Project Road to Success and Failure

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Abstract

This paper provides two case studies of Project Management and their effect on project outcomes. It includes the Sydney Opera House which survived aspects of poor Project management to become a successful project outcome and the Failure of the Energy Sector Project in Lebanon.

Key words: project management

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Introduction

One of the vaguest concepts of project management is project success. Project management has traditionally looked at managing the project implementation process. This view of project management specifically views the project as a task or process that needs to be completed following the specifications, budget and time given. This approach has provided metrics that are universally accepted such as cost, schedule and performance (Pinto & Levin, 1998, Meredith & Mantel, 2003) to evaluate the performance of the project. However, these metrics do not provide the necessary view to the success of the project to the organization/stakeholders.

Since each individual or group of people who are involved in a project have different needs and expectations, it is very unsurprising that they interpret project success according to their own understanding (Cleland &Ireland 2004). "For those involved with a project , project success is normally thought of as the achievement of some predetermined project goals "(Lim & Mohamed ,1999) while the general public has different views, commonly based on user satisfaction.

A classic example of different perspective of a successful project is the Sydney Opera House project (Thomsett, 2002) which went 16 times over budget and took 4 times more to finish than originally planned .But the final impact that the Opera House created was so big that no one remembers the original missed goals. The project was a big success for the people and at the same a big failure from the project management perspective.

Project Success - a different view

When referring to 'project management success and 'product success. "No system of project metrics is complete without both sets of measures (performance and success)…" (Cooke-Davies, 2002, 2004). This also leaves out one important fact; that the original specifications may not have been correct, the budget allocated to the project may have been inaccurate, and the time estimate may have been flawed. This is often perpetuated by a manager and/or stakeholder, in his/her zeal to get a project started, who will try to make the ROI (Return on Investment) look the absolute best. One of the easiest ways to increase ROI is to have the implementation costs as low as possible. This sometimes is done with best case scenarios or wild guesses on the time and cost of the project. Also the ramifications and true requirements may not be fully understood and may cause significant cost and time over-runs.

In addition many project managers do not do a post implementation audit, when this is essential to reviewing the success, failures, challenges and lessons learned. For those who do them, it is usually within a month or two of completion of the project and usually focuses on the traditional metrics, success/failures and how the project team did in implementing the project.

One of the main factors for failure is bad decisions made by the project manager and/or project team. The ability to make good decisions is absolutely critical to any and all project outcomes, including the ability to meet success criterion. This ability is influenced by several factors, including:

The education/capability of the project team

Some level of luck, certainly, but mostly:

The availability of adequate project cost and schedule performance information, which almost always clarifies the best project decisions.

Criteria for project success

Kerzner (2001) suggests three criteria from the organization perspective in order for a project to be successful. The first is that it must be completed "with minimum or mutually agreed upon scope changes", even though stakeholders constantly have different views about project results (Maylor,2005); secondly, "without disturbing the main work flow of the organization " because a project has to assist an organization's everyday operation and try to make it more efficient and effective. Finally, it should be completed "without changing the corporate culture " even though projects are " almost exclusively concerned with change—with knocking down the old and building up the new"(Bguley,1995). A project manager's main responsibility is to make sure that the delivers change only where it is necessary, otherwise he is doomed to find strong resistance from almost all organizational departments (Kerzner,2001) which ultimately could lead to project failure.

Numerous studies have shown that the core skills for any successful project manager are the ability to develop a successful 'high performing' team, and communicate effectively to influence key stakeholders. These are soft skills and very hard to achieve competence in. This reframing is important because well over 90% of project failures can be directly attributed to people issues, including headline disasters such as the original Hubble Space Telescope launch and Challenger (Maylor, 2005).

1. Sydney Opera House Case Study

Background

The Sydney Opera House is one of Australia's iconic buildings and is recognized around the world. It is has become a global symbol of Australia. The Danish architect Jorn Utzon won the architecture competition set out by the NSW government for the new building in 1957, and the construction started in 1959. Utzon's design was a modern expressionist design. The roof of the opera house was to resemble the sails of a ship in the form of three overlapping shells. It presented many unique design and structural challenges that would need to be addressed. The project was to be completed in three stages over a period of four years at a cost of $7M. The project appeared to be doomed from the start. Due to political pressure, the project start date was accelerated, and began on March 2, 1959. The project had serious cost and schedule overruns that were the result of poor project planning and execution, specifically in the area of cost management. These problems led to the resignation of Utzon as the project manager in 1966. After 14 long years, the Sydney Opera House was completed in 1973 at a cost of $102M.

