IT LODGE PLANNER

PROJECT MANAGEMENT BEYOND CPM

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IT-Lodge Planner – project management beyond CPM

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Abstract

Managing projects and ventures in time of uncertainty and disruptive change requires wisdom, courage, creativity and innovation. Risk management taking into consideration the fluctuating interest rate and cost of energy are crucial if they affect the cost of construction and production. Productivity and quality enhancement are also important factors contributing to successful project management. This paper features a novel management tool, IT-Lodge Planner, developed to monitor and control fast track construction projects to ensure timely delivery and within budget.

It is an innovative project planning tool to monitor and control important management processes to reduce the cost and time of project management. Contractors and project managers will be able to grasp the key concept and use it with confidence with an hour of exposure and training. The salient feature of the tool focuses on project time and locations, not just activity. Contractors are made aware of the time constraint to be on the right spot at the right time. A fast-track construction of 3200m^2 lightweight concrete wall for a highrise construction project was completed in 6 weeks. The project management tool led to an award winning construction system branded as KUIK© wall.

The planner will also be deployed in several project including a housing project and road construction on tropical peat in Sibu Sarawak. Another project is on renewable energy for sustainable construction in line with Malaysian government's Sarawak Corridor for Renewable Energy (SCORE) to reduce carbon footprint and to address the global issue of climate change. A research laboratory based on the teaching factory concept is also planned for UTHM, Johor which is one of the 20 public funded universities in Malaysia. More case studies are necessary to make the planner a useful tool for innovative management and enhanced technical expertise within the Asia Pacific region.

Keywords: *IT-Lodge Planner, renewable energy, sustainable construction, innovation leadership*

1. Introduction

Launching new ventures in time of uncertainty and disruptive change require wisdom, courage, creativity and innovation. Frederic Neumann (2009) in his article entitled anatomy of bubbles in Asian economy stated that economic prospects at this stage are extremely difficult to judge and risks are deemed extraordinary in historical context. The US housing bubble suggests that one of the main contributing factors was an extended period of low interest rates between about 2001 and 2004.
There is no clear-cut way to calculate neutral interest rates. The simplest approach is to take long-term averages. The long-term policy rates should fluctuate around a neutral level to keep a sustainable growth trend. The rate is raised if policy-makers want to slow the economy and dropping below neutral when an extra boost is desired.

2. IT-Lodge Planner

IT-Lodge Planner (www.it-lodge.com) as shown in Figure 1 is an innovative project planning tool developed to monitor and control important management processes to reduce the cost and time of construction. It is easy to use and deployed to monitor parties involved in the project. Contractors and project managers will be given an hour of exposure and training. The tool covers project locations, not just time and activity so that workers are always on the right spot at the right time.

Critical path method (CPM) has been widely used for project management. However, it lacks indication of project location with respect to time. IT-Lodge planner is designed to fill the gap. Figure 1 shows 12 contractors on site. The first is the formwork contractor, the second group works on building services and the third is the concrete gang. The figure shows four groups of such contractors.

The planner provides self-imposed discipline to the contractors. It is suitable for projects with repetitive activities such as the erection of wall. Each party must ensure that the activities assigned are completed within the time allocated for another group to continue the work. Any delay must be covered with additional resources and overtime. Heavy penalty will be imposed for delay as it affects the flow of work for subsequent group who will be on site according to the planner. Time and space govern the orderly execution of work.

A fast-track highrise project which involved the construction of 3200m^2 lightweight concrete wall was completed in 6 weeks. The project management tool and a patent-pending construction materials and method led to an award winning construction system branded as KUIK© wall.

