Chapter # 7 Findings and Discussions

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Strategy is about making choices, trade-offs; it’s about deliberately choosing to be different.

- Michael Porter, Professor - Harvard Business School.
7.1 Ease of Doing Business in USA

Business practices and general business environment in developed economies such as India and those seen in the developed economies such as US are distinctly different. Not many businesses in India have exposure and alignment to way business is done in USA.

This called for assessment of how easy or difficult for that matter it would be for an Indian new entrant to do business in USA. Under this group researcher has captured all those basic questions concerning doing business in USA in areas related to HR, finance, legal etc. Objective is realistic assessment of difficulties involved and potential preparation that Indian new entrant will have to undertake.

Research reveals that there exists medium legal & economic risk for an Indian new entrant to do business in US wind industry. Majority respondents also believe that it is difficult to for Indian new entrant to start business in USA. Political relationship between India and USA is not critical factor. Raising capital in USA is difficult for an Indian new entrant so is hiring and mobilizing talent in to USA.

Considering above perceptions of majority of respondents, Indian new entrant must retort to better preparation, homework and alternate avenues for raising money or hiring talent for that matter so as to overcome difficulties.

7.1.1 On the basis of data analysis of as a response to question 5.2.1.1, respondents believe that there is medium legal and economic risk in for an Indian new entrant to do business in US wind industry. This risk perception is a result of lack of prior exposure of Indian companies to US market and therefore calls for a detailed homework on intricate legal and economy matters. USA is considered as one of the most legalistic and contract driven society where as in India relationship is often considered as a backbone of doing business. Unlike open market economy of USA, India continues to be a controlled economy though post 1991, there has been steady progress in liberalization of economic policies which is clear shift towards embracing market driven economy model.

Indian new entrant therefore must adopt a cautious and well-guarded approach.
7.1.2 On the basis of data analysis of as a response to question 5.2.1.2, respondents believe that is it difficult for an Indian new entrant to start doing business in US wind industry. This perception is a result of lack of prior exposure of Indian companies to US market and also the fact rule of the game as a result of divergent market dynamics. This calls for a detailed homework and preparation on various US market dynamics, drivers detractors etc. It is important to initiate relationship building campaign with major stakeholders in USA which are totally new. Advantage of leveraging all the legacy relationships with stakeholders in Indian market does not exist in a new market like US and special efforts have to be invested in marking and growing new local relationships in US market.

Indian new entrant can certainly overcome this entry level difficulty by building and leveraging relationships with US wind industry stakeholders as they possess knowledge & expertise.

7.1.3 On the basis of data analysis of as a response to question 5.2.1.3, respondents believe that political relationship between India and USA is ‘Not Critical’ for an Indian new entrant to start business in US wind industry. Typically while entering new foreign markets one of the major considerations is the political relationship between countries. Especially if the country like USA that has preferred partner or friendly nation status with India then task is especially easy. Precedence is in place for most of the intricate business matters such as duties, taxation, visa, technology cooperation matters. This is not the case with all countries and markets.

In such cases leveraging bi-lateral govt. channels, govt. missions such as consulates and trade offices etc. becomes first step for a new entrant Indian company. Considering excellent bi-lateral relationship and strong track record of Indian companies doing business in USA in other sectors, an Indian new entrant may not invest much time in this area.

7.1.4 On the basis of data analysis of as a response to question 5.2.1.4, respondents believe that raising capital and credits from local banks and FIs in USA to finance its operations is ‘Difficult’ for an Indian new entrant in US wind industry. In domestic market Indian company would have substantial credibility and brand equity given strong track record and eco-system of stakeholders. However in US market Indian new entrant will be starting with a clean slate and credibility has to be established. Besides the fact that its books in Indian Rupee terms may not look all that financial healthy in local US dollar terms which naturally will be requirement of local finance
community. All this may make US financial markets adopt a cautious, wait and watch approach before favorably considering offering financial assistance against a request.

An Indian new entrant therefore should focus its efforts on building strong credible relationship harnessed with establishing on ground credibility which will over a period facilitate its local financing ambitions.

7.1.5 On the basis of data analysis of as a response to question 5.2.1.5, respondents believe that for an Indian new entrant in US wind industry procuring requisite and adequate number of expatriate work visa to staff and function its organization in USA is ‘Difficult’. For an Indian new entrant with no history or track record of operating in USA, it is hard to attract local talent from day one of its operations and also at early phase of its start-up phase. This will be case for any new entrant company in US industry especially coming from developing economy. As a result it would have to rely on deploying talent from India or other part of world. Considering that US economy has been reeling for past few years, jobs and local employment is a sensitive topic. US authorities have been over cautious in control release of work visas to expatriates and especially for new entrants who have yet to demonstrate business commitment to US market.

As a result Indian new entrant in US market will have to face and overcome this difficulty. This can be done by carefully planning its investments and business planning so as to convince authorities of long term strategic blue print to establish and grow in US market.

7.2 Insights in to wind Industry in USA

Analysis of responses concludes that Federal & State level Policies for promoting wind power could be better that what they currently are. Study also highlights that top ranked Investor profile for wind power projects is Utilities. Respondents believe that best Wind resource is found in the Mid-West region and top most consideration for investors to invest in wind power is Cost of Energy (CoE). Studies tell us that US wind industry has a cautious response to cheaper wind turbines coming in from China. Survey brings out the fact that pursuit of better IRR remains the top market driver for US wind industry. Whereas it’s limiting factor comes in the form of highly competitive energy market. Suppressed power purchase agreement (PPA) is turning out to be wind industry detractor. Availability of specialized equipment is not a limitation on industry and for a new entrant there are Considerable barriers.
Indian new entrant therefore must focus on securing better IRR which are typically result of good wind sites found in med-west and also negotiate better PPAs to make projects financially viable. As for barriers for entry it must identify specific issues early on and work for resolution. Indian new entrant must concentrate on Utilities as its top investor profile while continuing to drive cost of energy down and joining industry efforts in lobbing for better policies.

7.2.1. On the basis of data analysis of as a response to question 5.2.2.1 respondents believe that existing policies such as PTC, ITC, and RPS could be improved and bettered for sustained growth of wind Industry in USA. Wind industry worldwide including in USA survive and thrive on federal and/or state level policies. Policies adopted for promotion of wind energy differ from country and country and it has been observed that no matter how attractive the policies are wind industry keep asking for more favorable policies. US wind industry stakeholders here are no exception, as they believe that policies could be better and their pain area is sustainability and long outlook of policy has been missing.

New Indian entrant in US wind industry should develop thorough understanding of existing policies and join the American wind energy association’s lobbying effort for policy development.

7.2.2 On the basis of data analysis of as a response to question 5.2.2.2, respondents believe that ‘Better IRR’ is the top most driving force for Wind industry in USA. USA as we know is an open market economy and fiercely competitive on finances just as European market has strong preference to technology. No surprise then better IRR is a top driving force for wind industry in USA. Although there is an appreciation for other forces such as green branding, energy security, policy compliance and environmental aspects return on investment still comes out on top.

New Indian entrant in US wind industry should get deeper in financial modeling used by customers to arrive at IRR. There are several levers using which IRR can be positively influenced and Indian new entrant must work hard to developing grip on few levers that are synergic to their strength.

7.2.3 On the basis of data analysis of as a response to question 5.2.2.3, respondents believe that ‘Utilities’ is the top ranked investor profile in US wind Industry. Wind Industry in USA has several investors and their profiles greatly vary between different sectors. Objectives for investments for these investors also greatly vary, from pure
financial returns all the way to socially responsible investment to help conserve environment. Among various profiles Utilities emerge as top investors outpacing Oil&gas companies, industries, banks etc. Utilities not only have better understanding of wind turbines but also believe that addition of this renewable energy source makes their energy mix and portfolio rich.

Indian new entrant need to target utility segment by getting deeper in their business model relationships, investment plans priorities etc. and position offerings that are consistent and attractive.

7.2.4 On the basis of data analysis of as a response to question 5.2.2.4, respondents believe that 'Mid-Western States' are blessed with the best wind resources in US wind Industry. USA has a huge land mass area and rich wind resource can be found across the country. It is important to clearly rank which areas are most promising than others as far as wind resources is concerned which is basic prerequisite for making techno-commercially viable proposition. Research reveals that mid-western states are better than other regions helped by strong air currents coming from Canada and tall mountains on one side.

Indian new entrant need to scout for promising wind sites in mid-western states by on ground efforts coupled with processing wind data obtained from satellite source. Tie-up with local small time wind resource assessment consultants, developers will help make headway in this effort.

7.2.5 On the basis of data analysis of as a response to question 5.2.2.5, respondents believe that 'competitive energy market' is the top limiting factors for growth of US wind Industry. Although excellent wind resource exists in USA, there are other equally important factors that need to come together and make wind projects viable. Often limitation on growth comes in the form of availability of one of these factors and there are occasions when limitations come from factors outside wind industry. In this case competitive energy prices driven by suppressed gas pricing and shale gas discoveries leading to lower PPA is putting limitation on growth of wind industry.

An Indian new entrant needs to be mind of factors within and outside wind industry that can have limitation of growth of wind industry and as a consequence its own growth plans. Alternate scenarios on market dynamics need to be plotted and action plan to deal with these situations should be formulated.
7.2.6 On the basis of data analysis of as a response to question 5.2.2.6, respondents believe that availability of specialized equipment for logistics, projects and OMS (e.g. Trucks, cranes etc.) is ‘Not’ a limiting factor for growth of US wind Industry. Importance of having strong SCM capabilities and strong ecosystem of partners including timely availability of specialized equipment for wind power project completion especially in tight demand supply situation cannot be over emphasized. There is wind energy a market around the world where limited availability equipment poses serious constrains on growth of wind industry.

Experts believe that it is not a limiting factor in USA which is great news for new Indian entrant or else existing players would have already tied up and locked their capacities making life difficult for any new entrant.

7.2.7 On the basis of data analysis of as a response to question 5.2.2.7, respondents believe that US wind Industry’s response to cheaper Chinese make Wind turbines is ‘Cautious’. US wind industry being one of the largest globally, no surprise that wind turbine vendors from around the world, including China are trying to grab a share of this huge pie. Traditionally wind industry has been dominated by Europeans wind turbine manufacturers and emergence of Chinese wind turbine manufacturers in high end engineering capital expense goods are viewed skeptically. It is fact that Chinese products have been dominating world market in commodity and consumer goods space, though their focus over past few years has been shifting to technology space, riding acquisition of European and American technology companies. As for wind industry stakeholders have taken cautious approach that underlines serious concerns over know-how transfer, serviceability over life cycle and importantly on ground coordination due to language barrier.

Indian new entrant must take due cognizance of these aspects and build up strong position quickly. Also it must recognize that Chinese may overcome this drawback over a period of time and it therefore is imperative to build lead.