Project Analysis: Success and Failures Factors

As a management project, the Sydney Opera House had so many issues and fall backs that included goals of the project, design, stakeholders, organization, financial, and timelines. These problems had a direct impact on the ability to control the project budget. Additionally, these problems may not have been avoidable, but they could have been identified and mitigated in advance. A diamond analysis is a technique to access the scope of a project prior to approval. This process was developed by Aaron Shenhar and DovDvir. It assesses the project in four basic categories, including technology, novelty, complexity, and pace. Though a diamond analysis wasn't used at the beginning of the Sydney Opera House project, it can be utilized in hindsight to compare how the project was originally treated and how it should have been assessed.

Originally, according the diamond analysis, the opera house project was underestimated. The technology assessment is utilized to assess the amount of technological uncertainty. It divides its assessment utilizing four descriptors (from low to high): low-tech, medium-tech, high-tech, and super high-tech. It appears the original selection committee treated the opera house project as high-tech. This assumes current design techniques were sufficient enough to support the project. This assumption was not correct as many of the techniques needed were not available so it is a super high-tech project.

The novelty assessment focuses on how new your product is to the market. For novelty, it appears the project was initially assessed as fitting into the platform category. The project sponsor treated the opera house as if it was a new model to an existing line of unique opera houses.

The complexity assessment focuses on the system scope. Initially, the project team appears to have viewed the project as a system. This means it was a moderately complex project requiring a system of subsystems to complete the work. An example of this type of project is the manufacturing of automobiles and computers.

The pace assessment of this analysis focuses on the criticality of the project timeframe. It appears the project sponsors treated this project as a blitz, which means a project that is time-critical or urgent. This was evident more so by the early start date than the required completion date. Due to the lack of foresight regarding the geometric shape of the roof, the corresponding acoustical challenges of the ceiling, and the support structure, this project should have been classified as an array. It would require the development of design techniques beyond those of the time.

Finally, the pace assessment should have revealed this project was time-critical. The original deadlines were too aggressive and unrealistic. The true motive behind the original timeframe was solely for political reasons. Time-critical projects are usually projects that fall into a window of opportunity, not driven by urgent deadlines.

Goals of the Project

At the beginning of any project, goals and objectives have to be clearly defined by the client to provide a guideline for what the project must complete. There are three main factors, which constitute the iron triangle: time, cost, and quality. In the case of the Sydney Opera House, no indication regarding time or cost limits were provided for the competition. Thus, the architects were allowed total freedom in their designs. The cost restraint was set to AUS$7 million. The funds came almost entirely from a dedicated lottery, so the project was not a financial burden for the government (Tombesi, 2004).

However, the most important factor was quality because it was an almost unrestricted goal of the project. It was the reason why it was launched, and it also determined the time and cost objectives (Murray, 2004). But the aim was also to make the new Sydney Opera House one of the world's architectural wonders, inspiring world recognition and admiration. In the case of the Sydney Opera House, the goals set at the beginning proved to be quite overoptimistic within the time and cost restraints (Murray, 2004).

Design

There appeared to be problems from the start of the project. Apparently Utzon protested that he had not completed the designs for the structure, but the government insisted that the construction get underway. In addition, the government changed the requirements of the design after the construction was started, from two theatres to four, so plans and designs had to be modified during construction.

The design created by Utzon was an architectural feat that had never been done before. Even after four years of construction, Utzon still altered the geometry of his design, which was to save time and cost of the construction. The project was subject to many delays and cost over-runs that were unfortunately blamed on Utzon. During the year of 1965 a new government was appointed in NSW and they withheld payments for Utzon's plans as they were opposed to his building methods. This forced Utzon to resign from the project in 1966 and a team of Australian architects were appointed to finish the construction. Considering that this construction began in 1959, the building methods and design were nothing short of revolutionary and it is no wonder that this building has become the marvel it is today.

