divided carriageway facility is also on the anvil.

SARDP-NE

Emphasis has been given to the special accelerated road development programme for North-Eastern Region (SARDP-NE) to connect the North-East with the rest of the country. About 1,000 km of roads have been completed under this program in the 11th five year plan. The SARDP-NE implementation in 12th five year plan will cover under Phase A (balance 5,406 km to be completed) and under Phase B **(**1,610 km will be taken up out of total length of 3,723 km).

Other projects

Delhi-Mumbai Industrial Corridor (DMIC) is the latest buzzword for the industrial development as it is situated in the industrial heartland of the country. A length of 812 km has been identified and has been planned to develop to four lane standard under instant plan period. Special emphasis has also been laid on the development of state roads in the state of Jammu and Kashmir. The current plan has also kept provision for development of two-lane roads to be connected with 50 minor ports for smooth movement of logistics besides road connectivity with major ports which had already been handled under NHDP Phase-I by NHAI.

Border Roads Organization (BRO)

Border roads organization usually undertakes development and maintenance of NHs under its jurisdiction departmentally but some works are awarded through contracts also. More and more such works may be outsourced by BRO wherever possible. USD 89 billion is the estimated fund requirement for development of NHs and expressways including the special packages for the 12th five year plan.

State highways

National highways constitute the major backbone of the road transportation of the country. But state highways are not less important, as they provide the very essential linkages to the cities and accesses to the business centers. They cater to about 40% of the total traffic. The total length of state highways (hereinafter: SH) is about 154,000 km and that of major district roads (hereinafter: MDR) is hovering around 300,000 km. Significant investment is expected to be made on SHs over the next five years besides the NHs.

Rural road

The third category of road after NHs, SHs and MDRs is the rural road. 60% of India's population lives in rural areas, so these roads are lifeline for the rural people to access the nearest railway stations, market centers, schools and other government establishments. An ambitious program “Pradhan Mantri Gram Sadak Yojana” (PMGSY) was launched in the year 2000, with the primary objective to provide connectivity through all-weather roads to isolated habitations with population of 1,000 and above by 2003 and those with population of 500 and above by 2007 in rural areas. In case of most remote areas such as tribal, hilly or desert belts, the objective is to provide connection to habitations with population of 250 and above. About USD 37 billion will further be required for completion of balance PMGSY projects.

Road safety

It has already been discussed earlier that the present plan has given a lot of emphasis on the safety aspect of the road transportation. Since the mobility with speed has increased with augmentation of road network, the probabilities of fatal accidents have also increased. It has been decided to subject the entire network of NH and SH to road safety audit (hereinafter: RSA) in a phased manner. Through RSA impending bottlenecks will be identified along with the deficiencies observed in the network and necessary corrective measures need to be taken to ensure safe travel.

Road maintenance

The majority of the state governments are lacking financial resources and hence the maintenance of the road is in dire state. The 13th Finance Commission has, therefore, decided to provide a central grant of USD 3.7 billion to states for maintenance of the roads and bridges covering a four year period from 2011–12 to 2014–15. This amount is in addition to the routine expenditure, which the states are expected to incur on maintenance of roads and bridges.

5.5.3 Railways

Indian Railways (hereinafter: IR) is planning major investments for capacity augmentation and modernization of rail infrastructure over the next 10 years. Some of the key areas for launch of projects include construction of the dedicated freight corridors (hereinafter: DFC), high speed passenger corridors, metro projects, manufacturing of rolling stock including coaches, wagons and locomotives through special purpose vehicles (hereinafter: SPV), as well as the development of multi-modal logistics parks and hospitality services. The level of activity on the IR system is set to increase due to demand in core sectors as well as growth expected in the retail, industrial and agriculture sectors which has warranted the need to strengthen and create adequate railway infrastructure in the domain of logistics. The freight loading target for the terminal year of 11th five year plan is 993 MT. The level of traffic is contemplated to grow to over 1,409 MT by the end of 12th five year plan or even to 1,499 MT if IR is able to marginally increase its market share by 2%. Passenger growth is assessed at 7% during the 12th five year plan. Originating passenger traffic is also expected to increase from 8,200 million in 2011–12 to 11,700 million in 2016–17.

The next five years will see large scale investments in the rail sector to service the demands of economic growth and will also witness a paradigm shift from road to rail in freight from energy and environment considerations. The expected outlay on various programs of the Indian Railways during the 12th five year plan is around USD 75 billion which is significantly higher than the 11th plan target of USD 50 billion. This envisages delivery of major capacity enhancement infrastructure projects, execution of eastern and western DFCs, expansion and modernization of network, modernization of rolling stock and maintenance practices, running of heavier (higher axle load), speedier (100 kmph) and longer freight trains to maximize utilization of existing track capacity, induction of high axle load wagons, increase in capacity of existing production units for locos and coaches, provision of total logistics solution, technological up gradation and modernization of locos and rolling stock fleet, focus on last mile rail linkages and port connectivity, development of logistics parks, adoption of new technologies, energy efficiency and green energy initiatives like renewable energy projects – wind mills and grid connected solar panels.

DFCs are considered main corridors for fuelling economic growth of the country. The DFC between Mumbai and Delhi (1,483 km) will provide high speed rail connectivity with multi-modal linkages, traversing through 6 states of India. The DFC will not only ensure fast travel of the freight but will also spur economic growth within a substantial distance on either side of alignment. Indian Railways is also planning for such freight corridors along the "golden quadrilateral and its diagonals" connecting major urban centers located at Delhi, Chennai, Kolkata and Mumbai.

Preliminary studies of these corridors have already been done. Construction of the DFCs is major capacity enhancing projects which will also result in decongestion of rail network for running improved passenger services. As development of various modes of transport is undertaken in a well-concerted approach, development of the facilities of the inter-modal integration is also very much necessary. Construction of logistics parks with suitable terminal and handling capacity will be a suitable remedy in this regard. There is a proposal, yet in the preliminary stage, to set up a multi-modal joint venture logistics company in which public sector undertakings like CONCOR, Central Warehousing Corporation of India and Shipping Corporation of India will be the equity partners. The proposed company will provide integrated transport services as an integrated entity by the three public sector corporations as partners, ensuring seamless movement of cargo and to provide 'end-to-end' transport solutions.

The 12^{th} five year plan period will see major investments towards construction of new lines for expansion of the railway network including in Jammu and Kashmir and North-East region (USD 23 billion), road safety – road over bridges (hereinafter: ROB)/road under bridges (hereinafter: RUB) (USD 2.6 billion), Workshops including production units (PUs) (USD 2.36 billion), metro projects (USD 2.65 billion), joint ventures (JVs)/special purpose vehicles (SPVs) (USD 25.3 billion) as well as traffic facilities (USD 2.62 billion). It is also proposed to carry out up gradation of speeds of passenger trains to 130/140 kmph on identified sections and up gradation to 160 kmph on identified trunk routes in 12^{th} five year plan to be further upgraded to 200 kmph subsequently. IR has selected 6 corridors for assessing feasibility of running high speed trains of 300 kmph. A significant proportion of the needed investment on IR during the 12^{th} five year plan is proposed to be mobilized from the private sector through the PPP route. This would be in contrast to the 11^{th} five year plan in which private investment in the rail sector amounted to only 4% of plan outlay as compared to substantial private capital share in other sectors like ports 80%, telecom 82%, electricity 44%, airports 64% and roads 16%. PPP projects relating to rolling stock manufacturing units, modernization of railway stations, multi-functional complexes, logistics parks, private freight terminals, freight train operators, liberalized wagon investment schemes, DFCs, etc. which are in pipeline, are expected to be pursued and executed in the 12th five year plan involving a private investment component of about USD 10.4 billion. Table 11 shows the amount of private investment expected in rail sector.

Table 11. Planned private sector investment in rail sector

(billion USD)

SN	Project	Planned private investment	Planned total investment
1	High speed corridor-Mumbai-Ahmedabad.	3.70	11.10
2	Elevated rail corridor in Mumbai suburban.	-	3.70
3	Redevelopment of stations.	0.93	1.85
4	Private freight terminals, leasing of wagons and other freight-marketing schemes.	0.93	0.93
5	Port connectivity and SPV.	0.93	0.93
6	Dedicated freight corridors.	1.85	1.85
7	Loco and coach manufacturing units.	0.93	1.11
8	(a) Renewable energy projects (solar, wind, etc.).	1.85	1.85
	(b) Energy saving projects.	1.85	1.85
	(c) Captive power generation.	0.74	0.74
	Total	**10.40**	**22.60**

Source: RITES Ltd., *RITES corporate plan 2007–12*, 2007.

5.5.4 Ports

Ports are the gateways for exports**.** However, despite strong growth in traffic, Indian ports have not been able to reach world standards due to capacity constraints and limited modernization. The government has formulated the National Maritime Development Programme (NMDP) and Maritime Agenda-2020 to enhance capacity and efficiency of Indian ports and allied infrastructure. The important items in the maritime agenda (2010–20) are increase of port capacity, compatible technology for efficiency, safety and security, environment safeguards and strengthening of inland waterways. The maritime agenda proposes investments worth USD 53.2 billion in major and non-major ports and investments of USD 30.6 billion in the shipping sector by 2020.

The earlier National Maritime Development Programme formulated during 2005 comprising 276 projects covering all major ports entailing activities like construction/up gradation of berths, deepening of channels, rail/road connectivity projects, etc. and 111 projects covering building up of inland water transport (hereinafter: IWT) infrastructure, tonnage acquisition, maritime training, coastal shipping, shipbuilding, etc. has not made much headway. Out of 276 projects identified for major ports, at present, 67 projects have been completed as of September 2011 and work is in progress in 70 projects. During the 12th five year plan the aggregate capacity in the 12 major ports is expected to reach a level of 1,229.24 MTPA from 702.80 MTPA by the end of the 11th five year plan period. Inland waterways authority of India (hereinafter: IWAI) is implementing various projects for making national waterway (NW)-1, 2 and 3 fully functional. IWAI is also setting up intermodal terminals at major cargo centers on all national waterways. Besides rail/road connectivity, additional connectivity of ports through IWT will be exploited and necessary investments made. During 12th five year plan, the overall requirement of funds for the port sector is estimated to be around USD 33.5 billion, out of which USD 13.7 billion will be taken up by major ports and USD 19.8 billion will be taken up by non-major ports. Private sector participation in provision of port facilities at various major ports and non-major ports is envisaged in a big way.