7.2.8 On the basis of data analysis of as a response to question 5.2.2.8, respondents believe that US wind Industry has considerable entry and growth barriers for a global wind turbine company to participate. Generally US market is considered as one of the most open economy free from red tape and merit driven. For wind industry however there is specific way of doing business and ground rules the way industry functions are so well cast. New entrant from India, being not well versed with US
wind industry specific processes and practices, may find these a barrier for entry and growth.

Indian new entrant may engage services of local consultants to familiarize and understand these US wind industry norms and re-position itself to meet challenges.

**7.2.9** On the basis of data analysis of as a response to question 5.2.2.9, respondents believe that most important decision making criteria for the investors of wind energy are ‘Cost of Energy’. Investors have multiple avenues to deploy funds and they are obviously considering one that is most attractive. While technologies, OMS, Life cycle cost are other important considerations, investors prefer one project over other keeping lowest cost of energy in mind. Cost of energy is of course derived from projected annual generation translated in revenue as per power tariff on one hand and total capital and operational expense over a year. There are several avenues to secure low cost of energy e.g. better power curve of wind turbine, higher PPA, excellent wind sites etc.

Indian new entrant must focus on maximizing wind turbine efficiency which is common factor in every project.

**7.2.10** On the basis of data analysis of as a response to question 5.2.2.10, respondents believe that top detractor for growth of US wind industry is ‘Low PPA & Cheap gas, coal and nuke’. Wind energy and technology has matured in USA and has started competing with other sources of fuel, supported by Govt. policies. However with shale gas discoveries and with sluggish & depressed energy demand, energy pricing has taken a new low @ 3.5 US cents /Kwh. Wind experts have found it very hard to make projects viable at that kind of PPA pricing despite best technology and wind sites. As a result not withstanding economic crisis, policy uncertainty, fierce competition within wind industry, low PPA and Cheap gas & nuke comes out as a top detractor for growth.

Indian new entrant must reconcile to this reality and endeavor to stay competitive by continuing to drive costs down and improving overall efficiency.

**7.3 Preparedness of Indian new entrant in to wind Industry in USA**

The biggest challenge Indian new entrant will have to deal with is Quality perception of goods & services. As for the organization management style and getting all employees to share a corporate objective is a challenge. Indian new entrant will be
somewhat at a disadvantage considering fact that Indian Banks, FIs & Vendors will not be present in US wind industry and these partnership it will have to develop from scratch.

Study also reveals that US companies are somewhat open & unbiased to do business with Indian companies. Indian new entrant is not fully and adequately prepared to meet local HSE & business compliances and talent management is a concern area. New customer profile prevalent in US wind industry is distinct from customer profile in India and this another Challenge.

Indian new entrant undertake learning & development drive for key executives with the objective of dealing organizational, management and HR related challenges as a part of preparation. Its Priorities should be to ensuring right quality by doing requisite homework & preparation besides studying in advance customer profiles and their expectations.

7.3.1 On the basis of data analysis of as a response to question 5.2.3.1, majority respondents believe that perception about the quality of goods and service offered Indian companies, is ‘Sub-Optimal’. This is a serious concern that Indian new entrant will have to not only take note of but deal very effectively. Such marker perceptions step from past experiences in doing business with Indian companies and / or using Indian products & services, though not necessarily to do with wind industry. This is customer perception right or wrong, but simply can’t be wished away. This would mean wind turbines and related offering not just meet local quality certification requirements but besides documentation customers get an opportunity to witness on ground business practices and processes observed by Indian new entrant be it its facilities or at project sites.

Indian new entrant will have to go extra mile to ensure that quality of offerings and demonstrate it to its potential customers.

7.3.2 On the basis of data analysis of as a response to question 5.2.3.2, majority respondents believe that quality perception is biggest challenge that Indian new entrant company will face while entering US wind Industry. Response to this question only corroborates what is already discussed in the earlier question – quality needs special attention. The fact that expert respondents put pore quality perception as the biggest challenge ahead other seemingly very important issues such as finance and HR only underlines the amount of work Indian new entrant will have to do in this
regard. Indian new entrant may hire a local consultant specializing in quality aspects and meticulously follow his advice.

Indian new entrant may also proactively engage in a 3rd party technology & quality due diligence and act decisively on report recommendations that would comfort the potential customers. Typical technology due diligence study comprising of questionnaire that consultant will undertake is attached as annexure –VI which clearly brings out need for technical documentation.

7.3.3 On the basis of data analysis of as a response to question 5.2.3.3, believe that US wind industry stakeholders are ‘somewhat’ open and unbiased to deal with Indian new entrant company. It is only natural for the industry stakeholders to size-up, gauge and convince themselves about new entrant from another country, prior to embracing. This is a common market phenomenon irrespective of markets and new entrant companies. This is important element especially in dealing with developed economy, i.e. USA and developing economy i.e. India. Unlike in the past when India’s fame in the US market was confined to spices and textiles, recent successes in IT and software sectors have changed US’s outlook towards Indian businesses. Mega scale global acquisitions by Indian businesses and successes of outsourced engineering centers, service centers and back office processing units of US companies also have a role in this changing perception. It may be noted that acceptability is still not as good as European businesses just yet, but it is matter of time.

Indian new entrant must continue to put its best foot forward endeavor to wind over trust and confidence of local wind industry stakeholders to gain total acceptability by delivering on every single commitment.

7.3.4 On the basis of data analysis of as a response to question 5.2.3.4, believe that Indian new entrant company is ‘somewhat’ prepared to meet statutory and market specific compliances. It may be noted that health, safety, environment and statutory legal & financial compliance norms and standards vary from country to country and market to market. While at philosophical levels businesses are totally aligned to these requirements irrespective of markets, differences arise while dealing with detailed on ground realities and interpretation of policies & laws. Unlike in yesteryears, there is increasing awareness and significant positive change in attitude of Indian Govt. and businesses to adapt to global best practices. Though there is
notable progress, there is still not and there may never be complete alignment, some of it is could be attributed to cultural and legacy issues.

Indian new entrant in US wind industry needs to concentrate exactly on these gaps and work hard to bridge those which only will ensure success. Engaging local experts in-house or on retainer basis with a clearly defined responsibility to be on right side of the law is the way forward in this regard.

7.3.5 On the basis of data analysis of as a response to question 5.2.3.5, believe that biggest organizational issue Indian new entrant company has to deal with is ‘Management style’. This is hardly surprising as expert respondents simply believe that critical ingredient for success is to manage and run business the US way. Different management styles prevail in different markets and this mainly emanates from cultural aspects. Though both countries have democratic set up and freedom of expression is common thread, society in the US is far most legalistic whereas society in India continues to be relationship driven. Hierarchy, documentation, delegation, empowerment are few more areas where there are notable differences in management practices. Indian management practices are undergoing change thanks to globalization and mushrooming of outsourcing facilities by US corporations, differences generally still remain.

Indian new entrant must adapt to US management practices while running its operations to ensure success. This can be done by engaging and leveraging Indian American talent to begin with and ensuring candid, transparent communication within US organization.

7.3.6 On the basis of data analysis of as a response to question 5.2.3.6, believe that biggest barrier to create one team one culture is ‘Lack of shared corporate Objective’ and also ‘Inability to harness cultural diversity’. It has been proven time and again that successful organizations around the world propagate one team one culture. While working in a cross continent environment this is never easy as there are several impediments by way of language, time zone cross-cultural aspects etc. Organizations ability to weave a common fabric midst of these challenges determine its success as every employee irrespective of country, nationality and culture is putting efforts to pull the company in the same direction. Expert respondents believe that Indian new entrant must concentrate its efforts on strongly promoting shared corporate objective. They also believe that special efforts need to be put in to overcome intercultural barriers.
Indian new entrant must create sufficient avenues for its resources across the globe to come together and frequently interact on organizational issues. This is the only way they will get to know each other better and pave way for cooperation in the process eliminating any prejudices and biases.

7.3.7 On the basis of data analysis of as a response to question 5.2.3.7, believe that absence of Indian banks, FIs and insurance companies in the US market is ‘Somewhat’ a barrier for Indian new entrant company in the US wind Industry. In the domestic market, Indian company’s success is also attributable to mutually rewarding associations with banks, FIs and insurance companies. This is a result of both parties taking pains over years to develop intricate understanding of business, each other’s operating requirements and evolve a win-win association. Absence of these trusted partners certainly is a disadvantage for Indian new entrant as it has to start on a clean slate with local banks, FIs and insurance companies. Lack of any track record on the US soil may make these stakeholders adopt a cautious approach towards Indian new entrant. Moreover in US dollar terms financial health of Indian company just may not appear as healthy.

Indian new entrant therefore needs to start early in identifying its potential partners in banking and insurance space, perhaps MNC banks, insurance companies and FIs operating in Indian market could be potential soft target. It needs to provide requisite comfort to the stakeholders on its long term commitment and plans for US market besides showcasing its Indian infrastructure and management.

7.3.8 On the basis of data analysis of as a response to question 5.2.3.8, believe that absence of Indian sub-contractors and vendors companies in the US market is ‘Somewhat’ a barrier for Indian new Entrant Company in the US wind Industry. In the domestic market, Indian company’s success is also attributable to mutually rewarding associations with local sub-contractors and vendors companies. This is a result of both parties taking pains over years to develop intricate understanding of business, each other’s operating requirements and evolve a win-win association. Absence of these trusted partners certainly is a disadvantage for Indian new entrant as it has to start on a clean slate with sub-contractors and vendors companies. Lack of any track record on the US soil may make these stakeholders adopt a cautious approach towards Indian new entrant.

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operating in Indian market could be potential soft target. It needs to provide requisite comfort to the stakeholders on its long term commitment and plans for US market besides showcasing its Indian infrastructure and management.

**7.3.9** On the basis of data analysis of as a response to question 5.2.3.9 believe that attracting and retaining a top talent in the US market is ‘Somewhat’ a challenge for Indian new entrant company in the US wind Industry. Attracting and retaining top talent is challenge any new entrant may face in a new market. With no history & track record in the US wind industry potential employees may have a genuine concern over their job security and growth.

Indian new entrant will have to operate through a top of the line HR agency to convince potential candidates about its plans and long term commitment to the US wind industry. Potential senior management hires may have to be flown to India to reassure them about company's capabilities. Eventually building a local organization and promoting a shared corporate objective, global culture will go long way in retaining talent.

**7.3.10** On the basis of data analyses of as a response to question 5.2.3.10 believe that it is ‘Somewhat’ a challenge for Indian new entrant to adapt to a disjoined value chain in US wind Industry. Indian wind industry dynamics is such that turbine manufacturer also functions as developer, contractor and service provider. Thus entire value chain and expertise is available in-house and very little dependence on 3rd parties. However US wind industry dynamics and business model is significantly different. Being a matured industry, there are established players who are doing project development, contracting, execution and services.