Stakeholders

Newcombe defines the project stakeholders as "groups or individuals who have a stake in, or expectation of, the project's performance and include clients, project managers, designers, subcontractors, suppliers, funding bodies, users and the community at large" (Newcombe, 2003). Thus, they can be people inside or outside the project. Stakeholders interact especially within two fields: the cultural arena, where they share values and reinforce co-operation; and the political arena, which can be subject to expectations and objectives and conflict between stakeholders. Olander & Landin (2005) give a definition of stakeholders and add that they can be a threat or a benefit. The point is to identify "stakeholders who can affect the project, and then manage their differing demands through good communication in the early stages of a project."(Olander & Landin, 2005).

The main stakeholder, the one who did the design of the Sydney Opera House, was the Danish architect Jørn Utzon. He was much more concerned with the design aspect rather than time and costs objectives, which proved problematic. When he resigned in 1966, the architectural consortium Hall, Todd, and Littlemore replaced him. During the project, Utzon collaborated with Ove Arup, who was in charge of the structure and the engineering. Another of the most important stakeholders is the client, the state of New South Wales. A part-time executive committee was created by the client to provide project supervision but the members had no real technical skills. The government eventually became an obstacle to the project team by inhibiting changes during the progress of the operations and thus contributed to cost overrun and delays. When a more conservative Liberal Party won the elections and a new government was created, Davis Hughes was appointed Minister for Public Works and eventually stopped paying Utzon.

Finally, the public was an indirect stakeholder because they were concerned with the project's success. And while only some citizens would be customers of the Opera House, the Opera House would also prove to be an integral part of Sydney and the country's history. In addition, the public contributed to the funding of the Opera through a lottery set up by the Government. Utzon also became part of the public's perception of the project, and when he resigned, the Australians supported him and asked for his return (Murray, 2004).

Organization

Regarding organization within the Sydney Opera House Case, it is documented that there was no real project manager. Instead, Utzon and Arup both managed the project. Utzon managed all architectural aspects while Arup and his partners were in charge of all structural and civil engineering aspects. This included electrics, heating and ventilation, and acoustics and theatrics. (Murray, 2004). While Utzon and Arup headed the project together, there were eventual problems. The client, New South Wales (NSW), formed an oversight committee to keep an eye on the project, which was known as the Sydney Opera House Executive Committee (SOHEC). The actual project was divided into three stages. Stage 1 was the podium, stage 2 was the outer shells, and stage 3 was the interiors and windows (Murray, 2004). These stages proved later to be a large problem, because the design team and the construction team would often work simultaneously, which is difficult to do with a continually changing design.

Financials

The Sydney Opera House could probably be seen as one of the most financially disastrous construction projects in history. The winning design from the competition was originally meant to have a budget of AUS$7 million (Murray, 2004). When stage one was completed in 1963, it had cost an estimated AUS$5.2 million and it was already 47 weeks over schedule for the whole project. In May 1974, the minister for Public Works announced that the final bill for the Sydney Opera House was AUS$102 million (Murray, 2004). The lottery system that was created to help fund the Sydney Opera House, was largely responsible for the prompt reimbursement of the construction bill (Jahn, 1997).

Timeline

The timeline of the project was dramatically altered throughout the project. The estimated completion was 1962, with the grand opening in 1963. In 1958 Arup was selected as the structural engineer, and by January 1959, the design team was well underway and the construction team was contracted. In 1961 the reinforced concrete foundation was completed. Arup completed the design for the roof in 1962, about the same time the project was originally intended to be finished. Instead of 1963 acting as the grand opening year, portions of the foundation had to be demolished in order to support the new roof design. In 1965, the project was still far behind, and the client decided, specifically David Hughes (the Public Works Administrator), to reclaim payment responsibilities (Ramroth, 2006). He used his new power to stop meeting Utzon's funding requests. In 1966, Utzon quit the project and the replacements were announced. In 1967, stage two of the project was finally completed. By 1972, there were test performances in the house, and finally, in 1973, the project was finished. The opening occurred on October 20th, 1973 and even included Queen Elizabeth II. In 1999, Utzon was reinstated as a design consultant to prepare the Opera House for the new millennium (Murray, 2004).