5.5.5 Airports

Air traffic has been witnessing an unprecedented growth in the country both in the domestic and international segments. It has been contemplated that domestic passenger traffic will grow at an annual rate of 12%, whereas the international passenger traffic at the same time will increase by 8%. There will be spurt in growth of the international and domestic cargo by 10% and 12% respectively. The existing airports are not enough to cater to this increased boom in passenger and cargo traffic. At present the country has 125 functional airports, but by the end of the 12th plan period, the country will require at least another 30 airports besides expansion and modernization of existing airports, improvement in connecting infrastructure and better airspace management. This will entail a significant investment in this sector. It is observed that not only the big metro cities but second tier cities are also witnessing a substantial increase in air traffic. PPP mode implemented during the 11th plan has been highly successful as modernization of Mumbai and Delhi international airports and green-field development of Bengaluru and Hyderabad international airports were successfully commissioned. Modernization of 35 non-metro airports in the country has been taken up by Airports Authority of India (hereinafter: AAI). 26 airports have already been developed out of 35, while the balance will likely to be completed during the 12th five year plan.

An investment of about USD 12.5 billion will be needed during the 12th five year plan, out of which USD 9.3 billion will be the expected contribution by the private sector. The projected outlay of AAI is USD 3.24 billion during the 12th five year plan. For non-metro airports, AAI has earmarked USD 1.3 billion for aerodrome works, USD 0.7 billion for air navigation services (infrastructure and air safety), USD 0.13 billion for the satellite based GPS GAGAN project, USD 0.6 billion for security, USD 0.02 billion for IT and USD 0.07 billion for ground safety services (including aviation safety equipment). As far as the aviation market is considered, India is at present within the top ten in the world, securing the ninth position. The vision for the Indian civil aviation industry is to take India within top five of the world and by 2020 within the first three. Persuasion of this ambitious program needs a lot of developmental activities pertaining to modernization and expansion of existing airports, construction of new airports, providing air connectivity with the remote places, etc.

5.5.6 Power

Power will continue to be one of the prime sectors of growth during the next few five year plans. The target towards capacity addition under 11th five year plan was 78,700 MW. The total installed capacity as of April 2012 stood at 200,287 MW, of which the installed capacity of thermal power plants is 132,013 MW, hydro power plants is 38,001 MW, nuclear power plants is 4,780 MW and renewable energy source power plants/installations is 24,503 MW. Another 100,000 MW of power needs to be generated as envisaged during the 12th five year plan – 75,200 MW thermal (70 projects), 20,000 MW hydro (87 projects) and 4,800 MW nuclear (3 projects). The total investments during the 12th five year plan period are estimated at USD 61.1 billion in thermal projects, USD 23.5 billion in hydro projects and USD 7 billion in nuclear projects, i.e., a total of USD 91.6 billion. The modal split of electricity generation is 60-65% for thermal energy in which coal plays an important role requiring provision of rail road facilities for transportation. Of the 12th five year plan shelf of thermal projects, location wise about 50% will be at pit heads, 30% at load centers and 20% at coastal areas. Besides generation of power, considerable investments are also expected to be made in creation of power transmission and distribution infrastructure. It is estimated that USD 63 billion would be needed for transmission projects and USD 74 billion for distribution projects. A program for universal electrification has been launched under Rajiv Gandhi Grameen Vidyutikaran Yojna (RGGVY). This program is expected to continue in the 12th five year plan.

Renewable energy in India has seen decent growth. In the last decade alone the installed capacity in renewable energy of the country has seen a growth from about 3% of the total installed capacity to over 11% at present. In the past, the renewal energy program was mainly driven by wind energy which accounts for almost 65% of the estimated 24,000 MW of green energy capacity installed in the country. Despite immense potential solar energy has not surged forward though subsidies are available. This is set to change. The Jawaharlal Nehru national solar mission which was launched in January 2010 seeks to facilitate the generation of 20,000 MW of grid connected solar power by 2022. In line with the solar mission, the government is also working on plans to launch a national biomass mission, which will help tap bio-energy potential of over 25,000 MW. The aim is to take the installed capacity in renewable energy to over 70,000 MW in the next decade corresponding to about 20 per cent of the total installed power generation capacity of the country. During the 12th five year plan, renewable based power generation capacity of 17,000 MW is planned to be created requiring an investment of up to USD 33.8 billion. Overall, the power sector will need an investment of USD 300 billion – USD 400 billion during period 2012–17.

5.5.7 Steel

Steel industry is a major consumer of infrastructural facilities especially railways, road, power and ports. During the 12th five year plan the focus will be on implementation of infrastructural projects to meet the specific needs of the steel industry particularly road-rail connectivity from ports/highways to plant site. The production of crude steel in the country is projected to increase from about 46 million tons in FY 2007 to 80 million tons in FY 2012. During the 12th five year plan, a capacity addition of 60 million tons is projected taking the total crude steel production capacity in the country to 140 million tons per year. A large number of steel projects are, therefore, slated to come up during the next 5 years.

5.5.8 Urban infrastructure and urban renewal

Cities are probably the largest growth market in the world with 80% of GDP worldwide being generated in cities. It is expected that about USD 2.5 trillion a year will be invested in the infrastructure of cities worldwide. The rapidly increasing urbanization will require matching development of urban infrastructure. It is projected that by 2031 about 40% of population of the country would be living in urban areas as against 28% in 2001. City authorities will look for solutions to solve challenges of urbanization and urban transformation. These range over intra-city transportation, rail systems, efficient distribution of power and drinking water, logistics and waste management.

5.5.9 Construction sector

With increasing population living in urban areas and the land crunch being felt already, there is going to be tremendous demand for high rise structures in the residential and commercial space. India is said to be the next big home for skyscrapers in the world. There will be tremendous boom in building construction due to huge capital inflow in urban and rural infrastructure, commercial complexes and residential buildings, educational institutions and hospitals, technology parks, transport terminals, logistics parks and warehouses, etc. In the 12th five year plan, infrastructure development in social sectors like health and education will get priority in investments. The plan will give focus on the Right to Education (RTE) Act. Other key areas will include higher education and the setting up of central universities. In the area of health care, the main action will be development of primary health-care centers particularly in rural areas, diagnostic centers and improving/ augmenting the hospital infrastructure.

5.5.10 Special Economic Zones

Like other developing countries, India also needs foreign direct investment (FDI). Special economic zones (hereinafter: SEZ) are being generally set up to attract FDI in order to promote industrial growth. Increased trade, job creation, investment are encouraged in SEZs by giving different sops to big industrial houses such as flexible regulations, liberal policies, tax holidays, etc. 587 SEZs have already been accorded final approval and 47 SEZs have been given in principle approval by the government and the number is counting. 140 SEZs among notified 380 SEZs have already been functional. A huge capital investment will be required for construction of the infrastructure in SEZs viz. buildings and structures, road, railway, airport, port, inland container depot (ICD), water and power networks, etc. presenting business opportunities with private sector.

5.5.11 Public-Private Partnership (PPP)

Since public sector resources are scarce, promotion of PPP in infrastructure development is being pursued aggressively by the government. As mentioned earlier, about 50% of the investment is expected to be mobilized from private sector through the PPP route. Currently the PPP framework is being used for the infrastructure sector, mainly covering road, metro and some state government projects. The government is now working on multiple options for financing PPP projects in social sectors like education and health. The PPP framework for these projects like building schools and hospitals, etc. is expected to be different from the existing regime for infrastructure development.

5.5.12 Opportunities of RITES in foreign markets

Asian and African regions, the key overseas markets of RITES, are likely to witness significant investments in the infrastructure sector in the coming period.

Opportunities in Asia

The expansion and modernization programs of the railways in Sri Lanka, Bangladesh, Myanmar and other neighboring countries present major opportunities to RITES for export of rolling stock, consultancy services and detailed engineering assignments. As per estimates of the Asian Development Bank (ADB), the overall national infrastructure investment needs of Asia are estimated to be USD 8 trillion between 2010 and 2020, 68% of which is meant for new capacity and 32% for maintaining and replacing existing infrastructure. This is tantamount to an average infrastructure investment need of about USD 730 billion per year, 51% of which is accounted for electricity and 29% is for roads. South Asia needs a total of USD 2,870 billion, East Asia and the Pacific USD 4,670 billion and Central Asia USD 460 billion. In addition to the above mentioned needs of overall national infrastructure, about USD 290 billion (transport projects – USD 205 billion, energy projects – USD 85 billion) are required in specific regional infrastructure projects.

Opportunities in Africa

Integration of various regional communities in Africa through rail/road transport for the development of the trade in the region provides immense opportunities. Investments of the order of USD 100 billion per annum for infrastructure development at the regional as well as national level are expected over the next 10 years. ECOWAS (Economic Community of West African States) – Completing and maintaining ECOWAS's regional infrastructure would necessitate constant expenditure of USD 1.5 billion annually for a decade. The total amount of annual infrastructure spending needed in the ECOWAS region to fulfill both regional and national infrastructure demands would be to the tune of USD 27 billion. EA (East Africa) – East Africa's regional infrastructure and the region's connectivity targets would entail annual spending of about USD 2.9 billion over a period of 10 years. Infrastructure spending of USD 4.3 billion a year is needed in the broader East Africa region to fulfill both regional and national infrastructure demands. ECCAS (Economic Community of Central African States) – Central Africa's infrastructure backbone would entail sustained spending of USD 1.8 billion a year over the next decade. SADC (Southern African Development Community) – SADC's infrastructure will require USD 2.1 billion annually for a decade. The total expenditure towards development and fulfillment for both national and regional infrastructure amounts to USD 30 billion a year.