First of all Indian new entrant does not have capabilities to provide ‘one stop solutions’ in the US wind industry unlike in India. Additionally it needs to partner with established players in each stage of project ensuring perfect coordination, handshakes at transition points ….something it is not used to doing. This calls for better collaboration and team effort with 3rd parties and it can be done by drafting and honoring service level agreements.

**7.3.11** On the basis of data analysis of as a response to question 5.2.3.11 believe that it is ‘Somewhat’ a challenge for Indian new entrant to adapt to Change in market driver from capex based to performance based. At the very core of success of Wind industry in India lie favorable policy regimes of Indian Govt. to promote renewable
energy. Accelerated depreciation for investments made in the wind energy projects as a measure of income tax relief attracted high net worth individuals, industries and small and medium enterprise. Investor here was concerned with capital investment in the project as incentives were tied to invoice rather than performance of wind turbines. In the US wind industry importance is purely laid on quantum of generation of renewable energy from wind turbine than its capital cost as tax incentives are tied with performance of wind turbines.

The whole focus therefore changes to generation based incentive which is something Indian new entrant has to quickly learn. It needs to spend time on drawing board as to how to maximize output from wind turbines and also how to secure high quality wind sites with assistance of local developers.

7.3.12 On the basis of data analyses of as a response to question 5.2.3.12 believe that ‘Yes’ it is Challenge for Indian new entrant to adapt to adapting to this significant change in customer profile. Expert respondents recognize that business model prevalent in Indian wind industry large number of customers buying few turbines every year as their tax saving instruments where as in US wind industry few mega scale corporate customers buy large quantity of wind turbines spread over many years of frame contract. So it’s a clear shift from selling to unorganized retail individual buyers to an organized wholesale frame contracts to corporates. This transition is certainly far easier said than done.

Indian new entrant must deeply study objectives, buying patterns and preferences of large organized corporate clients and tailor its offerings to suit their tastes.

7.3.13 On the basis of data analyses of as a response to question 5.2.3.13 believe that it is ‘Somewhat’ a Challenge for Indian new entrant to adapt to significantly different offerings to local project and service requirements in US wind Industry. Although project & service processes and delivery aspects remain similar, major difference lies in the fact that in Indian wind industry OEM does it all by himself where as in US wind industry it’s a team sport involving multiple agencies. Coordination between multiple agencies involved in project & service delivery is a tough job as transition points have to be managed exceptionally well as per project plan, especially time, quality, documentation etc. More often than not missing deadlines for transition of work would leave other party idle and eventually additional costs on account of liquidity damages and exorbitant charges for the scope creep.
Indian new entrant company must therefore focus on making a watertight project execution plan with sufficient contingencies and cushions built in, so that neither deadlines are missed nor quality is compromised in any way. Also associating with tier I players by doing thorough due diligence is a way forward.

7.3.14 On the basis of data analyses of as a response to question 5.2.3.14 believe that ‘Yes’ it is a Challenge for Indian new entrant to adapt to product modifications as per the market requirements and conditions in US wind Industry. Expert respondents recognize that each market has distinct requirements and conditions, be it on account of weather, statutory compliances, practices etc. Turbine manufacture must make necessary product modifications so as to comply with local market requirements. Simple example is while Indian market operates on 50Hz frequency US market works with 60Hz frequency, as a result every electrical component in wind turbines have to be designed for 60Hz. These product modifications are never simple as design change of one component may have impact on performance of other component. Designers, purchase, production and quality engineers have to ensure that necessary product modifications to wind turbine generator are made without any adverse impact on performance.

New entrant Indian wind turbine company must ensure that all grid codes, electrical statutory compliances, weather conditions etc. are thoroughly studied and requisite product modifications to suit market requirements are translated in design changes much ahead of time. This only will allow Indian new entrant to bring out US market compliant variant of wind turbine in time for market entry contract.

7.3.15 On the basis of data analyses of as a response to question 5.2.3.15 believe that ‘Yes’ it is a Challenge for Indian new entrant to adapt to changes in business processes in line with market dynamics in US wind Industry. Although business processes followed in Indian wind industry are similar to those followed in US wind industry, significant differences may exist. For instance electricity market in India is regulated and controlled by Govt. authorities who also usually function as transmission companies. Electricity market in USA is deregulated and private sector players that negotiate PPA and interconnect agreements. Moreover environmental impact assessment (EIA) procedures and processes could be somewhat different and stringent than that in India. Raising finance for project construction, debt or equity in open market conditions of US economy is also different from practices prevailing in India.
Indian new entrant company must therefore study at length different historical deals in US wind industry and familiarize with documentation, priorities, sequence etc. Engaging local 3rd party consultant to help walk through at least the maiden deal is a preferred way to ensure that no slipups happen.

7.4 Entry Strategy for new Indian Entrant in US wind industry

Organization Strategy: Indian New entrant must plan an organization structure comprising of Indian and US nationals and through local HR agency hire, train and empower manpower to fill positions. Customer facing roles should be assigned to locals & coordination/office roles to Indian employees. So as to address Cross-cultural Aspects requisite learning, development & training should be planned for concerned executives to overcome this hurdle. Strong balance sheet in US dollar terms to sustain US market entry endeavors is required. Combination of people from India and US to staff organization with

Alliances strategy: Market Research & thorough homework will help Indian new entrant to identify potential alliance and associate with local stakeholders. Firm must pay due attention to exploring Govt. channels and contacts for devising & executing market entry plans. Local vendors, sub-contractors must be tapped to ensure efficient and effective delivery.

Customization Strategy (products, projects & Service): Indian new entrant must identify independent agencies that issue product certification and furnish all required documents, test reports & credentials to ensure same. So as to customizing projects & services, firm must study & act upon customer requirements & site conditions. Given complex nature of supply chain, firm must deploy in-house & 3rd party experts to meticulously plan & execute delivery

Market entry proposition: Since pricing & discounts is not sustainable business proposition, Indian new entrant must plan this carefully as entry strategy ONLY. It must identify niche customer segment that is open and not taken by competition & continue to work hard on them for success. Firm should develop strategic alliance with local partners in win-win business proposition.

Prior to making a proposal to potential customer, sales organization must find out details of the project opportunity in all respects, such as wind and site conditions, compliance requirements, project scope and schedule etc. This will be backbone for making a comprehensive quotation to secure sales. Sales questionnaire is attached
as annexure - V that give a detailed idea of information that need to be compiled prior to making any bid.

For securing maiden contract Indian company must be thoroughly familiar with the legal and contractual aspects. There are number of distinct contracts and agreements that have to be entered into with customers e.g. Turbine Supply Agreement (TSA), Operation, Maintenance and Service Agreement (OMSA) etc. besides overarching contractual term sheet between buyer and seller. A typical term sheet that’s prevalent in the US wind industry is attached as annexure - VI that gives details of various aspects related to maiden order.

7.4.1 On the basis of data analyses of as a response to question 5.2.4.1 believe that it is ‘Very Important’ for an Indian new entrant in US wind industry to build local organization for successful market entry. Expert respondents believe that having local organization to deal with US wind industry stakeholders will be effective way of entering rather than having expatriates run the organization. This logic is based on the fact that local organization comprising of US nationals / residents as employees will have better understanding of markets and customers as a result will come across as more credible. Also it sends a strong message to the wind industry that Indian new entrant is in the US market with a long term commitment and with the open attitude to embracing the domestic business practices. Expatriates running organization may be seen as testing market without any serious commitment and also their knowledge of US wind industry market dynamics may leave customers apprehensive.

Indian new entrant therefore must hire US residents to inspire customers and send right messages to market. This can be done by hiring US nationals / residents of Indian origin and/or securing help from top of the line HR recruitment firms.

7.4.2 On the basis of data analyses of as a response to question 5.2.4.2 believe that ‘yes’ it is very critical for an Indian new entrant in US wind industry to build alliances with local stakeholders for successful market entry. We have already seen from secondary data research that US wind industry SCM is fragmented as compared to Indian wind industry where OEM does all the value chain. Therefore working in strong collaboration with 3rd parties to deliver entire value chain is the only way Indian new entrant can hope to succeed in US wind industry. Identifying potential local partners who can deliver different pieces of value chain in a coordinated way is a critical starting point and building alliance with them is next step.
Indian new entrant must do market research to identify potential local alliances and approach them with a win-win value proposition, so that maiden market entry project is delivered in budgeted time cost, quality, quantity and risk.

7.4.3 On the basis of data analyses of as a response to question 5.2.4.3 believe that it is ‘Very Important’ for an Indian new entrant in US wind industry to have international and local product certification for successful market entry. Wind power projects in India can be executed on the basis of product certification from Ministry of New renewable Energy (MNRE) and Centre of wind energy technology (CWET), both Govt. of India enterprises. However US wind industry may not recognize this certification. Customer may demand for international certification such Germanischer Lloyd (GL) and additionally any local certification by US statutory bodies. Banks and FIs may lend money for project only for internationally certified products and same case for environmental and safety statutory approvals.

Indian new entrant therefore must get its products certified by GL by proactively approaching them for technology due diligence. This needs to be done well ahead of market entry and necessary recommendations for product certifications need to be incorporated. Engaging technology expert to lead this critical exercise is highly recommended.

7.4.4 On the basis of data analyses of as a response to question 5.2.4.4 believe that it is ‘Very Important’ for an Indian new entrant in US wind industry to a strong balance sheet for successful maiden contract. Wind power projects have a heavy capital expenditure and project costs even for a small project of 25 MW would also run in to several millions of US dollars. Financial health of OEM is obviously a criterion for customers while selecting particular make. Not only wind power project finance out lays is huge but also project cycle runs in years. Considering uncertain economic environment and multiple projects that OEM would have signed up with different customers, sustaining and honoring these commitments needs a strong financial backbone. A very healthy and strong balance sheet in the Indian Rupee terms may not look as attractive when converted to US dollars is another fact of life.

Indian new entrant therefore must develop a strong financial muscle in terms of healthy balance sheet and then take on project commitments that are sustainable and commensurate with the strength of their balance sheet to enhance chances of success.
7.4.5 On the basis of data analyses of as a response to question 5.2.4.5 believe that inter-cultural aspects ‘May be’ a major barrier for an Indian new entrant in US wind industry. Cultural diversity is also unique aspect of Indian society and businesses over the years have learned to leverage this diversity. However when one considers international business under currents of intercultural barriers run strong as nationality, language, different time zones and divergent business & social practices come in picture. Ability or lack of it, to work through these cultural differences often makes a difference between success and failure. Since Indian new entrants’ ability to work with strong intercultural aspects is not yet tasted, experts and respondents believe that it may be a barrier.

Indian new entrant company must undertake stringent cultural diversity and awareness programs for its executives in Indian as well as in USA. Special efforts must be made to expose employees to different cultures which help in developing mutual respect for cultures.