Risks for failure of the project

The Sydney Opera House encountered a multitude of risks and delays throughout the project. The design competition was a great incentive to find new talent among many international architects, but it also failed to review how much experience the entrants had with large scale projects. Utzon was later found to have not enlisted the assistance of any engineers for their approval of his design before submitting it in the competition.

The internal risks of this project were seen within the management and organization of the construction. There was no project manager appointed to the job, and it was assumed that Utzon was to take the role for all decisions regarding any design, construction or development. In actuality, it was Arup who was in charge of construction and development, even though Utzon usually had the final decision. The power given to Utzon saw many re-designs and rebuilds of several aspects of the Opera House; this caused many delays and cost overruns that eventually caused the distrust of the Government. The formation of SOHEC was used as a way to guide the process and design of the Opera House. However they never really had much input, they mostly agreed to Utzon's requests and never had any problems with the issues that were coming up. However after two full years of construction, the appointed committee wanted to increase the number of rooms inside the building, showing that they tried to have input, but lacked the technical knowledge to do so. To change the design of the building so late cost the project a lot of time and money as a lot of re-structuring was required. This lack of knowledge of what was required and how it should be handled was a large pitfall in the management of the Sydney Opera House.

A great external risk was the general failure of the project, since it was so deeply rooted with the public of Sydney. If the project were to fail, it would reflect on the ability of the Australian work force in construction. On top of this, the NSW government had a large impact on the construction. While Utzon largely controlled the initial stages, by the middle of the second stage the government thought it was best to step in and control the budget of the construction.

There were numerous technical/quality/performance risks involved in this project. The construction techniques that were required for many parts of the construction had never been done before, and while Utzon was breaking new ground in architecture, the process for completing his design was unclear. For the first time in construction, computers needed to be used to calculate stress points within the roof of the Opera House. With all these new technological advancements in construction, it is no wonder the cost estimates were understated. Another risk was the fact that Utzon was required to start the construction of the project before his design was even close to finalization. One of the main problems faced in the project was the construction of the outer shell. The initial design never would have been structurally sound. To make matters worse, the design of the interior rooms kept changing, which constantly meant that the outer shell design had to change with it (Murray, 2004)

Outcome of the project

The Sydney Opera House was opened in 1973 by Queen Elizabeth II, after 17 years of redesigns, underestimates and cost overruns (sydneyoperahouse.com). By 1975, the building had paid for itself, its total cost amounting to over AUS$102 million. The building holds over 3000 events per year and more than 200,000 come only to attend the guided tour (Architecture Week, 2009). It encompasses over 4.5 acres of land, and uses the power equivalent to a town of 25,000 people. The seating capacity of the main concert hall is 2,679, while the Opera Theatre holds 1,507 (Sydney, 2009). The construction consists of three groups of interlocking shells roofing two main performance halls and a restaurant. Terraces that function as pedestrian concourses surround the shell structures. The building is one of the architectural wonders of the world, and included in the UNESCO World Heritage List (UNESCO, 2009).

Today, more than being a world-class performing arts Centre, the Opera House represents Sydney and even the whole nation the same way as the Eiffel tower represents Paris. It's known not only for its outstanding architecture, but also for exceptional engineering and technological innovation. Moreover, it has had a continuing influence on architecture around the globe. Utzon's work was recognized as an incredible feat of architecture, and in 2003 Utzon was honored with the Pritzker Prize for architecture, the most renowned architectural prize in the world.

While studying the Sydney Opera House it became apparent that it was one of the most unplanned and mismanaged stories in history. In light of the article by Söderlund, Berggren & Anderson (2001), it can be seen that there were many issues between clients and project teams. The nature of the Opera House required the NSW government to acquire an agent for their task at hand. In this case the agent was Utzon and all managerial privileges were given to him to ensure the successful completion of a new Opera House. This caused very opportunistic behavior in Utzon since he actually had most of the management power, instead of the NSW government.

Conclusion

A main issue that lasted throughout the project was the fact that the construction work was ordered to start before the design work was completed. On the other hand, if Utzon, in cooperation with the engineering team, would have had the chance to finish the design, the estimation of the project cost would have probably been so high that the project would never have been implemented. The involvement of engineers and suppliers at an early stage in the process was a criterion for the successful outcome of the project.