5.6 SWOT analysis of RITES

Based on the internal and external environment scan and perceptions of the various SBUs/divisions the SWOT analysis of RITES is shown in Tables 12, 13, 14 and 15. The weight of each factor from 1 (most important) to 0 (not important) is considered based on that factor's probable impact on the company's strategic position. The total weights must sum to 1. Each factor is rated from 5 (outstanding) to 1 (poor) based on company's response to that factor. The weighted score is derived by multiplying each factor's weight times its rating. Individual weighted scores are added to obtain the total weighted score of the company. The total weighted score indicates how well a particular company, in this case RITES is responding to current and expected factors in its external and internal environments. The total weighted score for an average firm in industry is always 3. Some key colleagues of RITES have been consulted while assigning the weight and rating for various external, internal, and strategic factors.

Table 12. External factor analysis summary (EFAS)

External factors	Weight	Rating	Weighted score	Comments
Opportunities				
Major investments expected to be made in the coming period in the infrastructure sector, both in the transport and non-transport sector, offering scope to strengthen RITES position in existing areas and explore/develop new areas of business. (**O1**)	0.15	5.00	**0.75**	Fruitful collaboration with multi-national majors needed.
Significant investments are expected to be made in SAARC countries, Middle East, South-East Asia and Africa in the coming years, offering considerable scope for consultancy services. (**O2**)	.05	1.80	0.09	Already have strong presence.
Moving up the value chain through equity participation in BOT/ PPP Projects in the infrastructure sector. (**O3**)	0.20	1.50	**0.30**	Ventured early in this niche but prospective segment.
Taking up of EPC projects as permitted with recent amendment to articles of association of RITES. (**O4**)	0.10	1.50	0.15	Will take time.
Threats				
Jobs getting increasingly put through the tendering process instead of being awarded on nomination basis to RITES. (**T1**)	0.15	4.50	**0.68**	Need to be more competitive in pricing.
Increasing competition from wide range of players viz. PSUs, Indian companies and international consultants. (**T2**)	0.10	3.80	0.38	Will reduce the margin further.

(table continues)

(continued)

External factors	Weight	Rating	Weighted score	Comments
Getting out priced particularly due to high overheads and competition from smaller players. (**T3**)	0.10	4.00	**0.40**	Need to be more cost effective.
The scale of projects being tendered is becoming larger in size attracting international consultants/ large Indian companies putting a squeeze on RITES chances of grabbing business. (**T4**)	0.04	1.50	0.06	Will take time.
Tendency of domestic clients to opt for foreign consultants or a consortium associating foreign consultants in the case of major projects. (**T5**)	0.04	1.20	0.05	Scope of joint venture/tie-up to be explored.
Loss of experienced personnel to multinational companies and private sector organizations which are offering attractive financial packages. (**T6**)	0.04	3.50	0.14	Restructuring of remuneration of middle level executives needs to be considered.
Business becoming more sophisticated and clients are increasingly putting a price tag on reliability and quality of service. (**T7**)	0.03	1.20	0.04	Well positioned.
Total Scores	**1.00**		**3.04**	

Table 13. Internal factor analysis summary (IFAS)

Internal factors	Weight	Rating	Weighted score	Comments
Strengths				
A well-established organization with a good track record endowed with a large pool of highly qualified and experienced technical personnel. (**S1**)	0.075	4.50	**0.34**	Key strength to be the market leader.
Ability to take up projects requiring multi-disciplinary work force. (**S2**)	0.075	4.20	0.32	Dedicated workforce with technical competence.
One stop shop providing value added and integrated services in railways and other sectors of transport, which is difficult to replicate by other players. (**S3**)	0.10	4.00	**0.40**	One of the major players in the multimodal logistics.
Access to the expertise, manpower resources and infrastructure facilities of Indian Railways. (**S4**)	0.03	2.00	0.06	Unparallel capability, could not be emulated by the competitors.
Extensive experience in working with multilateral funding agencies and other international organizations. (**S5**)	0.02	2.50	0.05	Well positioned both in the domestic and international markets.
High international visibility and reputation earned through work experience in 63 countries across the globe. (**S6**)	0.05	4.00	0.20	Unique advantage over competitors, a major force to reckon with in Asian and African markets.
Harnessing relevant technology for projects including state-of-art technology in critical areas, if need be, by tying up with expert agencies in India and abroad. (**S7**)	0.02	3.00	0.06	Slow starter in this aspect, need to be more proactive.

(table continues)

(continued)

Internal factors	Weight	Rating	Weighted score	Comments
In-house availability of sophisticated software, equipment and facilities for undertaking complex design work of bridges, highways, rolling stock, etc. (**S8**)	0.03	2.70	0.08	Constant up gradation and consistent acquisition of latest software required.
Unique Inspection Organization with in-house material testing laboratories and quality management systems group. (**S9**)	0.05	2.50	0.13	Quality key to success.
PSU status enabling comfort level for award of sensitive jobs and major assignments on nomination basis from central/state government departments and organizations. (**S10**)	0.05	3.00	0.15	Erosion already starts on the quantum of jobs to be awarded on nomination basis.
Weaknesses				
Heavy dependence on Govt. And PSU clients. (**W1**)	0.15	4.50	**0.68**	A major weakness.
Lack of adequate experience in handling mega projects. (**W2**)	0.075	2.50	0.19	Losing projects to major multinationals.
Inability to prevent staff attrition and recruit desired competencies resulting in manpower resource constraints adversely affecting the performance and development of SBUs/ divisions. (**W3**)	0.075	3.00	**0.23**	Disparity in pay packages between public and private sectors.
Increasing difficulty in obtaining railway officers/staff in certain categories/ disciplines on deputation as Indian Railways is finding it difficult to spare staff on account of their own growth of operations/ activities. (**W4**)	0.05	1.50	0.08	More in-house expertise needs to be developed.

(table continues)

(continued)

Internal factors	Weight	Rating	Weighted score	Comments
Lack of systemic training and processes to assess gaps in the competency profile of the SBUs and to impart professional know-how and skills in relevant work areas. (**W5**)	0.05	1.50	0.08	Will take time.
Insufficient marketing outreach and networking to develop systemically adequate signals and business leads in public and private sector alike for leveraging by the concerned SBUs/Divisions. (**W6**)	0.10	2.00	0.20	More bureaucratic approach.
Total Scores	**1.00**		**3.25**	

Table 14. Strategic factor analysis summary (SFAS)

Strategic factors	Weight	Rating	Weighted score	1	2	3	Comments
A well-established organization with a good track record endowed with a large pool of highly qualified and experienced technical personnel. (**S1**)	0.075	4.50	0.34			**X**	
One stop shop providing value added and integrated services in railways and other sectors of transport, which is difficult to replicate by other players. (**S3**)	0.10	4.00	0.40			**X**	
Heavy dependence on Govt. and PSU clients. (**W1**)	0.15	4.50	0.68	**X**	**X**		

(table continues)

(continued)

Strategic factors	Weight	Rating	Weighted score	1	2	3	Comments
Inability to prevent staff attrition and recruit desired competencies resulting in manpower resource constraints adversely affecting the performance and development of SBUs/ Divisions. (**W3**)	0.075	3.00	0.23		**X**		
Major investments expected to be made in the coming period in the infrastructure sector, both in the transport and non-transport sector, offering scope to strengthen RITES position in existing areas and explore/develop new areas of business. (**O1**)	0.15	5.00	0.75		**X**	**X**	
Moving up the value chain through equity participation in BOT/ PPP Projects in the Infrastructure Sector. (**O3**)	0.20	1.50	0.30		**X**	**X**	
Jobs getting increasingly put through the tendering process instead of being awarded on nomination basis to RITES. (**T1**)	0.15	4.50	0.68	**X**			
Getting out priced particularly due to high overheads and competition from smaller players. (**T3**)	0.10	4.00	0.40	**X**			
Total Scores	**1.00**		**3.78**				

Note: 1 – Short term (less than one year)
2 – Intermediate (one to three years)
3 – Long (over three years)

Table 15. SWOT matrix

Internal factors (IFAS) / External factors (EFAS)	**Strengths (S)**	**Weaknesses (W)**
	a large pool of highly qualified and experienced technical personnel. (**S1**) Ability to take up projects requiring multi-disciplinary work force. (**S2**) One stop shop which is difficult to replicate by other players.(**S3**) Access to the expertise, resources and infrastructure facilities of Indian Railways. (**S4**) High international visibility and work experience in 63 countries across the globe. (**S5**) PSU status enabling comfort level for award of sensitive jobs on nomination basis (**S6**)	Heavy dependence on government and PSU clients. (**W1**) Lack of adequate experience in handling mega projects. (**W2**) Prevention of staff attrition and recruitment of desired competencies (**W3**) Increased difficulty in obtaining specialists from Railway (**W4**) Lack of systemic training, professional know-how & skills in relevant work areas. (**W5**) Insufficient marketing outreach (**W6**)
Opportunities (O) Major investments expected to be made in the coming period in the infrastructure sector (**O1**) Significant investments are expected to be made in SAARC countries, Middle East, South-East Asia and Africa in the coming years (**O2**) Moving up the value chain through equity participation in BOT/PPP projects in the infrastructure sector. (**O3**) Taking up of EPC projects (**O4**)	**SO strategies** Effective handling of major infrastructural projects in the domestic market with highly qualified and technical personnel in-house (**SO1**) Having enough competency to bag international contracts due to high international visibility and rich work experience across the continents (**SO2**) Advantage of one-stop-shop consultancy and PSU status will facilitate to take up EPC projects and also move up the value chain (**SO3**)	**WO strategies** Moving up the value chain by transformation from consultant to stakeholder by investing seed capital in BOT/PPP projects will reduce dependence on government and PSU clients (**WO1**) Strategic tie-up with the local players in the international market will overcome deficiencies of resources of desired competencies (**WO2**)
Threats (T) Jobs getting increasingly put through the tendering process (**T1**) Increasing competition from wide range of players viz. PSUs, Indian companies and international consultants. (**T2**) Getting out priced particularly due to high overheads and competition from smaller players. (**T3**) The scale of projects being tendered is becoming larger in size attracting international consultants/large Indian companies (**T4**) Tendency of domestic clients to opt for foreign consultants or a consortium associating foreign consultants in the case of major projects. (**T5**) Loss of experienced personnel to multinational *companies* (**T6**)	**ST strategies** Technically qualified and experienced manpower will neutralize the increased competition from major domestic and other international consultants (**ST1**) Huge international experience backed up by proven track record will be a facilitating factor for formation of consortium or joint venture with foreign consultants (**ST2**) Access to the expertise, manpower and other resources of Indian Railways will overcome loss of experienced personnel to multinational companies (**ST3**) The status of one-stop-shop consultancy house will keep RITES very much in competition inspite of high overheads and threats posed by smaller players (**ST4**)	**WT strategies** Need to participate in tendering more in future to reduce heavy dependency on the Govt. or PSU clients (**WT1**) Strategic tie-up both in the domestic and international markets will thwart the potential threats posed by international consultants/large Indian companies and also at the same time nullify the deficiency of requisite resources and skills to handle mega projects (**WT2**) Concentration in specific geographic region where RITES has stronghold and effective local tie-up will reduce the weakness of insufficient marketing skill (**WT3**)