7.4.6 On the basis of data analyses of as a response to question 5.2.4.6 believe that it is ‘Important’ for an Indian new entrant in US wind industry to leverage Govt. channels to facilitate market entry. In the absence of any business history in US market, possibly the best way, Indian new entrant can inspire confidence in local stakeholders is by leveraging Govt. channels. Indian new entrant can either participate in Minister level business delegations, work through Indian trade missions and / or trade consulates in US or for that matter leverage Govt. offices of US in India to obtain vital business clues. Expert respondents believe that these avenues should be explored for early success.

Indian new entrant must ascertain what those Govt. channels are and ensure participation to make early impressions with local stakeholders in US.

7.4.7 On the basis of data analyses of as a response to question 5.2.4.7 believe that most attractive value proposition an Indian new entrant in US wind industry can make to US customer for the purpose of market entry is ‘ Special pricing discounts on contracts’. Expert respondents are aware that unlike Europe where technology is a priority, in the US market financial and commercial aspects overrides other elements. As a new entrant Indian new entrant has to make a compelling reason for the customers to switch from its current OEM suppliers. Among various options available offering special pricing comes out as a top value proposition.
Indian new entrant must take due cognizance of this finding and devise an attractive pricing value proposition to enter market. The trap however it needs to stay clear of is to continue to win contracts by offering special pricing discounts, which can be carefully done once product performance is proven and credibility is established.

7.4.8 On the basis of data analyses of as a response to question 5.2.4.8 believe that most effective way for an Indian new entrant in US wind industry to build brand equity is ‘Self-financed showcase project’. Expert respondents recognize that as a new entrant to the US wind industry Indian company has little or no brand equity in the market. Naturally customers and stakeholders will be apprehensive to experiment with anything new and unproven. No amount of paperwork and personal meetings can inspire customer confident as much as it would if company is to execute self-financed showcase project. This would underline demonstration of intent and can be a game-changer, making potential customer believe Indian new entrants’ capabilities and long term commitment to the US wind industry.

Indian new entrant can consider making investment provision in this regard and actively look for potential opportunity where it can set-up show case project.

7.4.9 On the basis of data analyses of as a response to question 5.2.4.9 believe that the best way for an Indian new entrant in US wind industry to secure a market entry project is by ‘Concentrating on niche customer segment’. US have a huge landmass and good wind sites are spread across the country. Customer profiles are also diverse ranging from large corporates, Utilities, Oil& gas Companies, FIs all the way to farmer community. Unless Indian has a sound strategy based on market intelligence, it is likely to lose its way in trying to cover large country and diverse customer profile.

Instead Indian new entrant should concentrate on picking and choosing a customer segment that is open to do business and where its offerings are valued. By cultivating this niche customer segment Indian new entrant’s chances to secure market entry projects are bright.

7.4.10 On the basis of data analyses of as a response to question 5.2.4.10 believe that the best market entry strategy for an Indian new entrant in US wind industry to break in to US wind Industry is to secure ‘Strategic alliance with local company’. Expert respondents suggest that to break in to US wind industry Indian new entrant must work with potential local partners. In the domestic market, Indian company had
all the advantages of knowing market thoroughly well. That is not the case in US wind industry, where Indian company is a new entrant. Expert respondents believe that instead of working with large number of customers, if Indian new entrant concentrates its efforts on striking strategic partnership with local company its chances of success are better. Identifying right local strategic alliance is a critical. Alliance is strategic where there are complimenting strengths, mutual respect, and scope & role clarity and win-win possibilities all the way.

Indian new entrant company must focus its efforts on identifying strategic partner and working through the relationship to strike an alliance.

7.4.11 On the basis of data analyses of as a response to question 5.2.4.11 believe that the best option to secure maiden market entry contract for an Indian new entrant in US wind industry to ‘Sweeten the deal by offering extra guarantees and warrantee’. Expert respondents note that wind turbine generator technologies available today are not distinctly different from each other and also the fact that every manufacturer sources key components such as gearbox, generator, shafts, blades etc. from a same narrow bench of vendors. Major differentiator has to be seen in the form of demonstrated product performance over 20 year project life cycle. Fact remains that none of the multi megawatt capacity wind turbine generators have yet completed entire 20 year. Potential customers and investors would derive necessary comfort on wind turbine performance and serviceability aspects related to wind turbine throughout the project life cycle by extended guarantees and warranties.

Indian new entrant should take note of this valuable input and work with insurance companies and vendors to devise extended guarantee and warrantee arrangements.

7.4.12 On the basis of data analyses of as a response to question 5.2.4.12 believe that the best people strategy for an Indian new entrant in US wind industry to staff organization comprising of ‘Combination of personnel from USA and India’. Experts’ respondents understand that no matter how good a product or service, business success is always contingent upon the quality and caliber of people involved. At entry level local organization set up is highly recommended is something we have already seen. However the US organization has to work closely with team in India to ensure product know-how, supplies, documentation and other corporate support is available as requested. One way to ensure this is to depute team members from India to be part of local organization in US where they facilitate smooth transfer of know-how and know-who.
Indian new entrant should therefore strategize people strategy in such a way that client facing organization should always be local faces whereas staff functions are filled by Indian expatriates.

7.4.13 On the basis of data analyses of as a response to question 5.2.4.13 believe that it is ‘Very Important’ strategy for an Indian new entrant in US wind industry to customize their products and services to US wind industry requirements. In the earlier part of research we have already seen importance of product modification to suit local market requirements in US wind industry. Point here is about aligning and customizing product related services to US wind industry requirement, be it during project phase or operations & maintenance stage. Though not significantly scope, role, responsibilities, deliverables, documentation, standard operating procedures and service level agreements vary as a result of distinct wind industry market dynamics between India and US. This calls for making requisite modifications in product service aspects so as to make them customized to US wind industry requirements.

Indian new entrant should study forehand finer differences in this regard and incorporate requisite changes. It would mean learning and development interventions for re-skilling, unlearning & learning etc. of existing employees and/or hiring fresh suitable talent.

7.4.14 On the basis of data analyses of as a response to question 5.2.4.14 believe that it is ‘Very Important’ strategy for an Indian new entrant in US wind industry to manage its complex Supply Chain for success of maiden project delivery. Managing supply chain Wind turbine generators is a complex task, given that key components i.e. nacelle, rotor & blade and tower are manufactured at different part of the work get assembled as a unit for the first time at project site. Indian new entrant will manufacture and ship by sea freight most of the key components manufactured in India, Asia and Europe. Synchronizing their individual delivery times at the US port and then onward land transportation within US from port to project sites is also a major challenge. Timely availability of specialized trailer trucks, cranes for loading, unloading and handling at port and project site adds complexity to whole supply chain management. Adverse weather conditions throwing up anti-skid road transportation restrictions in rough winter conditions in northern USA make matters worse. For all this while Indian company has been doing projects within India and these conditions and challenges are unknown. All this calls for a meticulous
management of complex supply chain which can make a difference between success and failure as timely completion has bonus and damages tied to it.

Indian new entrant company therefore must carefully pick and choose its vendors for key component manufacture and equally important logistic partners for road & sea transportation besides relaying on trusted insurance companies for unforeseen situations. If choosing right eco-system of supply chain partners is half the story other half is all about through planning, monitoring and control throughout the value chain. This role and responsibility should be assigned to highly qualified, skilled and experienced supply chain professional.

7.5 Growth Strategy for new Indian Entrant in US wind industry

Product Strategy: Introduction of new products in market that are tailored to local requirements is vital and Indian company must plan R&D budget & resources accordingly.

Localization Strategy: for sustainable growth Indian company must explore every opportunity to localize parts of value chain. It is evident that markets simply loves local OMS facility that takes care of WTGs for lifetime though there is no as much strong preference for local R&D center and manufacturing. As far as possible, association with local vendors & Sub-Contractors should be preferred to secure delivery. Listing on capital markets could be helpful and should be considered at right time. Indian Company must evaluate & list jobs can be best done locally without having any adverse business impact and hire local staff.

People Strategy: Firm should devise its people strategy for sustainable growth by diligently picking right talent available in around the globe.

Business Model Strategy: Indian company for sustainable growth must adopt & deploy Co-development business model which calls for scouting suitable opportunities for which firm must dedicate resources and time. It must undertake strategic initiative to identify local alliance partners who share long term business growth thinking. Indian company must strongly focus its efforts on product performance & customer satisfaction by investing time, resources & funds

Partner Strategy: Securing funding for projects is critical to sustained growth of Indian company, so they must develop partnerships with Banks & FIs through persisted efforts. Aggressive vendors may at times make project delivery and costing
appear very challenging and as a mitigation strategy it must continually work on evaluating new vendors as a strategic vendor development initiative to de-risk potential threat. Leveraging Govt. Bi-lateral Forums & networks is important though not critical growth strategy.

**Competition Strategy:** Indian company must invest in cultivating strong relationships across rank & file in customer’s organization on an ongoing basis and thus create invisible entry barriers by way of glue. Since substitute RE products is also a competition, Indian company must explore on an ongoing basis avenues to drive cost down by new process / technology, raw materials etc.

**Customer Strategy:** So as to deal effectively with aggressive Customers, firm must invest on building strong customer relationship based on trust, transparency and shared dream/vision. Key account management is very effective growth strategy with select customers, firm must institutionalize KAM. Firm must identify these key accounts through process of due diligence & work out mutually beneficial long term growth plan.

7.5.1 On the basis of data analyses of as a response to question 5.2.5.1 believe that it is ‘Very Important’ strategy for an Indian company in US wind industry to create local jobs in USA. Exert respondents recognize that long term success of any firm in any market is contingent on how the society at large is benefitting from its business operations. US market and wind industry is no exception! Creating local employment and providing jobs to the local persons is an important milestone in establishing as a long term credible player. As such employment and jobs is a sensitive issue and on top of that Outsourcing of US jobs to India gets hotly debated at the highest levels in the US social and political system.

Indian company should deploy strategy of retaining jobs in the USA to the extent possible and in the process create employment for US residents boosting local economy. It would then succeed in positions itself as a local company than an Indian company in the minds of society thus significantly enhancing its growth prospects. Indian company however critically analyzes this issue on the merits so that overall business economics is not compromised.

7.5.2 On the basis of data analyses of as a response to question 5.2.5.2 believe that it is ‘Not so Important’ for an Indian company to start local manufacturing in US wind industry. Although US Govt. and industry community is striving hard to keep
manufacturing within the country, their efforts have yielded limited success. Wind industry is no exception. Baring very few, almost all OEMs have based their manufacturing facilities in the low cost economies such as Asia, Latin America etc. There is some merit in local manufacturing in the US as it would save expensive sea freight, time and transit risk etc. but there are not many takers. Logic is plain and simple that local manufacturing costs make overall wind power projects in US unviable, thanks to high overheads and labour costs. Customers and investors also do not have stated preference to local manufacturing as long as they get wind turbines that are internationally and locally certified for technology, safety and quality.