Utzon's delay and withholding of the designs he created, caused a problem of learning for the next architect who took over. For these reasons, and more, Utzon was seen to be a dangerous stakeholder, and his power in the project led to erratic decisions and many re-designs. Utzon's ability to oppose his will without having legitimacy was a direct consequence of SOHEC's lack of urgency. While the NSW government was absent in a lot of the management decisions, it was ultimately Utzon's responsibility to monitor his own actions and focus on the goal in respect to the client. His lack of self-control gave the definitive stakeholder, the NSW government, an opportunity to remove him from power. If stakeholders throughout this project were managed properly, cost over runs and re-designs could have been minimized. Through this analysis, it has shown the importance of identifying stakeholders, and how their influence can affect the outcome of the processes of such a project.

2. The Failure of the Energy Sector Project in Lebanon

Background

Over the past decades Lebanon's energy sector has been largely ignored and this has led to high economic and environmental costs. The sector is characterized by electricity poverty, an expanding and mainly unregulated transport sector and a lack of energy savings spanning through all sectors of the economy. Recently, the Government of Lebanon has committed to increase the share of renewable energy to 10% of the total energy supply by 2013 and to 12% by the year 2020; it also aims at reducing energy consumption by 6% by the year 2013.

Since 1990 several projects were put forward by subsequent government and ministries yet despite all the money spent, Lebanon is still without twenty four hours coverage of electricity from the Government. So people resort to alternative private sources to compensate the deficiency. The Lebanese electricity system has been evaluated in terms of its sustainability. The findings show that the Lebanese electricity system is characterized by a weak performance in all analyzed aspects related to the sustainability of energy systems. Specifically, the system lacks adequacy and security leading to a supply–demand deficit and poor diversity. It gives rise to significant environmental emissions (including green-house gases), and produces large economic inefficiencies.

Current Situation

Electricity of Lebanon (EDL) is the national electricity company, which operates autonomously. Because of its enormous debt (approximately $1bn in 2006-2007, $1.3bn in 2008), EDL is a huge financial burden on the State. Over the last three years, the Government (the Treasury) has spent $3.5bn in financing EDL's deficit, becoming the third largest public expenditure after wages and debt services. The situation is explained by the company's total dependence on oil products; the high distribution losses (estimated to be around 50%) caused by illegal connections and outstanding invoices (15% of technical losses and 30% of nontechnical losses); and the fact that the average price paid by consumers is much lower than the production cost (it represents about 55% of the production cost). The privatization of EDL has not yet started and has been postponed until its financial situation improves. Between the years 2001 and 2005 efforts were made to subcontract the electricity distribution, to collect the invoices and to fight fraud. Moreover, EDL entrusted the management of various local authorities or suburbs to several private or international companies; EDF, for

example, was in charge of the suburbs of Beirut. Nevertheless, those operations were not renewed.

The country has an installed capacity of 2.4 GW, with thermal power accounting for 80% and hydro power for 20%. The thermal capacity is concentrated in 8 power stations: Zouk (435 MW and 175 MW), Jiyeh (142 MW), Hreyshe (272 MW), Baalbeck (2*35 MW) and Sour (2*35 MW), and two combined cycle power stations, Zahrani (435 MW) and Deir Amar –Beddaoui (435 MW), which were installed between 1998 and 2000 and both of which can function on natural gas.

The country has 5 main hydro-power stations; 2 of those stations are managed by EDL, and the other 3 sell their production to the company. Auto production was developed in order to deal with the frequent power cuts. It is estimated that more than 90% of the country's electricity production is thermal (10.6 TWh in 2008). Lebanon is interconnected to Syria through two 220 kV lines, which make it possible for the country to import approximately 0.5 TWh/year. In April 2004 a 400 kV interconnection was commissioned within the framework of the network integration project involving 6 countries in the area (Jordan, Syria, Lebanon, Egypt, Turkey and Libya).

Analysis of the Current Situation

The Ministry of Water and Energy supervises the electricity sector and, since 2000, also coordinates the oil sector. The Council of Development and Reconstruction (CDR) was created in 1991 to coordinate the reconstruction of the country, and in particular the international assistance. The CDR coordinated the "Horizon 2000" reconstruction plan, which was implemented in March 1993 with a budget of US$11.5bn over 10 years (1994-2007), and which regards energy as critical step toward opening the doors for the rest of investment.