5.7 New horizon of operation

Today, the buzzwords in the infrastructure market are – metro rail, dedicated freight corridors, high speed passenger corridors, industrial corridors, port development, new airports/heliports, special economic zones (SEZs), information technology (IT) parks, industrial parks, logistics parks, integrated townships, high rise buildings, green technologies, renewable energy sources, water resource management, etc. A marked transformation is observed in the service spectrum of the firms particularly for the consultancy houses. To survive this onslaught the organization also needs to be attuned to the changed perception of the clientele as well as the market demand. A declining trend in opportunities is being observed in the domain of rendering pure consultancy services but, on the contrary, demand of consultancy services is on the upswing pertaining to provision of value added services and also totals solution from the concept to commissioning with financial participation by way of collaboration. Considering these aspects and the core competencies of the company, RITES needs to explore actively new areas of business, as mentioned below, which may be considered as propitious niche commensurate with the distinctive competency profile of the organization.

5.7.1 Enter into new emerging sectors

High-speed passenger rail corridors, dedicated freight corridors, high capacity and medium capacity mass transit systems including monorail, automated guide way transit (AGT), HSST (Mag Lev) and linear metro, automated people mover (APM), etc. Infrastructure development in industrial corridors, logistics parks, industrial parks and SEZs offers noteworthy opportunities for RITES to be involved from the concept to commissioning stage. RITES may be associated with preparation of reports, tendering, contract monitoring services, project management services, quality assurance and finally operation and maintenance of the commissioned utilities in the entire gamut of infrastructure. RITES should seriously conceive to change its role from consultancy to ownership which can be defined as moving up the value chain. The government policy also hovers round awarding the contracts on public private partnership (PPP), build operate and transfer (BOT) basis and also encourages equity participation and concession allowing joint ventures. RITES should not miss the bus to remain relevant in the future years to come, where the definition of consultancy has been changed. RITES based on its financial strength may decide to associate itself in the projects of manageable size either in individual capacity or constituting joint venture (JV), strengthening manpower, finance and legal support system to handle such ventures, participation in rolling stock manufacture by investing strategic equity stake and setting up own maintenance facilities: initially for servicing company locomotives operating on lease in domestic markets. At a later stage, the servicing and repair of locos owned by other domestic organizations may be taken up.

5.7.2 Enhance on existing service offered

EPC/Turnkey Projects: Initially in the consultancy horizon, the contracts are being awarded depending on the specialization of a particular organization in a specific sector of operation. Until today the significant growth of RITES has been possible due to generation of maximum revenue from the project management consultancy (PMC) assignments. But nowadays the clients favor to award contract on engineering procurement commissioning (EPC)/turnkey basis to large houses to abstain from dealing with numerous small firms. Therefore, to keep pace with the changing market scenario it is desirable to explore possibilities of entering into contracts on EPC/turnkey basis either individually or jointly with other undertakings/companies in India to start with and later extend the experience in the overseas market. In the initial stages only small sized EPC assignments may be considered in the area of railway sidings, institutional buildings, SEZ infrastructure, etc.

Third Party Inspection: Expansion of service offerings to new sectors such as oil and gas, exports, etc. need to be considered by RITES.

Training in Railway and Non-Railway sectors: Mass rapid transit systems (MRTS) that will be established by private players or state governments will need sizable manpower resources duly trained to run the network and associated systems. RITES can capitalize on its competency and association as consultant in such projects and can take a leading role in transfer of expertise and comprehensive training services encompassing all facets in the operation and maintenance management of mass rapid transit systems. Besides railway related training programs, RITES should prepare and provide training programs in all other sectors RITES operate and has expertise.

Clean development mechanism (CDM) & Energy Audit: With extension of Kyoto Protocol it is expected that industry in India will be keen on developing more CDM Projects. Pursuing openings in the aforesaid areas will generate increased business for RITES. The country continues to face peak power and average energy shortages of 12% and 7% respectively. On the other hand, the traditional energy sources are becoming costlier and scarce. Efficient use of energy and its conservation is gaining momentum generating business opportunities in the field of energy audits and energy conservation/efficiency.

5.7.3 Enhance on services in existing sectors

O&M of metro rail, highway and ropeway systems: RITES needs to plunge aggressively in the sunrise sector of post commissioning comprising of operation and maintenance of the system with efficient management of the assets. In the post commissioning stage, services will be needed for O&M of these systems which RITES can gainfully exploit to its advantage. RITES can confine itself to the domains of Technical O&M, e.g., rolling stock, track and over head electrification (OHE) in case of metro rail.

Contract management: RITES needs to consolidate its position in management of contracts pertaining to infrastructure projects being executed on behalf of government authorities/other PSUs/private organizations and also provide technical consultancy including sample testing and approvals, etc.

5.8 Corporate strategies and action plan

RITES should continue to build on the core strengths as a technical consultant through knowledge leadership and knowledge buildup, tie-ups with centers of excellence in railways and other technological fields in the infrastructure sector for understanding latest technology trends, training, etc., tie-ups with local firms for augmenting capacity, technical support and geographical spread and also tie-ups/strategic equity investment/acquisition (as and when permitted by government rules) for purpose of participation in mega projects, technology acquisition/enhancement and possible outsourcing work.

Provide thrust to international business
RITES should gradually shift to a country based approach and explore consultancy and other opportunities in various sectors of RITES operations. RITES should also consider to re-enter the field of railway concessions with robust business model and exercise due precautions from past experience, augment capability and capacity for undertaking rehabilitation of locomotives and rolling stocks as well as also explore opportunities for export of wagons manufactured by RITES JV at Kulti.

Enter into PPP and EPC projects:
RITES should take up EPC work of relatively smaller scale to start with, obtain technical consulting/design business in selected cases of PPP with minority stake if need be and develop PPP projects for state governments. RITES should explore the possibility of assisting financial institutions for appraising and monitoring of PPP projects, develop customized products for infrastructure development in logistics parks, industrial development parks, SEZs and other emerging areas including technical consultancy services, procurement services, contract monitoring services, inspection and quality assurance services both during development phase of the project and operations phase. RITES should contemplate to expand activities into technical operations and maintenance in a wider range of infrastructure sectors by taking up technical O&M projects relating to Highways, Ropeways and Metro Rail, etc. with or without tie-ups with domestic/international O&M operators, collaborating with central/state governments/project authorities to shape the O&M market and setting up maintenance facilities for servicing/repair of own locomotives operating on domestic lease.

Leverage strength as a leading PSE consultant and shape new markets

RITES should collaborate with financial institutions and state governments to develop projects with state government entities as partners and also explore contract management possibilities on behalf of project sponsors at the central, state and regional levels.

Undertake outsourcing work

RITES should also explore obtaining outsourcing work in architectural design services, civil and structural engineering design services and railway infrastructure and systems. RITES should capitalize its expertise in architectural planning, civil and structural design and endeavor to make a strategic tie-up with the PPP collaborator as an independent engineer (IE). This area has a strategic sweet spot, the advantage of the same needs to be taken up prior to the other competitors entering the fray. This is a very prospective segment and the return is high compared to the scale of investment.

Strengthen marketing functions

RITES may invest in 'Brand Development' and try to take lead in knowledge dissemination in key business areas and enhance media presence by improving visibility of RITES and project technological excellence/knowledge leadership through association with or organizing of relevant international/national seminars, technical surveys, research, etc. Clients' perception about market leadership of RITES as consultants needs to be improved. RITES needs to depute dedicated personnel for developing business in focus sectors like power, steel, SEZ, etc. Marketing efforts especially towards prospective clients in the private sector need to be targeted.

Focus on HR development

RITES should formulate policies to attract and retain talent and manpower and also remove bottlenecks and build capability/capacity experience profile to qualify for bidding and secure projects. Special targeted/focused recruitment campaigns need to be arranged for attracting professionals from state governments/central government/other PSEs. Conducting routine and customized training programs on a regular basis to enhance knowledge and skills of staff at all levels will have far reaching results in the future. Strengthening skill sets in finance and legal domains especially for transaction advisory, leasing and contract management services, leveraging knowledge management to enhance employee productivity and also undertaking periodic performance and compensation benchmarking studies with other PSEs will reap rich dividends.

Institute a process for technology management

RITES needs to have dedicated/nominated knowledge managers for various sectors and should also facilitate to establish a technology tracking and monitoring group. The prime function of the group is to track developments in software packages for design, data analysis and other specialized services besides participating in activities of standards developing organizations, obtaining updates on latest standards and testing methods.

Corporate Governance and CSR activities

RITES should also enforce strict compliance with the code of conduct and the conduct rules applicable to the executives and all employees. Best practices should be adopted on the basis of guidelines on corporate governance issued by the department of public enterprises and practices adopted by other leading PSEs and the long term plan for corporate social responsibility (CSR) of RITES should be implemented as per schedule.