Indian company therefore must continue to leverage its low cost economy case in India to manufacture and ship internationally certified wind turbines for the US wind industry.

**7.5.3** On the basis of data analyses of as a response to question 5.2.5.3 believe that listing on local capital markets in USA ‘May’ give significant boost to Indian company to grow in US wind industry. Listing on the local capital markets is one strong way to demonstrate long term commitment of market and also willingness to share wealth with local investors and society. It also implies that financial records and translations will be open and transparent to people. Company’s ability to raise funds locally for further green-field and brown-field projects gets a major boost. All these are possibilities and options that a progressive and growth oriented company will desire to possess. It goes without saying that listing on capital exchange and succeeding, is possible only if the firm has credible and proven track record on US soil.

Indian company may explore this option at an appropriate time to inspire confidence within stakeholder community on backdrop of stellar on ground performance. Keeping capital market listing possibility on radar, Indian company may prepare itself in all respect.

**7.5.4** On the basis of data analyses of as a response to question 5.2.5.4 believe that it is ‘Important’ for an Indian company to introduce new products so as to grow in US wind industry. Introduction of new products in the market is a strong indicator of technologically progressive company. Wind industry unlike automobile and aviation industry is just a couple of decades old. Although it is on high end of the learning curve and has stabilized in terms of design and concept, there remains ample scope in research development and innovation. It could be material innovation, path breaking technology concept or simply smarter adaptation of proven engineering
concepts in other industries. OEMs continue to spend big dollars on this account, in an endeavor to technologically differentiate from competition. Moreover customizing product designs to site condition so as to maximize yield is a reality.

Indian company therefore must continue to work hard to introduce new products that are suited to market conditions. New product development is a complex mid-long term process involving cross functional team work backed by credible market forecasts. Prior to venturing in new products Indian company should ensure that there is a resilient business case and not just a ‘me too’ effort!

7.5.5 On the basis of data analyses of as a response to question 5.2.5.5 believe that it is ‘Very Important’ for an Indian company to set up OMS center of excellence in USA so as to grow in US wind industry. Thinning product differentiations is a phenomenon experienced across the industry and sectors. Although high end technology driven firms continue to up the ante and roll out product bearing unique features, it is always a matter of time before firms deploying ‘smart follower’ strategy catch up. Service industry worldwide is therefore getting fast acceptance as it gives firms some sustainable advantage over competition. Wind industry is not exception to this general rule. It is not just important to roll out high performing product, but to sustain that performance on the basis of unfailing OMS support is the key. OMS support ensure that wind turbine availability and uptime is maximized, unscheduled stoppage, breakdowns, unplanned maintenance is minimized thus maximizing generation and revenues from project. Customers and investors are increasingly leaning to a concept of total cost of ownership of the project and not just capex involved in the wind turbine purchase.

Indian company may consider setting up local OMS center to reassure customers and investors that they will stay committed to maximizing returns from project throughout the project lifecycle. So as to have local OMS center of excellence blue print has to be ready in terms of facility, hardware, software, trained skilled manpower, balanced OMS contract etc.

7.5.6 On the basis of data analyses of as a response to question 5.2.5.6 believe that it is ‘Important’ for an Indian company to set up R&D and engineering in USA so as to grow in US wind industry. Wind energy has been conceived, nurtured and commercialized in Europe decades back and it is no surprise that most of the wind turbine designs prevalent in market today are Europe designed. European designers have preferred to work with local key component suppliers as partners in
development and as a result makes of critical component are also European. However in past few years emergence of Asian OEMs on global wind industry and wind power installation strides in US wind industry has changed few things. Many designs are being indigenized around the world and Europe’s monopoly as designers is being challenged. However customers and investors have no stated preference though they may like if R&D centers are set up in US.

Indian company therefore may take a prudent merit based approach to setting up R&D in USA, keeping in mind overall project economics and project viability.

7.5.7 On the basis of data analyses of as a response to question 5.2.5.7 believe that it is ‘Important’ for an Indian company to create strategic alliances with vendors and sub-contractors in USA so as to grow in US wind industry. US wind industry has witnessed boom burst cycles leading to skewed demand in some years followed by slack in demand for few years, thanks to cyclic nature of short term policy triggers by US Govt. For the years when excess demand is experienced, supply chain got stretched almost beyond limits. Those OEMs who had strong partnership with vendors and sub-contractors could complete maximum number of projects before the policy due date. Then there were other OEMs who were left with few unfinished projects due to unavailability of vendors and subcontractors who were already tied and engaged by other OEMs. So when it came to crunch time, especially in tight demand supply situation which has been the case with US wind industry often, OEMs having strong relationships with vendors and sub-contractors had upper hand in project completion. They leveraged these alliances as they had better control over the entire project delivery chain.

Indian company for its long term success should create strategic alliances with local vendors and sub-contractors. This alliance must be on a win-win platform and should go beyond transactional project association. Early involvement in project planning, coordinated bidding for projects, joint presentation to potential customers, sharing market know-how and understanding etc. are some of the initiatives that could be jointly undertaken to bind and strengthen alliance.

7.5.8 On the basis of data analyses of as a response to question 5.2.5.8 believe that it is ‘Important’ for an Indian company to lobby with regulators and law makers for better policies etc. so as to grow in US wind industry. US wind industry has been plagued with a policy uncertainty as a result there is not much long term visibility of market and business forecasts are hard to make. This is one reason why OEMs and
component suppliers hesitate to make investment commitments by way of hiring, plants and facilities, etc. in the US. This is limiting overall growth and development pace of the US wind Industry. American Wind energy association strongly lobbies with the Govt. representatives for better long term policies that would propel growth of wind industry.

Indian company must join this movement of lobbying and be seen in the forefront of bringing about policy change. Representations to law makers, making business case studies, sharing policies from global wind industry, participating in debates and public hearings, organizing plant and site visits, occasional sponsorship of special events are some notable ways Indian company can make.

7.5.9 On the basis of data analyses of as a response to question 5.2.5.9 believe that it is ‘Strategic alliance with local companies’ is the best suited growth strategy for an Indian company to grow in US wind industry. Unique characteristic of Indian wind industry has traditionally been large number of customers planning small orders on a yearly basis. Repeat order from these customer and word of mouth publicity like in a retain industry ensure growth. US wind industry market dynamics has been exactly opposite; Numbers of customers are few, however they place large orders in terms of volumes and spread over time span. So as to secure sustained growth Indian company must work closely with strategic potential customers and strike a long term working agreement like frame contract of wind turbine supplies amounting to large volume delivered over 2-3 years.

For securing strategic alliance with local company, Indian company must formulate a value proposition that excites customers.

7.5.10 On the basis of data analyses of as a response to question 5.2.5.10 believe that ‘Performance track record of products’ is the metric for strong brand equity for an Indian company to grow in US wind industry. There are number of ways organization can building strong brand equity in the US market. Expert respondents believe that performance track record of products is the best way. Various means of Promotions, though leadership endeavors, infrastructure set-up, job creation etc. are other credible ways however nothing like a turbine performing and delivering on the contractual commitments.

While Indian company may continue to build brand equity in all possible ways, its focus area should be to maximize field performance of its turbines. This can be done
by harnessing latest technology for monitoring and control with skilled & trained manpower that can attend and resolve any potential issue.

7.5.11 On the basis of data analyses of as a response to question 5.2.5.11 believe that ‘Harnessing talent globally’ is the best people strategy for Indian company at the growth phases in the US wind industry. At a market entry stage there is a clear need to establish a strong relationship between teams in India and the US therefore a combination of employees from both countries was best strategy. However at the growth phase need is to explore and realize innovative ideas that would give firm edge over competition. These ideas can come from talented pool available in global wind industry, which could bring in fresh perspectives from their experiences in other wind markets. These new ideas have to be developed, converted in to practical plans and have to be executed.

Indian company may have already capitalized and leveraged existing HR and at growth phase it may look beyond India and US to source talent that can take company at next level of growth. Europe and Asia are two obvious avenues where wind experts are available and Indian company may engage services of international recruitment firms to identify and secure right talent.

7.5.12 On the basis of data analyses of as a response to question 5.2.5.12 believe that ‘co-development of projects’ is the most suited business models for Indian company the growth phase in the US wind industry. In the US wind industry there are three types of business models commonly practiced. Firstly plain vanilla ‘Equipment sales’; Here OEM’s role responsibility and scope is limited to wind turbine sales and nominal support during commissioning. Since risks are very limited rewards are also limited and turbines are slowly but surely becoming commodity triggering price war. Secondly ‘Development’ where OEM wears multiple caps and has total involvement from conception of project all the way to commercial operations of project including equipment supply. High risk, high reward model but down side is capital requirement and conflict of interest with its customers who are also developers. Third business model is ‘Co-Development’ where OEM helps developer either technically and/or commercially to take project to financial closure. OEM brings to table value added piece where developer does not have requisite expertise. In this business model risk rewards are moderate and balanced. Early involvement in project ensures business assurance visibility though engagement and results take much longer than first business model.
Indian company in the growth phase should actively pursue co-development opportunities to develop strong pipeline and should budget adequate resources in terms of interment and people to ensure success.

7.5.13 On the basis of data analyses of as a response to question 5.2.5.13 believe that it is ‘Important’ to forge partnership with banks & FIs for Indian company the growth phase in the US wind industry. One of the important levers in making wind power projects financially viable is to secure project finance at an attractive interest rate. This would result in positively stroking project IRR or NPV of the project. Unlike in Indian wind Industry where project finance is on the basis of balance sheet strength, in the US wind industry project is financed on the basis of overall merits of project, be it the quality of sites, credit ratings of stakeholders, PPAs, technology etc. As a result for the project lending rates will vary depending on overall strength of the project. For long term growth Indian company must forge partnerships with banks and FIs so that when the opportunity arises, some basic aspects such as wind turbine technology and company’s ability to deliver projects are not in question but only additional project specific issues are evaluated thus saving on processing time.

Indian company should identify potential candidates in finance domain early and then proactively reach out to them for a due diligence followed by requisite comfort at a management level on strategy and growth plans for the market. A nonbinding memorandum of understanding on cooperation could be signed to symbolize alliance.

7.5.14 On the basis of data analyses of as a response to question 5.2.5.14 believe that it is ‘Very Important’ to forge partnership with top customer profiles such as Utility and oil & gas companies for Indian company a the growth phase in the US wind industry. Research has revealed that US wind industry is characterized by a few customers who place large volume orders that are spread over years. Research also tells us that customer profile in the US wind industry is dominated by utilities and Oil & Gas companies. Any OEM at growth phase of business is unlikely to achieve any growth objectives if he misses out to capitalize on this important customer segment. While utilities typically have an energy portfolio as an objective, Oil & Gas companies look for green branding to demonstrate their commitment to environment.