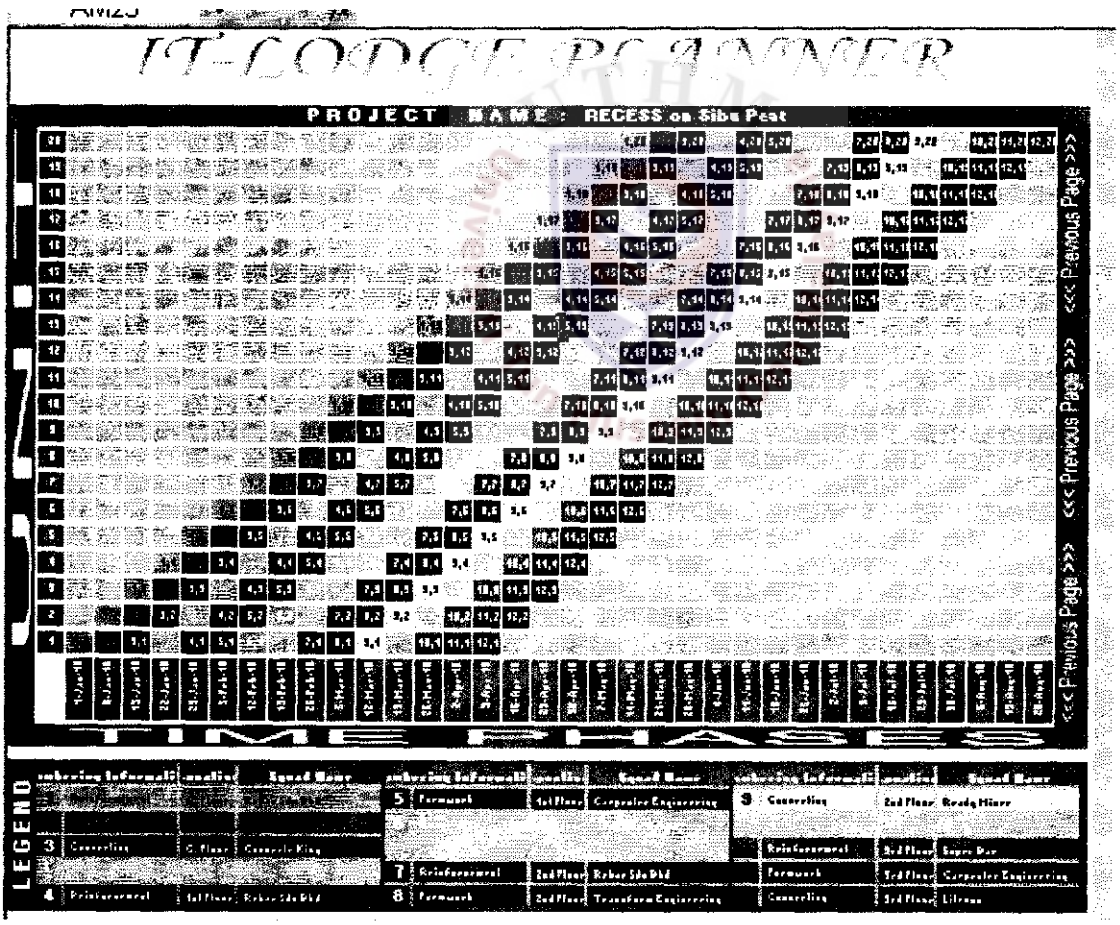

Figure 1 *IT-Lodge Planner snapshot*

3. Renewable energy and sustainable development initiatives

Renewable energy and sustainable construction of roads are aimed at reducing carbon footprint in line with the global issue of climate change. A recent CIA World Fact Book places the number of worldwide paved roads at 15.99 million kilometers. China's latest Five Year Plan calls for the building and renovation of 1.2 million kilometers, making good on its promise to build "a road to every village." By comparison, the moon is a mere 384,400 kilometers away. Brazil, Russia, India and even Africa are not far behind, each with plans to massively invest in long-needed road infrastructures.

In the U.S. and Canada, the cement industry reduced energy consumption by 37.5 percent from 1972 to 2006, according to the Portland Cement Association. In addition, the industry has formed the Cement Sustainability Initiative. The initiative, consisting of 18 of the world's major cement producers, promotes research into more efficient cement and has a created a framework of performance indicators for companies to keep track of their progress. The asphalt industry has also taken commendable steps to reduce its carbon footprint through the development of warm mix asphalt. This new asphalt requires substantially less heat and therefore consumes less energy and emits less greenhouse gasses.

A number of innovative and eco-friendly products are also beginning to emerge. Among the most promising are soil stabilizers and asphalt binders that provide the equivalent strength of aggregate at a fraction of the cost and environmental impact. Many of these show promise in the green building space as well, proving that green roads innovations can provide benefits across the sustainability value chain. This could lead to greener office buildings, residential developments, schools and the rest of the built environment.

Tampines Concourse is the first CarbonNeutral® development in Singapore and Asia Pacific. It is the first building project in Singapore to be constructed with a wide range of recycled materials for its structural building components. The "Green Concrete" that was used comprised a number of sustainable materials, namely copper slag, recycled concrete aggregates (RCA) and ground granulated blast furnace slag (GGBS). Apart from sustainable construction materials, other prominent green features include natural lighting in areas such as the atrium and lift lobbies. It is also the first development in Asia Pacific to incorporate an innovative, indoor non-compressor fresh air cooling system for smart temperature and humidity control. The system uses water as a cooling agent instead of ozone-depleting chemical refrigerants to cool incoming outdoor air through a natural heat exchange process. Together, these features are expected to result in energy savings of over 620,000 kWh per year, for the 108,000 lettable square feet complex, resulting in the lowering of the building's carbon footprint.