Other enabling measures

As a policy, low value assignments (unless as an adjunct of a big order) need to be declined to prevent frittering away of scarce resources and RITES should concentrate on high value orders and also opt out of risk prone jobs viz. those involving work sites at widely scattered locations or where reasonably accurate estimates are difficult to prepare. RITES should also implement certain measures such as formal cost management process, monitoring the utilization of professionals at all levels, re-deployment of resources from less productive to more productive areas to maximize earnings, proper handing over/taking over of charge without exception, computerization of all internal communications and records and setting up modern sub-offices located in commercial/industrial hubs to register RITES presence and improve business. Due to increasing manpower costs, efforts need to be made to contain the number of employees and improve the turnover. The e-procurement system will be implemented in RITES and integrated with the ERP system.

5.9 Key strategies

The key strategies of RITES would be driven by its core strengths and competencies and the role it is best suited to perform. This would entail the following:

5.9.1 Business focus

RITES should continue to build on core strengths as a technical consultant to tap both public and private sector clients (including opportunities emerging on account of projects being structured on PPP) while simultaneously venturing into selected new services/sectors. RITES should exert all out efforts to leverage strength as a leading PSE and linkages with the Indian Railways to shape new markets and expand activities into technical operations and maintenance in a wider range of infrastructure sectors. But RITES should tread with caution as an equity stakeholder in PPP projects in India and turnkey/EPC work but could seek to obtain outsourcing work from other international consulting firms in developed markets. Collaboration with the private sector (strategic tie-ups, JVs, MoUs) for technology, manpower resourcing, project specific expertise, assets, approaching/tapping overseas markets, etc. is the need of the hour.

5.9.2 Market focus

RITES should develop capabilities and bring cultural change towards marketing and business development. This sector has been neglected since the inception of the organization. Although the presence of RITES in the domestic consultancy business is quite remarkable, but today is the era of advertisement. Majority of the private sector companies who are in the massive expansion drive through strategic tie-up capitalize on this opportunity and are quite successful to make their presence felt in both print and electronic media. Hence RITES also should not leave this opportunity and rather plunge aggressively to make various domestic and international clients acquainted about its expertise in vast array of services in the fields of transportation, infrastructure, and logistics.

5.9.3 Human resource focus

RITES should explore innovative mechanisms for attracting and retaining high caliber professionals and enhancing their productivity. RITES is predominantly a technical consultancy firm with a focus on knowledge management. The strength of RITES is its multi-disciplinary technical work-force who by virtue of their expertise has for the last few years have become the soft target for the multinational companies. They are being lured away by these companies by offering them sometimes astronomical remuneration. One of the hurdles for RITES is that RITES, being a public sector enterprise, cannot restructure the remuneration of its employees on its own. But to protect this distinctive competency from depletion, the issue needs to be consulted seriously with the controlling ministry and some trade-off needs to be arranged.

5.9.4 Societal focus

RITES should adopt best practices for corporate social responsibility and corporate governance. RITES is committed to operate in an economically, socially and environmentally sustainable manner while recognizing the interests of its stakeholders. This commitment extends beyond the statutory compliance requirements as the company endeavors to integrate business and social goals and in the process, builds a competitive advantage for itself in the long term. The CSR funds and efforts of the company are invested in people-centric projects & activities with emphasis on weaker sections of society to promote inclusive development and contribution to the society as a whole. RITES is committed to upholding highest standards of corporate governance in its operations with adoption of values of transparency, integrity, disclosure, compliances, professionalism and accountability. The company recognizes corporate governance as critical to achieving the corporate goals, enhancing shareholders value and strengthening the reputation and brand value of RITES. It shall strive to be a good corporate citizen conducting its business in an ethical manner with due regard to the environmental and social responsibilities while pursuing sustained growth and financial performance of the company.

5.9.5 Other enablers

RITES should develop underlying systems and mechanisms for appropriate technology and knowledge management to meet its mission and the objectives of the corporate plan. In order to maintain its standing and reputation, RITES needs to be seen as a thought leader in multimodal transport and innovative transport technologies customized to the Indian context, advances in railway technology aligned to the modernization plans of Indian Railways and select technologies/current trends in other sectors in which RITES operates like highways, ports, airports, power etc. It is, therefore, important for RITES to remain abreast of the latest technological developments/innovations/applications to take advantage of new business opportunities and become aware of potential threats to business due to obsolescence. In addition, information about technology should be complemented and integrated with information about other aspects such as market and competitors trends.

5.10 Key actions

The major action steps envisaged to achieve the strategic intent are presented below. These focus not only on consolidating/strengthening RITES' credentials for public funded projects but also build capabilities to tap the opportunities emerging from projects funded by the private sector or structured on a PPP mode.

5.10.1 Business focus

Indian Railways (domestic)
The proposed investment in the eleventh five year plan for railways is around USD 47.22 billion which is significantly higher than the tenth plan (USD 15.7 billion). Some important future projects and plans from RITES' perspective are the DFCs, high speed passenger corridors, workshop modernization and capacity enhancement, new production units and capacity enhancement of the existing units, traffic requirements of Jammu and Kashmir and the Northeast and increased volume of purchases by the Indian Railways. In this context, the key action steps that RITES needs to take include entering into strategic tie-ups (MoUs, JVs, related with technology, manpower, project specific expertise, assets as appropriate) with international railway consultants for mega projects like the DFCs and the high speed passenger corridors and specialized activities such as tunneling and bridge designs, engaging with the Indian Railways to take up workshop modernization projects and also with different departments of the Indian Railways for securing inspection business in areas where RITES has no/limited presence.

RITES also requires to negotiate with the Indian Railways to fix an appropriate project management consultancy fee for the proposed new lines, doubling and gauge conversion projects. In addition, there are several opportunities which will emerge including new manufacturing ventures (opportunity to obtain consulting business – for example on indigenization, vendor development, etc.), ROB/RUB work, modernization of stations, rehabilitation of bridges, railway electrification, etc. RITES would need to engage with Indian Railways and forge appropriate partnerships with international firms to shape these markets/leverage opportunities as they come.

Non-IR Railway business (domestic)

The non-IR Railway business of RITES has been driven primarily by the power and steel sectors in the past. However, the key future drivers in this segment are not only the increase in power generation capacity, steel production capacity, but also an expected rise in container operations in the country. In the future, it is suggested that RITES has dedicated personnel monitoring developments in these sectors. RITES should also maintain a database of all steel, power plants and also specifically target organizations such as NTPC, SAIL, Tata Steel, Mittals, Posco, Jindals, etc. by offering integrated solutions (from the feasibility study phase to operations and maintenance). RITES should explore and develop opportunities of providing end-to-end logistics services to large steel and power plants on a turnkey basis. The container sector was only recently opened to private players.

RITES has acquired significant business in the wagon design market in this sector but needs to aggressively market its other service offerings (like O&M) to the new operators. There is uncertainty as to whether the Indian Railways will let other players undertake wagon maintenance, especially due to safety reasons and RITES may need to engage with the Indian Railways to allow it to enter this market. If the scale of maintenance operations increases significantly, then RITES could explore appropriate options for meeting these requirements (e.g., workshops, etc.).

RITES could explore tie-ups with international players/institutes to gain more exposure to new designs and standards for wagons. This could strengthen its capabilities to develop special purpose wagons for various sectors. RITES already has experience in locomotive leasing in the international market. It may explore options for leasing of locomotives and wagons in the domestic context and could engage with Indian Railways for obtaining locomotives for this purpose. RITES will need to increase its manpower and geographical presence to gain more business in this segment in the future. It may have a JV with other consultancy firms or even consider acquiring/taking stake in some good firms to address these issues.

Highways

Significant investment is envisaged in national highways, state highways and rural roads in the next 5–10 years. For example, the investment in national highways and state highways could be in the range of USD 47.2 billion and USD 5.6 billion respectively in the next 10 years. Some proportion of the investments has been envisaged to be through the PPP route. In this context, it is suggested that RITES engages with developers to obtain consultancy business and explore options for long term arrangements with some large developers, to collaborate with financial institutions and state governments and to develop state level projects on PPP basis. Various studies/surveys have shown that many state governments often lack the expertise for project development. As a result of this there is no significant pipeline of PPP projects in many states even though there is an appetite within the private sector for taking up such projects. RITES in consortium with a financial institution can offer services to state governments for developing PPP projects which will optimally leverage public resources, minimize implementation time, reduce clearance and approval time and finally attract capital (bankability). For this RITES can enter into a JV/MOU with state governments to setup a project development agency and create a project development fund. This will enable RITES to carry out studies from project inception to technical feasibility to the bidding out of projects. This will provide an opportunity for RITES to undertake studies which will be recoverable on successful bidding of these projects. The involvement of RITES will also be reassuring for state governments because of its status as a public sector enterprise (PSE). Scope for participating through equity infusion from the government side enables RITES to understand the PPP mechanism better.

Another option for RITES is to participate in individual PPP projects at the state level through providing a small equity contribution. Putting in of equity by RITES will enable many dormant projects (dormant for the want of funds) to see the light of day (RITES equity will act as the sweetener for the private sector to invest). Such investment will allow RITES to have a presence in the project special purpose vehicle (SPV) and this will enable it to better understand the nuances of PPP business. Such understanding will enable RITES to take a better decision on whether to enter PPPs as a developer or not. With increasing number of PPP projects, the sponsoring authorities are going to be faced with a large number of legal and contractual issues from the bidders. These issues can range from deciding the toll rate, defining local traffic, adequacy of infrastructure created, etc. RITES can take up the contract management work as a package on behalf of the sponsoring authority. This will require RITES to associate with legal firms and also strengthen its financial and legal capabilities in-house. The possibility that RITES will be able to get this business is high given its status as a PSE. RITES needs to explore possibility of JVs/acquisition options of other highway consultants in order to develop NHAI business. To continue in the construction supervision business for NHAI, RITES needs to augment its manpower. One option that RITES could explore is to have JVs or even acquire/take stake in small highway consultants which do not currently work on NHAI stretches but work mostly on state road projects. A list of such consultants to target can be found on state public works department (PWD) websites along with their specializations.