Indian company therefore must concentrate on this customer segment, understand their preferences, buying patterns, decision criteria, existing relationships, budgets, plans, key personnel etc. and dovetail their offerings to meet customer requirements.
7.5.15 On the basis of data analyses of as a response to question 5.2.5.15 believe that it is ‘Very Important’ to for Indian company wanting to grow in US wind industry to institutionalize KAM. Key account management is an innovative business concept that is already catching fast roots in major industries. Whole idea with Key account management is to evolve a mutually rewarding long term relationship with a customer that goes beyond transactional engagement of sales. For both companies to be in key account management mode there has to be relationship that is based on a common future that they would like to co-create knowing each other’s capabilities and limitations as well. A company actively working on KAM with its customers will endeavor in major initiatives like joint market development plan, future technology evolution endeavors, sharing market intelligence with an objective to stay ahead of competitors, joint investments to co-create market etc.

Indian company must shortlist potential candidates for KAM and thoroughly reviews their credentials, capabilities prior to ascertaining their willingness to work in KAM mode. Once hygiene check is completed and both parties are willing to explore further multiple level interfaces across hierarchies and function should be established to ensure success.

7.5.16 On the basis of data analyses of as a response to question 5.2.5.16 believe that it is ‘Important’ to for Indian company wanting to grow in US wind industry to leverage Govt. networks and forums. Govt. forums and networks have their own importance in the business world. At entry stage platforms provide much needed space to find feet on the ground and visibility. However at a growth stage once the credibility of business is established, companies don’t quite depend on these forums. However at a growth stage once the credibility of business is established, companies don’t quite depend on these forums. Having that said there is no doubt that these are high profile forum and help position companies at a pedestal. Being part of Prime Minister or top Ministry led delegation is often considered as a matter of pride an positioning as lead light in that sector. It provides much needed opportunity to interface with top Govt. officials in the other country in this case the US, who can be approached at a later date for any potential concern or an issue.

Indian company therefore should endeavor to keep these channels warm without spending undue time and efforts. Major happenings and developments scheduled in the year for bi-governmental forums should be tracked and depending on relevance adequate participation should be planned.
On the basis of data analyses of as a response to question 5.2.5.17 believe that ‘Continuous cost reduction’ strategy Indian company should adopt to counter competition from substitute RE products so as to sustainably grow in US market. Technology strides have made wind energy very competitive with its peers in fossil fuel energy space thanks to cost reductions, improved reliability and performance improvement. However other renewable energy technologies have also made great progress over the years for instance solar energy has been a major winner in terms of percentage cost reduction from historical levels. It is a fact that wind energy’s position today, as a largest commercially scalable grid connected source of renewable energy is undisputed. However no that it guarantee may stay that way tomorrow, without continued efforts make it more competitive. Porter’s 5 forces describe countering threat from substitute products as one of the major pillar of company strategy.

Indian company must continue to leverage technology, global project practices, world class processes to drive wind energy costs down on an on-going basis, so much so that gap between other sources of renewable energy and wind energy continue to be favorable for wind energy.

On the basis of data analyses of as a response to question 5.2.5.18 believe that ‘Strong Customer relationship’ strategy Indian company should adopt to counter intense competition within wind industry so as to sustainably grow in US market. There is a famous saying that ‘All things being equal customer will prefer to do business with a friend; moreover, all things not being equal customer will still prefer to work with a friend’. Message is loud and clear, importance of have great customer relationships cannot be overemphasized. At growth phase of business keeping and growing existing customers is more important than acquiring new customers who will only bring incremental business against a strong base line of existing customers.

Indian company should continue to reinforce strong relationships with their customers. In the process they must identify ahead of time customer’s problem areas, priorities, future plans etc. and formulate offerings that fit like a hand in glove to their requirements and eliminate any reasons for customers break away.

On the basis of data analyses of as a response to question 5.2.5.19 believe that ‘Multiple vendor policy’ strategy Indian company should adopt to counter any potential threat arising from vendors so as to sustainably grow in US market. In the wind industry there are only a handful of key component manufacturers who supply
to leading OEMs. In a tight demand supply situation their ability to service all of their customers equally diminishes and they would naturally focus on their high volume and high profit customers, leaving others in a difficult situation. OEMs often find themselves trapped between ‘a rock and hard place’; customer delivery commitments coupled with contractual LD commitments on one hand verses delayed key component supplies from a trusted vendor on other. Developing multiple vendors is seemingly easier option which in reality is hard to execute as complex issues like intellectual property (IP), knowledge sharing, resource commitments etc. are involved.

Indian Company must carefully study overall supply chain management aspect of global wind industry, evaluate key component manufacturers, shortlist and work closely with at least two vendors operating preferably in different parts of geography. This is likely to de-risk business of OEM from bargaining power of vendors as outlined in a strategy formation framework ‘Porters 5 forces’.

7.5.20 On the basis of data analyses of as a response to question 5.2.5.20 believe that ‘Strong customer relationship” strategy Indian company should adapt to deal with any potential aggression from customers so as to sustainably grow in US market. US wind Industry has fewer customers who place large volume contracts that are spread over years. These customers mostly falling in Utility, Oil & gas or financial sectors usually have strong financial muscle and industry clout giving them a strong bargaining power. US wind industry has also seen tough demand supply situations thanks to policy uncertainty. When demand dries up there are few customers chased by all OEMs present in market, leading to price war. Porter’s 5 forces strategy framework provides vital inputs on dealing with bargaining power with customers.

Indian company at a growth phase must identify potential customer who can facilitate Leapfrog Company to next level. A carefully crafted strategic blue print should then be drawn to build relationships across rank and file in potential customer’s organization. All present and future offerings should be modified to suit customer requirements. Significant business efforts should be aimed at securing preferred partner status and ensuring first right of refusal for the opportunity.

7.6 Empirical study of wind industry in USA

Commercial grid connected Wind turbine generators are designed for 20 year life however it may be noted that none of them have has completed this term. Wind industry globally including US wind industry is under 2 decade old and global market
landscape is still evolving. Until few years back wind industry used to be pretty much localized and emergence of global business model is a new phenomenon yet to take deep roots.

Customers are becoming increasingly knowledgeable and savvy about products & services offered in the market, thanks to prowess of Internet!

Just like wind industry, Wind turbine technology is also very much at its evolving stage and yet to reach a maturity level like say technology in an automobile or aircraft industry. There is ample research work available on various technology aspects related to wind turbine generator such as rotor blade design, improving aerodynamic & conversion efficiency, gear-box, component design etc.

From the primary data analysis duly supported by secondary data analysis following major conclusions can be arrived at:

- US wind industry is one of the largest and the most promising wind power market in the world.
- Given its huge land mass and high quality wind resource wind energy offers great short term as well as long term potential.
- Texas, California and mid-western states like Minnesota are leading states in wind energy installations closely followed by Northwest pacific and mountain states.
- US wind industry has class II and III wind resource, very few of Class I wind resource. However attractive wind sites that are closer to load centers are fast drying up.
- Infrastructure in the US e.g. ports, roads etc. is well equipped to deal with handling of huge wind turbine parts.
- There is ample availability of specialized equipment e.g. cranes, trailer trucks etc. to manage wind power projects.
- US wind industry being one of the largest and promising, has no dearth of skilled and trained manpower with representations from wind industry professionals from all around the world.
- One thing that is marring growth of wind industry in US is the absence of long term sustainable policy. Because of associated uncertainty serious players are reluctant and hesitant to make long term investment commitments interns of manufacturing and other facility commitments.
- US Govt. through department of Energy and National renewable laboratory has given active encouragement to research development of wind energy technology.
- Although earlier generation wind turbines have been megawatt or sub-megawatt category, US wind industry has found a sweet spot in multi-megawatt category of wind turbines with ratings in ballpark of 2 MW.
- Statutory approvals e.g. environmental impact approval process, community hearing procedures etc. are usually the longest lead time activities in the entire wind power project cycle in the US wind industry.
- Wind power projects in mid-west, mountain and northern Texas regions are often suffering from unavailability of transmission networks and long distance interconnect line have to constructed all the way load centers that are far off.
- Harsh weather conditions in northern part of the US call for low temperature variants of wind turbine generators.
- Increasing environmental awareness, growing concerns over global warming & climate change and rising community support for cleaner, greener energy is helping wind energy make great strides in the overall energy mix.
- Wind energy with its commercial scalability and grid connectivity continues to be a front runner among all renewable energy sources in the US.
- Presence of almost all major OEMs around the world makes US wind industry one of the most competitive market.
- Customer profile for wind power projects comprise of Utilities, Oil & gas companies besides financial investors.
- Major drivers for wind power investment include, managing energy portfolio, green branding, socially responsible investment, tax relief investment.
- Major decision making criteria for investment in wind power project is internal rate of return (IRR) and in other cases Net Present value (NPV) of a project.
- There is increasing trend to evaluate project on the total cost of ownership over the lifecycle of project, although standardization over financial modeling is yet to evolve.
- One of the characteristic of US wind industry is its fragmented supply chain with clearly defined roles and transition points for various stakeholders. As a result collaboration and partnerships are critical for success.
- US wind industry is a matured market with clearly defined roles, responsibilities, scope for various stakeholders coupled with standardized contracts and financial markets.
• Low energy prices as a result of, cheap gas, depressed demand and further of shale gas discovery is affecting wind power project feasibility.
• Global recession triggered sub-prime lending crisis, followed by fears of double dip recession as a result of Eurozone crisis has also taken toll on the health of wind industry in the US.
• US wind industry stakeholders are cautious and prudent towards receiving wind turbines of Chinese make as the questions over know-how transfer and OMS over lifecycle are still largely unanswered.

7.7 Market Entry strategy for Indian new entrant

For an Indian new entrant company market entry in the US wind industry is an uphill task. With no past history of having done any business, Indian new entrant will have to start from a scratch and find its way in the market place. Invaluable learning while succeeding in Indian wind industry will come very handy. Excellent business track and satisfied domestic customers will give much needed confidence and strength. Captive capabilities on the product, technology, finance, management and people front will help secure vital start. However things will have to done very differently for securing smooth market entry in the US wind industry as whole business premise has changed.

Following are some major strategies that Indian new entrant company may consider at market entry stage.

• **Market Intelligence:** Market intelligence includes gathering of data from the company’s external environment and encompasses business intelligence which is primarily focused on compilation of internal recorded events – such as sales, shipments and purchases. The purpose of incorporating market Intelligence is to provide decision makers with a more “complete picture” of ongoing corporate performance in a set of given market conditions. A thorough scan and study of market to develop detailed understanding of market dynamics should be done. Subscribing to 3rd party consultant reports, studying US wind industry specific publications, engaging expert local consultants to secure grass root level data, closely reviewing key industry stakeholders’ financials are some of the sources that should be tapped for authentic market intelligence. Business analyst should be deployed to studying and making sense of this market intelligence in company’s context as this provides vital inputs on which strategies will be based.
• **Building Local organization:** Drawing up plans to set up a local organization that combines US nationals/ residents and Indian employees is a priority. Reputed local HR agency should be retained to hire suitable talent. Further training and empowering organization to function effectively is critical to successful market entry.