.The projects carried out in the electricity sector cost a total of US$1.4bn and consisted of increase in production capacities, the extension of the transport network and the replacement of outdated facilities. The CDR is now a planning agency and coordinates the development of major projects, particularly in the electricity sector. The CDR is also involved in financing projects. It receives funding from bilateral or multilateral financing institutions in the form of soft loans, commercial loans and grants to fund projects.

Projects for Electricity

At the same time as the country was being rebuilt, it put forward a five-year plan concerning its public debt, plans for the introduction of new taxes to balance the budget, and a privatization program (telecommunications, electricity, transport and water). To date the development of the privatization program has been limited to the preparation of sectoral laws which have been submitted to Parliament.

There are four main objectives behind the reorganization of the energy sector: security of supply; the use and promotion of renewables; the promotion of energy efficiency; and the quality and competitiveness of energy services.

In September 2002 the Lebanese Parliament adopted a law for the reorganization and privatization of the electricity sector, involving the State's gradual disengagement from EDL. The two main activities carried out by EDL (the production and distribution of electricity) could be sold through international tenders; the transport network would remain in the hands of the State.

An energy efficiency program was launched in 2002 and involved the creation of a body, the LCCP (Lebanese Center for Energy Conservation), which received a budget of US$4.4 million over 5 years from the GEF. This program was expected to end in December 2010.

In November 2008 UNDP, in cooperation with the Ministry of Energy & Water and the Lebanese Center for Energy Conservation (LCEC), launched the National Campaign for Energy Efficiency Lamps. The Government set up a national road map to reach 12% of renewable energy by the year 2020.

The Government's planned budget for 2010 amounts to $9m, $7m of which will be used to promote 3 M CFL and $1m to support loans for solar water heaters. The country plans to speed up the development of water heaters. The equipment level is still low: 26 m2/1000 inhabitants compared to 615 m2/1000 inhabitants for Cyprus.

There are no feed-in tariffs for electricity production from renewables. An energy conservation law has been drafted and is pending approval by the Parliament. Energy efficiency labels and Minimum Energy Performance Standards (MEPS) have been prepared for 3 appliances: solar water heaters, CFL and refrigerators. Standards for air conditioning and electric heaters are currently at the planning stage.

Analysis of the Current Electricity Project

In order to meet the high electricity demand the country has developed a program that involves the modernization of the existing electricity installations, the construction of new gas power stations and the conversion to natural gas of existing power plants. According to various scenarios and depending on the economic growth, the Government hopes that the country's electricity consumption will increase by between 4%/year and 8%/year over the 2005-2040 periods. With that objective in mind, the country has plans to install nearly 500 MW/year in additional capacities by 2040.

Lebanon plans to overhaul its power sector and provide it with electricity 24 hours per day within 4 years. The plan involves a production capacity of 5,000 MW as of 2015, as well as the revamping of Electricite du Liban (EdL). The required investment is estimated at $4.82bn, $1.5bn of which will be financed by the Government, $2.32bn by the private sector and $1bn by international donors.

Lebanon has long battled with an inadequate electricity supply, a situation that has shown little sign of improvement in the two decades since the end of the country's civil war.

Government plans to improve supply have been met with little optimism, as more than 60 studies on the same topic since 1996 have resulted in little improvement. We note that the ambitious plan to finally put an end to Lebanon's deeply entrenched electricity woes appears optimistic at best.

Following an incredibly hot summer, when electricity supply in some parts of the country dipped below six hours per day, protests have been mounting, according to the Financial Times (FT). Electricity supply was around a third lower than the 2,500MW estimated demand, according to the Energy and Water Minister Gibran Bassil. News that there may be an impending water supply shortage presents a threat to future power generation, as the country relies on hydropower for a considerable portion of its electricity.

The shortages in themselves are a major drag on economic growth, with an estimated US$2.5bn cost to the economy every year from unreliable electricity supply. Those residents and businesses that can afford to have set up private power generators in a form of parallel electricity supply, accounts for around 35% of electricity consumption in the country according to World Bank estimates cited by the FT.