Urban transport

In the urban transportation sector, the key future drivers are metro rail systems and bus rapid transit systems. Metro rail projects are understood to be planned in 26 cities and there could be an investment of around USD 5.6 billion in the 11th plan period. Similarly for bus rapid transit systems, around 9 cities are understood to be at an advanced stage of having submitted their DPRs for approval of grant under the JNNURM scheme and some other cities have also indicated interest in going forward with the planning process. These offer significant opportunities for RITES. In this context, it is suggested that RITES explores options of tie-ups with urban transport practices of other firms. It may align its efforts to the likely sources of funding for projects. For example, if certain metro projects are expected to be funded from Japanese sources, appropriate tie-ups with Japanese firms may be considered.

Coordination with state governments needs to be strengthened which are likely to develop metro projects on PPP basis along with cementing relationship with Delhi Metro Railway Corporation (hereinafter: DMRC) and other metro operators to formalize tie-ups. RITES can strengthen contacts with state governments which are thinking of setting up metro projects within their jurisdiction. RITES has been associated with setting up of metros in India and can offer its services to the state governments including handholding them through the project development and approval process. RITES can also explore avenues to tie up with international O&M operators to tap emerging opportunities within India as there is limited experience in terms of the operations and maintenance of metro rail systems. Opportunities are likely to open up as O&M is outsourced given the large number of metro projects coming in various cities. RITES can explore these opportunities in consortium with international O&M operators. RITES can provide the technical part of the O&M services while the consortium partners can provide the services on all other aspects.

Quality assurance

A significant proportion of revenues from this service is presently from sectors such as power, irrigation and public health and engineering (though Indian Railways is the largest contributor to QA revenues). The key future drivers of the non-Railways domestic third party inspection market are going to be the increased procurement by irrigation and public health engineering departments and power distribution companies, capacity additions in power generation, refineries, oil and gas pipelines, steel, petrochemicals and fertilizer sectors and exports of mineral products (ores, slag and ash), food and dairy products, etc. In this context, it is suggested that RITES should expand market reach. RITES is already a strong player in the irrigation and public health and engineering inspection market. It should try to expand its market reach by exploring opportunities with various state governments (irrigation departments, PWDs, etc.) which are not presently utilizing inspection services.

RITES may explore opportunities with neighboring countries for inspection of items exported from India to these countries (e.g., – Bureau VERITAS has been able to tie up with the national board of revenue, Bangladesh). As outlined in earlier sections, RITES may explore having tie-ups with state governments for PPP projects at state level and city level. RITES can possibly secure more inspection business through this route. RITES could explore inspection opportunities for food including in exports and also consider scrap import inspection. It may also collaborate with international inspection agencies and try to shape the market in areas such as inspection of public vehicles (taxis, etc.), comprehensive end-to-end inspection services for retail chains, etc. At present, RITES only deploys its own resources for inspection. However, some of the business opportunities available require specialized skill sets (certified engineers), which RITES presently does not have. There is an international trend towards accreditation of inspection agencies and individual consultants. RITES could explore the option of using contract/empanelled consultants on a trial basis for inspection in the future.

Power-transmission and distribution

Major investments are expected in the above sectors in the next 5 years – e.g., transmission system development and related schemes (USD 26 billion), Rajiv Gandhi Grameen Vidyutikaran Yojana (USD 7.4 billion) and Accelerated Power Development and Reform Program (APDRP) and other schemes (USD 7.4 billion). These offer significant opportunities for RITES. In this context, the following actions are suggested. REC is designated as the nodal agency for implementation of the RGGVY program and it has concluded a MOU with NTPC, NHPC, DVC and Power Grid to make available the project management expertise and capabilities of these organizations to the states wishing to use their services.

RITES is already undertaking rural electrification project management consultancy (PMC) work for some of these organizations and could explore options with others as well. The independent power transmission company (IPTC) bidding route allows 100% private investment and bidding for identified transmission projects. RITES could explore options for approaching developers of the 14 projects identified for IPTC at the central sector and offer to sub-contract project management services. It might also offer consulting services to interested third parties. RITES is exploring the possibility of entering the sub-station construction market but has constraints in terms of credentials. As transmission and distribution utilities strive to improve their focus on capital investment to meet growth in demand, some other functions such as maintenance would be increasingly outsourced. Several states such as Andhra Pradesh, Madhya Pradesh and Maharashtra have taken initial steps for outsourcing substation maintenance for transmission and sub-stations. RITES could explore the option of tying up with equipment manufacturers both for construction and for maintenance of sub-stations.

Construction projects and architecture planning

Considerable investment is expected for development of infrastructure for government housing, office space, educational institutes and other areas such as border fencing, etc. Many state governments are interested in developing projects such as bus shelters, community centers, etc. on PPP basis. In this context, it is suggested that RITES explores opportunities with state governments to partner in developing projects and participate as technical partners as well as possibly equity participation (e.g., bus shelters), to engage with education/human resource departments of state governments and central government (including Kendriya Vidyalaya) and universities (central and state), engineering and medical colleges. RITES could also explore other opportunities with the Ministry of Defense, banks for further work. RITES can target technical consulting business from developed countries on outsourced basis from other technical consultants in those countries. Some technical consultants have already based their design centers in India and so in a sense are outsourcing their work. In this context, RITES may explore outsourcing opportunities within India and internationally.

Other infrastructure sectors – ports, waterways, airports, ropeways

Although large investments are also expected in most of the above sectors, revenues for RITES from these sectors have not been very significant in the past. RITES needs to decide whether it wishes to strategically expand its range of services in these sectors. To meet its targeted revenues from these sectors, RITES could explore options of getting line of credit (LoC) work from the Government of India. Contacts with ministries need to be strengthened to improve the chances of obtaining consultancy assignments emanating from LoC from the Government of India. Many low cost airlines are proposing to build very low cost airports in small cities. RITES can approach to assist them in the development of such small airports. RITES can form a JV with state governments for developing ropeway projects that can be bid out on a PPP basis. The concept for the development will be in line with those already discussed under the recommendations for the highways sector. There are many ropeway projects which do not take off because the project sponsoring agency lacks the funds for participating as a partner in these projects. RITES can help in enabling such projects to take off by investing seed equity in these projects. Such an approach will also help RITES by allowing it to understand in detail the functioning of the private sector in such concessions and then deciding whether to enter these concessions. Sustained engagement with urban local bodies/city development authorities, multilateral and bilateral funding agencies to understand their plans for urban rehabilitation as well as rural infrastructure, exploration of opportunities to partner in developing projects and participating as technical partners are some of the measures RITES may actively consider to make inroads in these prospective sectors.

Procurement

RITES has been a strong player in the third party procurement services business. However, the market for its traditional services is stagnant/declining. Hence RITES needs to actively explore opportunities in new areas such as e-procurement, scrap disposal, etc. besides looking at other geographical areas. In this context, it is suggested that RITES explores tie-ups with technology providers for e-procurement, engages with multi-lateral and bi-lateral agencies in India and other countries (and SAARC countries) where RITES has a presence to explore the possibility of procurement work in other countries and also explore tie-ups with management consulting firms to avail the opportunities emerging in procurement consulting work in various states.

Emerging opportunities in the domestic market

There are several emerging areas such as special economic zones (SEZs), logistics parks and industrial development parks which could offer significant opportunity for RITES. For example, a multi-product SEZ would require a range of infrastructure such as water treatment plants, water supply lines, sewage lines, storm water drains, sewage treatment plant, sub-stations, effluent treatment plant, etc., rail head within the SEZ, ports airport/air cargo complex and inland container depot (ICD). The opportunities for RITES could indicatively include providing technical consultancy services during the initial preparatory period, procurement services (since the SEZ will have to procure a very large number of service providers and in many cases equipment/material), contract monitoring services, inspection and quality monitoring services, monitoring and quality assurance services during operations phase (both to the developer/co-developers and to tenants in the SEZ), etc. Similar opportunities exist for industrial development parks, logistics parks, etc. In this context, it is suggested that RITES develops customized products for emerging opportunities in SEZs, logistic parks and industrial development parks (technical consultancy services, procurement services, contract monitoring services, monitoring and quality assurance services during operations, etc.).

Export/International businesses

As presented in the earlier sections, international business comprises of a significant proportion of RITES' revenues. There are likely to be opportunities for export of locomotives and rolling stock, leasing and consultancy business from projects funded by multi-lateral/bilateral agencies and line of credit from the Government of India. In order to ensure that RITES further strengthens its international business, the following actions are suggested.

RITES is currently taking a project based approach rather than a country based one. It is suggested that RITES gradually shifts to a country based approach where it could target various sectors. This would first involve undertaking a macroeconomic and market survey of various countries from the perspective of understanding the geopolitical scenario, investment pattern in various sectors, potential for infrastructure development, plans of multilateral and bilateral agencies and plans of Indian companies to source minerals, etc. It may then open offices specifically to market its services in these countries. In this context, RITES may also explore opportunities for acquisition/equity participation in consulting organizations in these areas. This may strengthen RITES' chances of penetrating these markets. As upsides, this may also enable RITES to acquire technology as well as manpower resources. There are many international consulting firms that go through this route to increase their presence in different regions. As a generic strategy, RITES would need to work closely with industrial associations in these countries, interact with multilateral agencies and engage in discussions on various aspects of railway, road or airport sector issues to track sector specific and country specific opportunities in the identified priority countries and to engage with government officials in these countries for promoting RITES' services in railways, highways, airports, procurement and other services.

RITES may also engage with the Indian government to support development in the priority countries through line of credit. Leasing revenues for RITES may be a significant contributor in the future, primarily on the strength of RITES' concessions. However, leasing business involves taking up significant financial risks for a long period of time in regions with different political and regulatory environments. Hence a tie-up with financial intermediaries that are operating in the region is suggested.

Firstly RITES needs to strengthen expertise in maintenance and rehabilitation of locomotives and coaches**.** RITES' current expertise is in rehabilitation of Alco and GM locomotives (it has also worked on Hitachi locomotives in the past). It may need to develop relevant expertise rehabilitation of locomotive manufactured by other manufacturers like Alstom, Siemens, etc. RITES may need to focus on obtaining rehabilitation and subsequent O&M businesses on an integrated basis. Even in this context, there would be a need for a financial intermediary who can manage the financial risks, whereas RITES would bear the operations risks.