• **Alliance with local stakeholders:** Existing domestic alliances in India are not useful for market entry in US wind industry. A completely new initiative focusing on potential partners’ based on market data should be undertaken and alliances should be secured in critical business areas such as banks, HR agencies, insurance companies, SCM vendors etc.

• **Product Certification:** Unlike Indian wind industry, product certifications from independent agencies, local statutory authorities will be required in the US wind industry. Product certification process typically is very lengthy, tedious and time consuming requiring huge amount of documentation scrutiny and plant visits by certification experts. Indian new entrant should plan well in advance for this critical activity and ensure product certification.

• **Balance sheet strength:** Financial strength is a must for securing market entry in US wind industry. Firstly, business endeavors in the US market would stress Indian company’s balance sheet. Secondly and more importantly, local stakeholders would engage in business only after deriving requisite comfort in the balance sheet strength of Indian new entrant company. So international business ventures will need some advance preparation to strengthen and clean up financial records of Indian company.

• **Cross-cultural Aspects:** A soft business aspect often underplayed and not focused upon in the daily business grid. However lessons have been learnt hard way as to how inter-cultural barriers make light job heavy. Employees on both sides of organizations should be trained by specialists as to how to respect other culture and work without conflicts. Ample opportunities to personally interact and exposure to other culture helps overcome this barrier.

• **Leveraging Govt. Channels:** A new entrant in a market is unlikely to get due attention from industry stakeholders and also there is a risk of not being taken seriously. However, once they are seen in the credible Govt. circuits and forums credibility starts getting established. Indian new entrant company should work hard at leveraging appropriate Govt. channels and forums to reach out to wind industry stakeholders in US.
• **Market entry proposition:** Customers will always need a strong reason to break away from their existing suppliers and embrace someone unknown and untried. Indian new entrant for the purpose of market entry can resort to special pricing & discounts. However for strategy to be effective it must be targeted at niche customer segment to cater to their special requirements. Market research will provide vital inputs on niche customer segment and their unique needs.

• **Best People Strategy:** When client facing jobs are assigned to residents of US and local nationals’, customer find a comfort that they are dealing with someone from local market who understands dynamics as well as their needs. Also when back office jobs are assigned to Indian nationals, coordination between two offices, know-how transfer is a lot easier. Thus local organization should combine talent from India and US.

• **Customizing projects & Services:** Market dynamics, compliance codes, and statutory requirements, weather conditions are so different in different markets. Not just products need modifications but project & service offerings need to be tailored to suit market requirements. Indian new entrant based on the market information, should take proactive steps to bring out requisite changes in projects & services offerings so that customers are reassured that their investments are in safe hands.

• **Managing Complex SCM:** Managing complex supply chain effectively while dealing with global business can mean a difference between success and failure. US wind industry has a fragmented SCM and coordination between various parties involved is critical. Immaculate planning and execution of entire project will only ensure success. Indian new entrant company must deploy in-house & 3rd party experts to thoroughly monitor and control entire supply chain through entire value chain of project.

**7.8 Market growth strategy for Indian new entrant**

For an Indian company market growth in the US wind industry is a function of capitalizing and building on all the good work done at the market entry stage. With a proven track record of maiden projects on the US soil, Indian company must endeavor to deploy strategies that ensure sustainable growth. Invaluable learning while succeeding in the market entry stage should be leveraged. From the survival to growth requires a lot different mind-set and approach. By now Indian company is a known player in the market and would have created its positioning in the eyes of stakeholders as a serious player. To get to the next phase of sustainable growth on
one own steam is something very few organizations do. Instead most build an ecosystem of partners and alliances and leverage on a win-win basis

Following are some major strategies that Indian company may consider at market growth stage.

- **Local Job Creation**: Company at a growth stage need to position itself as a local organization helping grow local economy and creating employment. This was Indian company will have confidence of industry stakeholders and favorable look in as a long term committed player. All those jobs that could be localized without adversely impacting overall project economics should be done assigned locally at the first opportunity. Jobs that have high bearing on company’s overall investment and growth plans such as manufacturing, creating large facilities for service, repairs, R&D etc. must be evaluated purely on the techno-commercial merits.

- **Listing at Capital markets**: Accessing capital market is unequivocal demonstration of company’s long term plans for the market. For Indian company to fulfill growth plans, particularly much needed strong funding support from fiancé community may come following listing. Indian company therefore should consider listing on capital markets after taking in to consideration all implications & timing should be carefully chosen on the backdrop of stellar market performance.

- **New Product Introduction**: For sustained growth in any market place, rolling out new products that meet evolving market dynamics is a hallmark of any strong long term player. Indian company must plan R&D budget & resources with an objective to introduce new products in market. This will help company hold a strong position as technologically progressive, if not pioneer. It must be mentioned that new product introductions must be based on sound market forecast, techno-commercial business case and most importantly changing market requirements.

- **Local Strategic Alliance**: For most companies after establishing in market place, next phase of growth comes by way of leveraging alliances with local stakeholders. These partnerships with local vendors, sub-contractors, Bank & FIs will help Indian company make a strong pitch to its potential customers that encompasses entire value chain. Also in tight demand supply situations arising from market dynamics, it will position Indian company on a firmer wicket than its
competitors for project delivery security. Critical action in this regard includes identification, due diligence and firming up alliance.

- **Lobby with regulator & Govt. networks:** Wind industry in the US is seeking better sustainable policies for survival and growth. Leading OEMs are in the forefront of lobbying efforts by way of resource commitments and funding. This gives opportunity and forum for dialog with law makers and Govt. officials thus positioning OEM as leader in the industry. Indian company in its endeavor to sustainably grow must explore and leverage this avenue to access power network in the high profile Govt. circles. Numerous unforeseen possibilities may open up through a regular interaction with politicians & decision makers, and Indian company may get early bird advantage.

- **Sustainable growth Business model:** At entry stage new entrant company may not be in position to actively consider alternate business models due to lack of market experience, funding, resources, network etc. However at growth phase Indian company must look beyond traditional equipment sale business model. It must develop its own project pipeline by concentrating on Co-development of projects in close collaboration with local developers in additional to conventional equipment sales. Provision of adequate resources in terms of people and funding to sustain this long gestation process is a critical consideration.

- **KAM and customer partnership:** In US wind industry few large customers decide bulk of the orders in the market place in terms of volume and finance. Indian Company then simply can’t afford to miss out on opportunity to work closely with select customers and still hope to grow. This close relationship need to go way beyond transactions and for that Indian company should deploy Key account Management. It will start with a thorough due-diligence on select key customer, making joint plans and executing them in a win-win formula.

- **Countering Competition from Substitute RE products:** Wind energy is a leading source of renewable energy in the world. However thanks to advancements in technology, per unit cost of energy from solar is falling and gap between solar energy and wind energy is narrowing fast. Indian company must continue to focus on technology innovation in Wind energy and all out efforts must be made to reduce costs at all times using all possible avenues. This only can ensure that wind energy remains competitive.

- **Dealing with Competition and Aggressive customers:** Promising market like US wind industry is bound to attract multiple OEMs and in the process trigger intense competition. When customers have multiple options to choose from, they
will naturally get aggressive. Only strong customer relationships based on trust &
transparency across functions and hierarchies can help deal effectively with stiff
competition and demanding customers. Indian company must build strong
relationship across rank and file and form unique glue that customers would find
hard to break away from. It could be in the form of tailored offerings, customized
processes, contracts, special services, delivery priority etc.

- **Dealing with aggressive vendors**: Role of vendors and sub-contractors in a
fragmented supply chain of US wind industry should never be undermined at any
point in time as it can simply bring project delivery to a grinding halt. So often
complex demand supply situations have placed OEMs in a delicate situation
where their contractual commitments depend on timely performance of vendors.
Indian company must work with multiple vendor policy and additionally continue
to explore vendor development to de-risk business.

Given highly competitive market scenario wind turbine manufacturers are burning
midnight oil to re-jog their growth strategies. At the fulcrum is leveraging existing
client relationships to the hilt and derive value that would give companies edge over
competition. This has triggered customization of products to client requirements by
weaving in new product development strategies.

### 7.9 Strategy roadmap

Researcher recommends assuming the findings of research are acted upon following
strategic road-map for the market entry and sustained growth of business of Indian
new entrant in the US wind industry.

Researcher believes that Indian new entrant will be able to establish itself in in top 3
players with a market share of 8-10% in US wind industry using wind turbine models
of 2MW 60Hz,90Mtr rotor diameter Low temperature version by end of 10 years of
operation.

Below is a tabular illustration of yearly strategic milestones Indian company can
achieve in the market entry and growth phase of business, should it implement the
findings and recommendations.

#### 7.9.1 Market Entry Phase

On the basis primary data research & analysis duly backed by secondary data from
industry credible sources, researcher is glad to propose a strategy road map for
market entry as follows.
**Year 0-1:** At this very starting stage priority should be complete statutory formalities for company formation and registration with the help of legal consulting firms. This will pave way for setting up organization which typically will be combination of Indian and US nationals/residents and credible HR agencies that help attract right talent should be engaged.

Based on the grass root market data & intelligence secured from industry champions be it consultants, associations, analysts etc., full steam business development efforts should be undertaken in the shortlisted customer segments and geographies.

As a next logical step sales efforts should be stepped up in the form of cold calls, sales prospecting, budgetary offers, pre-qualification and/or registration formalities with select customers. Participating in right forums and trade events, persisted engagement with empathetic customers is how typically Indian company will start forming initial impressions in the industry in the first year.

**Year 1-2:** As a result of all the relentless and focused hard work in the area of business development, marketing and sales, Indian company should secure maiden contract typically of 25MW size. To secure deal significant commitment from senior management will be required in terms of flying potential customers to Indian to impart desired comfort on company’s capabilities in the area of technology, finance, engineering, quality, people and product performance. Offering special pricing for entry project, sweetening OMS offering are some avenues that Indian company will have to deploy to attract new customer in its fold.

To ensure that entire project delivery is consistent with mandatory and statutory compliances, Indian company must proactively undertake product certification well ahead of time duly supported by requisite documentation.

As the contract gets in to execution phase, entire concentration of firm should be customizing project and service delivery aligned with wind industry practices observed in the US. This will require working with local expert on project planning and execution, pre-identified during business development stage based on market research.