Bassil's US$5bn plan to significantly improve Lebanon's electricity supply, with an end to electricity shortages targeted by 2014, is predicated on increasing generating capacity to 4,000MW from the 1,500MW currently, over the same time period. In keeping with these plans, the draft budget submitted 9 September 2010 included funding for construction of a 700MW natural gas power plant.

A more extreme solution to the shortages was suggested by Hezbollah, which called on the government to consider building a nuclear power plant to put an end to electricity shortages. Inspired by Iran's Bushehr nuclear power plant, which is in the final stages of testing, Hezbollah chief Hassan Nasrallah, said he hoped it could make Lebanon an electricity exporter, as quoted by AFP.

However, Lebanon's electricity woes are not solely caused by a lack of generating capacity. The presence of the inefficient state-owned utility Electricité Du Liban, which generates more than 90% of Lebanon's electricity, is in itself a substantial part of the problem. The company is losing up to US$1.5bn per year due to unpaid bills and stolen electricity supply, which combined account for 25% of losses, the rest being technical, according to the FT. This has, in turn, limited its ability to expand capacity and rehabilitate existing generation and transmission infrastructure.

Plans to privatize the distribution of electricity hold some merit and would increase motivation to collect bills and reduce sabotage of the lines. However, concerns over the country's business environment present a major barrier to this idea. A high level of corruption is one of the biggest obstacles. As an illustration of this, in June 2009, Bassil announced that of the unpaid water and power bills, US$8mn was owed by officials and politicians.

This has led to political momentum being largely against solving the problems.

For this reason, we feel that the ambitious plan to finally put an end to Lebanon's deeply entrenched electricity woes appears optimistic at best.

Effect of Political Situation

Political tensions are currently undermining economic policymaking, but if it can move beyond the current impasse, the government might make some progress on economic and social policy, possibly including much-needed reforms to and investment in the dysfunctional electricity sector-although even here the past record encourages pessimism. However, corruption and patronage permeate the political system, and many politicians have their own interests in maintaining a bloated public sector. Privatizing state enterprises will remain a highly sensitive issue owing to ideological differences and vested interests, as well as to questions about the likely transparency of any sales of state assets.

There is a need to the formulation of a more comprehensive energy strategy for Lebanon by analyzing the recent changes in policy direction and by recommending legal, regulatory and policy measures in order to transform current shortcomings into opportunities allowing the country to become a regional 'success story' in the deployment of renewable energy and energy efficiency.

The costs and benefits of optimizing the performance of the centralized electricity system are presented, indicating substantial net benefits (together with considerable benefits in reduced environmental impacts across the life-cycle assessment categories, including carbon emissions) from improving the transmission and distribution networks, upgrading existing conventional plants to their design standards, and shifting towards the use of natural gas. The expected liveliest cost of various energy sources in Lebanon also indicates that renewable energy sources are competitive alternatives at the present time.

Conclusion

It is critical for a project manager to understand what the stakeholders consider as a successful project. In order to avoid any surprises at the end of the project, there is an urgent need to identify the different perspectives of what success means before the project goes live. It is also vital to remember that success criteria are the standards by which a project will be judged , while success factors are the facts that shape the result of projects. Success criteria have changed considerably through time and moved from the classic iron triangle's view of time ,cost and quality to a broader framework which include benefits for the organization and user satisfaction .An additional framework to capture success criteria depending on time was also described. As for success factors, they were grouped into five distinct sets and the literature views were found to contradict on the issue of how critical a project manager is to the final success of the project. A common factor

mentioned by many authors is senior management support for the project and it is recognized as one of the most important factors of all. In conclusion, early definition of success criteria can ensure an undisputed view of how the project will be judged and early detection of success factors will guarantee a safe path to deliver success.

Traditional Project Management metrics have served the PM community well over the years. However, these metrics are very often shortsighted in their view of whether a project will ultimately be successful or a failure in real business measurements.

Identifying metrics and monitoring them throughout the process and as one or more post implementation audits is essential to fully understanding the success of the project in both implementation and business perspectives. The PM needs to not strictly focus on the specs, money and time; in many cases, this shortsightedness may doom a projects ultimate goal.

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