Secondly RITES should explore more memorandum of understanding (MoU) opportunities with wagon manufacturers. RITES already has a MoU with Tata Cometal for wagon manufacturing, where RITES provides design inputs, sources parts and also buys wagons for its concessions. Such MoUs should be extended to marketing wagons designed by RITES in the nearby countries. RITES may look at entering into more such MoUs and taking up small equity with wagon manufacturers in other areas such as South-East Asia. RITES could also explore scope for customizing/developing rolling stock meeting specific client needs. RITES has in the past successfully developed/customized products from Indian Railways to meet specific client needs. It needs to continue its efforts in this regard. The consolidation on existing railway concessions is the need of the day. RITES has taken up two new concessions in the last 3 years in Africa which are yet to stabilize. Concessions have certain inherent risks and RITES should concentrate on consolidating its existing ones for the next 2-3 years. This would also enable RITES to strengthen its capabilities of forecasting, cost and operations estimations, etc. However, since the process time for the bid preparation, bidding and actual obtaining of the concession is very long, RITES may continue to scout for appropriate opportunities.

Another prospective sector is to enter into PPP and EPC, but cautiously. There is a general thrust towards structuring projects on PPP basis in different infrastructure sectors, though the level of applicability and success vary. There is no doubt that RITES would need to adapt its existing services as well as create new service offerings to meet this trend. However PPP projects are inherently risky and the returns from such projects are not certain. Hence, RITES needs to minimize its risk and adopt innovative but safe strategies to understand and tap the emerging opportunities. RITES can adopt a multi-pronged strategy for tapping opportunities from various stakeholders – developers, government/project sponsoring authorities, financial institutions, etc. As already outlined in previous sections, RITES is envisaged to leverage its status as a leading PSE technical consultant to develop PPP projects for sub-national governments including possible equity from the government side, develop and shape the contract management services for project sponsoring authorities that are likely to emerge, explore the possibility of assisting financial institutions for appraising and monitoring of PPP projects (especially as financial institutions have long term financial commitments towards these projects and may need assistance), develop and shape the O&M market (in line with RITES' technical expertise) especially in areas such as metro rail systems, explore opportunities of obtaining consulting work from developers and attempt to forge long term partnerships.

If developers want RITES to put in a small equity stake after the project has been awarded (to enhance their commitment to the project), the firm could consider this in specific cases after due consideration. It is suggested that the underlying objective for RITES in the initial years should be to understand PPP business better, leverage these partnerships to understand latest technologies and obtain technical consulting/design business with minimum risk. RITES may revisit its strengths and capabilities after a few years and take a strategic call on the same based on its level of comfort at that point of time. Similarly there will be opportunities for RITES to obtain work on EPC/turnkey basis. Keeping in view RITES' core strengths as a technical consultant and its risk profile, it is suggested that the firm may enter into turnkey/EPC work in limited areas where work is concentrated, preferably where work is on cost plus basis, e.g., workshop modernization.

5.10.2 Market focus

One of the key thrust areas for RITES is to develop its capabilities and bring in a cultural change towards marketing and practice development. The key strategies for developing on this area are presented as follows:

Practice development and marketing

RITES needs to prepare a practice development program and manage the marketing effort effectively and develop a system wherein a certain proportion of senior management time is allocated on generating leads, targeting specific opportunities, nurturing existing clients and gathering market intelligence. It will also involve monitoring the time spent by senior professionals on this front. The focus should be to strengthen client contact programs through following measures such as attending client industry meetings to understand specific issues which RITES could target to address, senior personnel visits to clients to understand specific plans as well as seek suggestions as to how RITES can work with them, inviting clients to be a part of RITES' internal knowledge meetings, sending client useful articles and undertaking periodic client satisfaction surveys.

Invest in knowledge management

RITES should develop a knowledge management portal which would illustratively have the following features like assistance in proposal writing (database of CVs, sample proposals, proposal checklists, business development library), brand and communications resources (guidelines for documents, publications, media reviews, etc.), thought leadership (publications, events and seminars, articles), client information and tools (internal and external resources for specific clients and sectors), engagement support (methodologies, sample reports, external knowledge-bases, references of experts), etc. RITES should have dedicated/nominated knowledge managers in the firm for different sectors. As a part of their role, they may be asked to track developments in their respective sectors as well as scan for specific opportunities and to use "corporate blogs" for facilitating knowledge sharing and information on projects being carried out by the firm as widely as possible.

Invest in developing the RITES' brand

It is mandatory nowadays to organize specific seminars in areas where RITES wishes to project itself as a thought leader (e.g., dedicated freight corridors, high speed passenger corridors, SEZs, etc.) and offer to become knowledge partners in various sectoral seminars – railways, highways, ports, etc. RITES should enhance presence in media (television, print, etc.) and make this aspect a key result area for senior professionals in the firm and continuously improve its website and include successful cases where RITES' services have benefited clients.

Dedicated marketing/business development professionals

As mentioned earlier, RITES needs to have dedicated personnel for developing industry verticals especially in areas where significant investment is envisaged in the future for all RITES' services (steel, power, SEZ, etc.). RITES may consider recruiting/retaining business development professionals from the private sector. RITES may also place business development professionals in key cities in the country (e.g., Hyderabad, Bangalore, Mumbai, Chennai, etc.) where large developers are based.

5.10.3 Human resource focus

The human resource strategies should be focused on the following aspects such as recruitment of professionals from the market or on deputation in line with the targeted increase in turnover and at the same time should also need to retain professionals and enhance their productivity. The recommendations in this context are presented below:

Explore innovative recruitment practices

It is envisaged that senior management including unit and division heads devote appropriate time for recruitment activities and explore the option of offering scholarships to meritorious students and reimbursement of tuition fee. This could increase the commitment of prospective candidates for serving RITES for a longer period. RITES should focus on brand building in technical institutes to attract good students by sponsoring student events, arrange external lectures on the kind of work being undertaken by RITES, offer internship opportunities to give flavor of RITES business to students, collaborate with selected technical institutes for consultancy/research projects which also provides opportunities to students of these institutes to work on those projects and also explore the possibility of taking over "state level technical training institutes".

Experienced/lateral recruits

RITES may target aggressively ex-employees for reemployment as has been done by other PSEs, build alumni networks to stay in touch with good ex-employees, establish an Alumni relationship management website, stay in touch with ex-employees, send emails to former employees to keep them up-to-date with happenings in the organization and apprise them of new openings and institute formal employee referral scheme as many organizations opt for this scheme of rewarding employees on referring manpower for recruitment. RITES may explore options of targeting professionals from SAARC countries for short durations (the USP that may be offered could be providing exposure to the growing Indian market), develop a comprehensive and updated database of ex-Railway professionals in various skill categories in different geographical areas. RITES may also explore the possibility of taking employees on deputation/hiring from state and central government departments and organizations including special focused recruitment campaigns. For example, it may target state public works departments (PWDs) to draw requisite manpower for its highway division.

Up-gradation of office space and infrastructure

RITES would need to increase and upgrade its office space and infrastructure in line with the envisaged increase in manpower. This would also be an enabler for enhanced employee satisfaction and would facilitate employees in functioning efficiently.

Explore various retention strategies

Besides above, RITES may undertake periodic compensation benchmarking studies with other PSUs, explore options of addressing compensation concerns within existing guidelines, improve work environment and celebrate achievements of the firm and performance of individual groups and employees. It is recommended that the top management should get involved directly in these activities such as creating an environment of support to employees by providing feedback and counseling, undertaking an independent employee survey and getting actionable feedback from employees, recognizing exceptional performance of employees, creating a learning environment, instituting a knowledge management system to enhance employee productivity, subscribing to e-learning courses on various technical and management subjects to enable employees to learn at their convenience, leveraging corporate blogs to promote sharing of suggestions amongst employees, undertaking a comprehensive process to gauge training needs for each employee with respect to present work profile as well as to prepare employees for future responsibilities and creating a collaborative environment. Job rotation across SBUs at executive/junior management level is recommended in order to develop flexibility in manpower allocation in response to changes in the business scenario. It is recommended to have a committee of division heads which will identify the need and level of job rotation in a given business scenario. Employees may be deployed in other areas for specific periods or for specific projects through cross staffing (staffing in project teams from different units needs to be encouraged), joint training (while designing training programs, it is recommended that personnel from different units, locations be nominated). Informal knowledge groups may also be encouraged between trainees to encourage team building. RITES may also consider recognizing team members of multi-unit/location engagements.

CONCLUSION

The present master's thesis attempted to answer some of the very relevant questions associated with the long term sustainability of an Indian consultancy company RITES amidst stiff global competition. Myself being the internal researcher, I tried to focus on the strategic aspects of RITES covering the prime business domain of the company and formulate action plans to remain viable in coming days without sacrificing the steady growth RITES has been able to achieve since inception.

The first question pertaining to the sector/s of operation RITES should prioritize a number of solutions as per my analysis. Over the years railways related business has formed the bulk of the turnover of RITES. In the recent past, railways related business has been primarily driven by exports. These exports are primarily to Asian countries (SAARC, South Asia and the Middle East) and Africa. Other divisions of RITES like highways and airports have also essentially concentrated on Asia and Africa for most of their international projects. In domestic business, most of RITES' revenue is from the government and PSE clients. This trend is understandable on two accounts – the government sector is the largest source of infrastructure financing in any country and RITES' public sector enterprise (PSE) status provides a comfort level to various government and other PSE clients.

RITES has also been gaining in services/areas such as inspection, electrical engineering, construction projects and procurement. In comparison, RITES' business in other transport sectors like airport, ports and highways has grown at a slower rate in the recent past. RITES today remains a strong player in the infrastructure sector in India and in the railway sector in selected geographies internationally. However its performance in areas such as ports, airports, highways, etc. is declining while it is facing increasing competition in all sectors/services including railway business.