**Year 2-3:** This will be defining year for Indian company as maiden project will go in to operation and product performance will be very keenly followed across US wind industry. To ensure timely project execution, successful commissioning and satisfactory operation collaborating with local vendors and sub-contractors is critical, given fragmented supply chain followed in US wind Industry.
While project is progressing towards competition, Indian company must continue on war footing aggressive and full scale sales efforts to secure follow on contracts. For all this all avenues should be explored by way of participation in bids, tenders, furnishing solicited / unsolicited quotations to potential customers etc. This must be ably supported by brand building measures by way of active participation in trade fairs, lobbying efforts, speakership opportunities, and roadshows etc. for select customers.

All this endeavors should fetch a follow on 50MW fresh contract, especially in backdrop of successful commissioning of maiden contract. This show case reference installation is a strong demonstration and bold statement of arrival of Indian company in the US wind industry. Indian company must make every effort to invite and host potential customers to now operational local project sites in the US to inspire confidence and build trust.

**Year 3-4:** This year is that of capitalizing early gains. Operation Maintenance Service of maiden project should ensure that product performance is aligned with contractual commitments. Project execution in the follow on contracts should be progressing as planned and along with continued top gear sales activities. This is also the time
Indian company should look to leverage Govt. channels to gain acceptability at highest level. Given increased scope of business and positive future outlook organization should be expanded to strengthen operations to fulfill customer commitments. Requisite technical and OMS training to new hires should be imparted to ensure that project & service delivery are quality compliant. As a result of participation in numerous sales opportunities Indian company should win fresh contracts of about 100MW from same and/or different customers.

7.9.2 Market growth Phase

On the basis primary data research & analysis duly backed by secondary data from industry credible sources, researcher is glad to propose a strategy road map for market entry as follows.

Year 4-5: Having successfully entered and established in the US wind industry Indian company, at this stage should shift gears to focus on long term sustainable growth endeavors. An aggressive business development effort to identify potential strategic alliance partners from shortlisted customers is a priority. Utility and Oil & Gas companies is a segment of customers that Indian company must get very deep in to. Top management meetings, inviting them over to Indian for confidence building and due diligence on technology are some of the proactive steps that Indian company needs to take to initiate and formulate strategic alliance. At this stage Indian company should secure more orders from existing new customers on the backdrop of successful completion of projects and satisfactory OMS of wind turbines.

Year 5-6: At this stage Indian company can look at consolidating its grip over the US wind industry by formalizing its alliance with banks, FIs etc. so that bankability or financing of projects is not a discussion topic anymore. Equity investors walking in will have comfort over debt financing of projects. Considering that there would be critical mass of about 1000 megawatt capacity wind turbines under either in OMS or at installation stage, time is ripe for setting up local OMS center of excellence. This will excite wind industry as new jobs would be created, knowledge & technology transfer will be affected and at the same time customers will have added comfort of localized service for their assets under OMS. Indian company can also strengthen its processes by undertaking customer and employee satisfaction surveys that can identify areas that need improvement. Indian company should introduce new product in the market that fulfill existing & future customer requirements, based upon sound market forecast and techno-commercial feasibility. On the strength of impressive
OMS and project performance duly powered by sales effort Indian company should secure long term frame contracts.

**Year 6-7:** Since Indian Company is now in a growth mode with several fronts opened on project, service, center of excellence, KAM etc. organization strengthening is top priority. This can be done by attracting top talent from global wind industry. Piggy backing on the frame contracts and large strategic alliances Indian Company should expand geography footprint in other markets of within US. Getting in newer market demographics will need strong support by way of comprehensive documentation, training and process control so as to ensure that there is no compromise in project & service delivery. Business promotions will have to tweak to local tastes and winning trust of customers will need some special efforts by way of leveraging various industry- institution and Govt. forums. Riding on the sustainable wind industry growth as per 3rd party forecasts Indian company should sign up large contracts to maintain healthy order pipeline.

**Year 7-8** At this stage Indian company need to continue and sustain all initiatives undertaken in the past year by. Orders will be secured, projects will be delivered and service commitments will be honored. Because new geographies are added, Indian company can consider setting up 24x7 remote monitoring centers that will give OMS a cutting edge. This will help significantly improve uptime and availability of turbines while minimizing down time, failures, mean time to repairs. Indian Company should reinforce its product development efforts by collaborating with technology labs in US by NREL, DoE, and Universities

**Year 8-9:** In addition to what’s going on in the previous years, Indian company can start conceiving local manufacture of key components. This will of course be merit based on the techno-commercial feasibility while potential savings in time and benefits of de-risking. While planning manufacturing facility, special attention should be given to compliance with Environmental, health and safety aspects. Indian company should secure fresh order intake based on continued aggressive sales efforts, leveraging strategic relationships with clients. By now Indian company will have significant size around 1.5GW under OMS which should be right time to spin off OMS unit in to a strategic business Unit. This unit will solicit business beyond contractually mandated OMS period of 2-3 years and offer extended OMS inclusive or exclusive of spares depending on customer requirements. This will not only justify overhead and infrastructure created under OMS but also provide much needed revenue and profitability boost.
Year 9-10: By now most of the functions are running like well-oiled machine and growth objectives are being fulfilled. At this stage Indian Company may consider listing on capital markets to unleash organizational value and share wealth with local society. This will be seen as a strong indicator for a brand equity development and organization poised not just for growth but market leadership. Neighboring Canada market which has similar and not so distinct requirements could be tapped for de-risking as business has reached that scale and size where single market dependency is not advisable. Some strategic alliances with customers can actually be transformed in to Key account management, where joint market and technology developments endeavors can be taken up. As a measure of leadership Indian company must actively participate in lobbying, policy formulation activities. Indian Company may also consider M&A proposals as long as they are strategic fit to growth plans and brings significant strategic advantages.

This strategic road-map recommendation assumes that policy regulator mechanism in the US wind industry remains conducive, political environment in US and global economic situation continues to hold up with no adverse effect on wind industry in
USA. Also this strategic road map holds good assuming there is no ground breaking technology breakthrough in wind industry or renewable energy industry that would change the game. Also for the purpose of developing strategic road-map any potential business set-back in finance, technology, operations, people sides etc. that Indian company could face just as any other company could, is not considered.

7.10 Conclusions

As a part of research, researcher has endeavored to address several critical aspects about energy and environment. Sustained focus of research continues to be on wind power on the backdrop of market dynamics in USA and also in India. With clearly defined objectives, their importance and relevance, researcher has studied numerous secondary data sources. To obtain grass root facts as part of primary data collection, researcher subsequently engaged with accomplished wind industry experts around the world. By analyzing data researcher has unearthed international marketing strategies for an Indian new entrant company aspiring to conquer in US wind industry.

Following are facts and major conclusions derived from the research work.

Human initiatives to meet unprecedented rising demand in energy, has resulted in irrevocable damage to planet earth. As a result mankind is faced with a huge environmental challenge that has potential to disrupt mankind, by way of global warming and climate change.

Use of renewable energy resources is recognized as one of the most effective way of combating environmental hazards. Wind energy is identified as a top renewable energy resource with maximum positive impact due to its technology, scalability, availability and size.

Wind energy emanates from the Sun and is an inexhaustible resource that is Omni-present. Wind energy is harnessed by converting kinetic energy in to electrical energy, thus minimizing carbon foot-print. Although not a replacement for energy using fossil fuel, wind energy plays critical complimenting role in overall energy mix.

A lot of work has gone in to identification and measurement of wind resource at high potential project sites in USA. Tremendous ongoing research, development and engineering efforts have resulted in to evolution of highly sophisticated equipment i.e. wind turbine generator (WTGs). Wind power projects value chain comprises series of
highly coordinated manufacturing of WTGs, logistics and project execution activities. In the end effective OMS helps WTGs generate electricity using wind, efficiently, safely and sustainably through the lifecycle.

Wind power has been effectively harnessed in over 60 countries around the world with Western Europe, China, India and USA leading in terms of cumulative installations of wind power, thanks to favorable policies of Governments.

Considering open market economy, huge land mass, excellent wind resource, energy demand, established financing mechanism etc., USA's wind industry has easily proved to be a preferred top international market for global wind turbine manufacturers.

On the other hand due to rapid globalization wind industry in India is experiencing heightened global competition. As a result, domestic players are obligated to explore promising global markets for survival and growth. US wind industry is an obvious alternative market, being neutral and open unlike Europe and China.

Besides trade in textiles, spices and of late in software / IT space, not many Indian companies, especially project engineering sector, have ventured in US market. As a result there is little precedence and track record to rely upon for Indian wind turbine company while drawing-up plans for US wind industry.

Researcher has been able to establish clearly that US wind industry continues to hold immense potential for entry and growth for Indian new entrant company. This finding is backed by facts and figures on huge energy demand, availability of wind resource, land mass, financing, minimal barriers for entry, conducive policies, and availability of human resource in US.

Researcher followed a very scientific step by step process of research methodology. Starting with devising a questionnaire around research objectives, researcher did a pilot survey for necessary fine-tuning. Then researcher defined a universe population that encompassed wind industry professionals and also critical sample size to make research finding credible. Primary data respondents comprised of professionals who not only have expertise in US wind industry but also have exposure to working with Indian businesses. Elaborate internet based web-survey was carried out and data analysis was done to base findings and recommendations.
As a result of primary data collection and data analysis, researcher has been able to prove hypothesis as under-

H: 1 - Products and services offered by Indian companies are perceived to be of sub-optimal quality in developed economy market of USA, has been proved to be TRUE.

H: 2 - Long term success, by way of sustainable growth, of Indian companies in US market is contingent upon providing Operations Maintenance Services (OMS) solutions locally, has been proved to be TRUE.

H: 3 - Indian Companies are underprepared, to handle the organizational issues such as management, HR (attract, retain & grow talent) and inter-cultural aspects, for doing business in US, has been proved to be TRUE.

On the basis of detailed data analysis and exploring rationale of respondent’s responses, researcher has formulated a 10 year strategy road-map. Various strategic initiatives to be undertaken in entry phase (0-4 years) and growth phase (5-10 years) have been identified.

For the entry phase of strategic road map, researcher has mentioned milestones initiatives that will help secure entry and foothold in US wind industry. Among other things strategic focus is clearly on setting up organization and importantly winning maiden sales order. Various strategies in terms of formulating USP, identifying and working on niche customer segment etc. have been proposed with timeline.

For growth phase of strategic road map, researcher has identified a distinctly different set of initiatives, to sustainably grow and establish in US wind industry. Concentration is on forging long term strategic alliances and partnerships with key stakeholders with the objective of winning and delivering projects. Other notable strategies include creating local service infrastructure, potential capital market listing and strong relationship with customers.

Researcher firmly believes that Indian new entrant wind manufacturing company stands a strong chance to succeed in US wind industry, if it positively considers and executes with same passion and zeal, the strategies laid out in the strategic road-map. It should pay equal attention to important facts and perceptions brought to light by the research and act on the recommendations stated as a part of research.