Also, business on nomination basis may get increasingly difficult in the future. The advent of competition is also resulting in manpower constraints. Therefore to continue on its growth path, RITES will have to build on its strengths and address emerging constraints/concern areas. The future opportunities for technical consultants in India and overseas are large. RITES' ability to tap these opportunities effectively will be crucial for maintaining its growth momentum. Growth in exports may be slower, however growth in the leasing business is expected to counter balance this trend to an extent. Operations and Maintenance (which is included in consultancy) is another business that is likely to grow faster in the future.

One way of looking at technical consulting firms is to analyze them based on two important aspects: (a) whether to operate in a single sector or in multiple sector and (b) whether to operate in a single geography or multiple geographies. For technical consulting firms the real estate sector is emerging as an attractive sector and many large technical consultancies have a significant presence in this sector. Solutions offered by these firms range from consulting to turnkey as well as the provision of proprietary technologies. RITES on the other hand has low presence in this sector which is also declining. With increasing emphasis on sustainability and protection of the environment technical consultancies are increasingly focusing on providing solutions in this domain. RITES has a limited presence in this sector through the Urban Engineering division but the contribution to overall business is again not significant. Transportation sector, including roads, railways, maritime and aviation form a large chunk of the business of technical consultants worldwide. Most firms offer a wide range of solutions in each of the sectors.

RITES, on the other hand, is more specialized with a strong focus on the railway sector with a much smaller and declining presence in other transportation sectors. Energy sector including work in oil and gas, thermal, hydropower, wind and nuclear energy provide larger technical consultancies and specialized firms with large volumes of business. RITES has some presence in inspection in the Power sector but is not present elsewhere. In some other sectors like water and sewerage, industrial engineering, health and education, etc. RITES has either very limited or no presence while other technical consulting firms have a significant presence in some or all of these.

Technical consultancies around the world have been expanding to other geographies to access better opportunities. For most large consultancies, which are also based in developed countries, the biggest markets of operation are Western Europe and North America. The Middle East is also a significant market for these firms along with the Asia Pacific market which has a similar size to the Middle Eastern market. China especially has become a major market for the services of the larger technical consulting firms. Eastern Europe is slowly emerging as a promising market while the Indian subcontinent is also being viewed as a market with future potential. The African and South and Central American markets are also important but are viewed as having lesser potential.

Initially most of these firms approached international markets based on leads and projects that came their way. There was no coordinated strategy based on geography. However, with local markets becoming increasingly competitive and opportunities being available in the international markets, geography started to become an important criterion. Many large technical consultancies, which have the resources, have focused on either partnering with local firms or by opening their own offices in international destinations. Smaller firms, on the other hand, continue to approach international markets based on individual leads primarily because they lack the resources to expand significantly. For RITES the main focus internationally has been on African and Asian countries with some exposure also in Latin America and the Middle East. However, the technology levels and skills needed in the developed country markets make it nearly impossible for RITES to tap those markets. Also, even in its traditional markets RITES has been exploring opportunities primarily based on leads and projects and mainly through its India operations. Until now it has not had a presence in any other country set up primarily in order to tap emerging opportunities.

The second research question was related to whether present strategies adopted by RITES were sufficient to cater for to remain as a major domestic player in the consultancy business for time to come. Since my long association with RITES, I was witness to its phenomenal growth sometimes stagnated due to domestic economic downturn or global recession. But that astounding growth owed a lot to the public sector status RITES has been enjoying since inception. Technical consultancies around the world get work through a variety of procurement mechanisms. Selection by tender is the predominant source of getting work though qualification based selection; design and build contracts and PPP based selection are also increasingly becoming important sources of getting work. As compared to the above RITES gets most of its business on a nomination basis with competition in getting business only recently becoming a reality. Follow up work is the only category of work where most other technical consultancies do not have to face competition.

The source of business for technical consultancies around the world is predominantly from four sources: central governments, state governments, local governments and the private sector. More than 40% of the business for most large technical consultancies comes from the private sector while the rest is contributed by the government sector. However, in the case of RITES the level of business from the private sector is very small and limited mainly to the railways sector. In domestic business, most of RITES' revenue is from the government and PSE clients. Business from private clients is very small. This trend is understandable on two accounts – government sector is the largest source of infrastructure financing in any country and RITES' PSE status provides a comfort level to various government and other PSE clients.

But the situation is changing and changing very rapidly. Presently the majority of high worth contracts are put to global tendering even by the government and PSE clients. This has opened to a new horizon of global tie-ups, joint ventures and other mechanisms. RITES should not miss the train. RITES should collaborate with relevant private sector players – strategic tie-ups, JVs, MoUs, etc. – e.g., international railway consultants for mega projects and specialized activities, urban transport consultants and operators for consulting as well as operation and maintenance, Indian railway consultants for geographical reach and manpower sourcing, highway consultants/construction companies/financing companies for specific opportunities, financial intermediaries for leasing, wagon manufacturers, centers of technology for railway technology and other infrastructure areas. The partnerships could strengthen/complement the firm's capabilities for purposes such as technology, manpower resourcing, project specific expertise, assets, approaching/tapping overseas markets, etc. as considered relevant and appropriate.

I carried out a detailed SWOT analysis of RITES to arrive at the most proximate solution to the third and final research question asking about the long term strategy and action plan to be formulated for company RITES to remain a key player in the consultancy sector of multi-modal logistics in India. RITES, a "Mini Ratna" schedule "A" company, provides a comprehensive array of consultancy and engineering services in transport infrastructure sector under a single roof and believes in transfer of technology to clients.

The company provides services as consultants, engineers and project managers in railways, highways, airports, ports, ropeways, urban transport, in land waterways areas in India and abroad. The company also provides services in third party inspection, quality assurance, construction supervision and project management, operation and maintenance, leasing and export of rolling stock. The company has a global experience of over 60 countries and has contributed notably to the development of transport infrastructure for the last 39 years. The company enjoys a key position in conceptualization of infrastructure plans for the

Government of India and has an experienced management and technical personnel team to provide innovative solutions to the satisfaction of the clients. With the track record of successfully handling projects in the infrastructure domain, RITES has earned brand image as “The Infrastructure People”. RITES is a well established organization with a good track record endowed with a large pool of highly qualified and experienced technical personnel. Its access to the pool of technical experts and infrastructure facilities of Indian Railways gives an edge for project delivery in an efficient and professional manner. Its strength includes extensive experience in working with multi-lateral funding agencies and other international organizations. The company’s international visibility and reputation earned through vast global work experience is evident from the continuous growth and repeated orders. Dependence on the government and public sector clients, limitations in recruiting desired competencies strains the performance and development of business. Limited experience in managing megaprojects is another area that requires strengthening. There is a growing focus on the infrastructure development in India. The twelfth plan has the thrust on accelerating the pace of investment in infrastructure, as this is critical for sustaining and accelerating growth. The government has planned investment in the infrastructure sector to the tune of USD 1 trillion in the twelfth plan. Half of this investment is expected to be met through private investment under PPP mode.

Both Indian consultancy and construction industries are witnessing rapid growth to become strong pillars in the development of the national economy. Major investments expected to be made in the infrastructure sector, both in the transport and non-transport sectors can offer business opportunities to RITES in existing and new areas. Significant project opportunities are expected to be coming up in SAARC countries, the Middle East, South East Asia and Africa offering considerable opportunity for consultancy services. BOT projects in railway, highway and power sectors present opportunity to leverage financial strength of the company. Opportunities also exist for multi-modal interconnectivity projects facilitating international trade and commerce. There is tough competition in export and consultancy businesses from private and multinational companies, which at times price their services aggressively to enter the booming Indian market. The scale of projects being tendered is becoming larger in size attracting international consultants/large companies, adding to competition for business. Retention and attrition of manpower is also a threat to the company.

In my master's thesis I tried to find out the best possible strategies ably supported by the action plan for a consultancy conglomerate RITES having varied sectors of operation. Although it is a comprehensive work, there is still a lot of space for improvement and further research. Moreover, considering the rapid pace of globalization and glocalization, nothing can be considered full proof, particularly the multi-pronged strategy which is never static but always dynamic in nature. Continuous up-gradation of work processes and acquisition of latest high-end technologies suitable for emerging transportation needs and diversifying into new areas will enable RITES to retain its position of excellence.

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APPENDIX 1: ACRONYMS

A&P	Architecture & Planning
AAI	Airport Authority of India
B&A	Buildings & Airports
BRO	Border Roads Organization
CAGR	Compound Annual Growth Rate
CIS	Commonwealth of Independent States
CP	Construction Projects
CS	Corporate Services
CSR	Corporate Social Responsibility
DFC	Dedicated Freight Corridor
DPR	Detailed Project Report
FS	Feasibility Study
FY	Financial Year
GeoTech	Geo-technology
GoI	Government of India
GQ	Golden Quadrilateral
IR	Indian Railways
IT	Information Technology
IWAI	Inland Waterways Authority of India
IWT	Inland Water Transport
JV	Joint Venture
LoC	Line of Credit
MoU	Memorandum of Understanding
MSM	Materials System Management
MDR	Major District Roads
NHAI	National Highways Authority of India
NH	National Highways
NHDP	National Highways Development Programme
O&M	Operation and Maintenance
P&C	Privatization & Concessioning
P&WR	Ports & Water Resources
PMC	Project Management Consultancy
PPP	Public Private Partnership
PSE	Public Sector Enterprise
PSU	Public Sector Undertaking
PU	Production Unit
PWD	Public Works Department
QA	Quality Assurance
QS	Quality Services
RW&IE	Ropeways & Industrial Engineering

RCED	Railway Civil Engineering Design
RI	Rail Infrastructure
ROB	Road Over Bridge
RSA	Road Safety Audit
RSD	Rolling Stock Design
RUB	Road Under Bridge
SBU	Strategic Business Unit
SEZ	Special Economic Zone
SH	State Highways
SPV	Special Purpose Vehicle
S&T	Signaling & Telecommunications
T&E	Traffic & Economics
T&S	Track & Survey
UE&A	Urban Engineering and Airports
UI	Urban Infrastructure
YoY	Year on Year

Currency Conversion – *as on 30.07.2014*

USD 1	= Rs. 54
EURO 1	= Rs. 80.6