Sustainable construction through the use of recycled materials is an important strategy for Singapore's continuing journey of sustainable development. It serves the twin objectives of prolonging the lifespan of the Semakau Landfill and also provides an alternative to natural materials that have to be imported. The holistic approach to environmental friendliness, especially in its use of sustainable construction methods and materials is an outstanding example and benchmark for the rest of the construction industry.

Similar carbon neutral development concept has been proposed for construction on peat in Sibu, Sarawak to enhance Malaysia's position as an environmentally conscious country and reduce her carbon footprint. The Malaysian government's Sarawak Corridor for Renewable Energy (SCORE) and the incentives of around $500m to boost green building initiatives, based on the concept map as shown in Figure 2 marks an important testimony of her commitment to address the global issue of climate change.

4. Innovation leadership

Successful innovation leadership and commitment for change generates enthusiasm, provides a clear vision of the product concept and assures sufficient allocation of resources [2-5]. The time for launching new ventures can be reduced based on the Stage-Gate model shown in Figure 3. However, its success is very much dependant on

effective and strong leadership and implementation. Road construction on tropical peat based on the novel method of reinforced peat [6-8], to be branded as REPEAT©, will soon be launched upon successful completion of the trial embankment in Research Centre for Soft Soil (RECESS Malaysia).

It-Lodge planner offers advantages of a low cost management tool for launching new ventures. Success factors include commitment from management to make the necessary organization, process and cultural changes to stay competitive.

5. Conclusion

Managing projects and ventures in time of uncertainty and disruptive change requires wisdom, courage, creativity and innovation. Risk management taking into consideration the fluctuating cost of capital and energy are crucial for sustained growth and profitability. Productivity, quality enhancement, renewable energy and sustainable development are important factors contributing to successful business models.

IT-Lodge Planner is an innovative project planning tool developed to monitor and control important management processes to reduce the cost and time of construction. The management tool focuses on project time and locations, not just activity. Workers are always on the right spot at the right time. To complete a construction project or launch new products faster, innovative application of IT-Lodge planner and the stage-gate model could lead to maximum benefit in time of uncertainty with ever changing landscape of business and project management environment. However, more collaborative effort and case studies are necessary to derive the maximum impact and benefits.

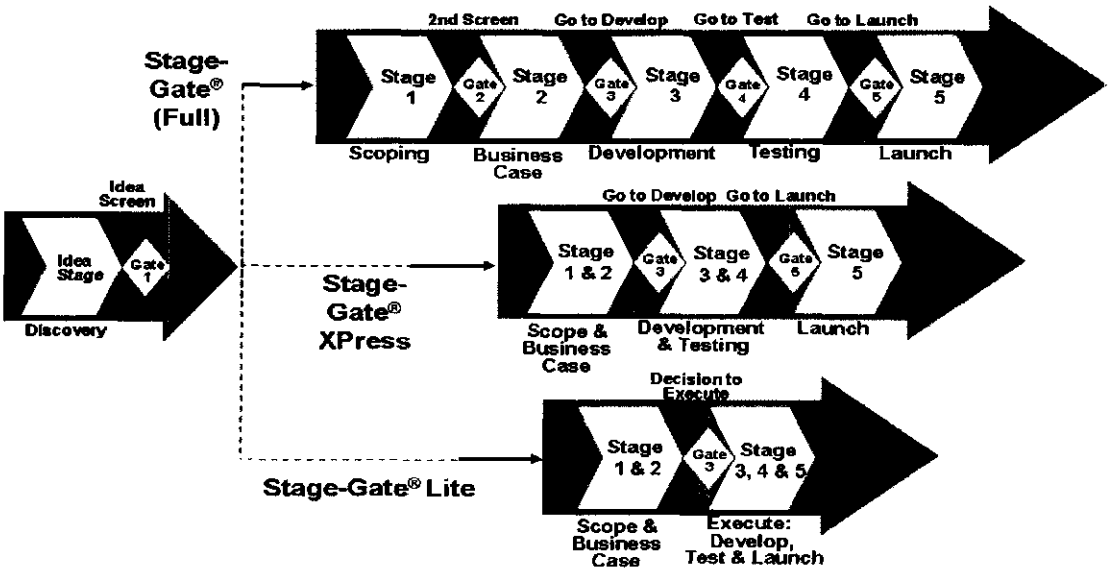

Figure 3 The Stage-Gate model [2]

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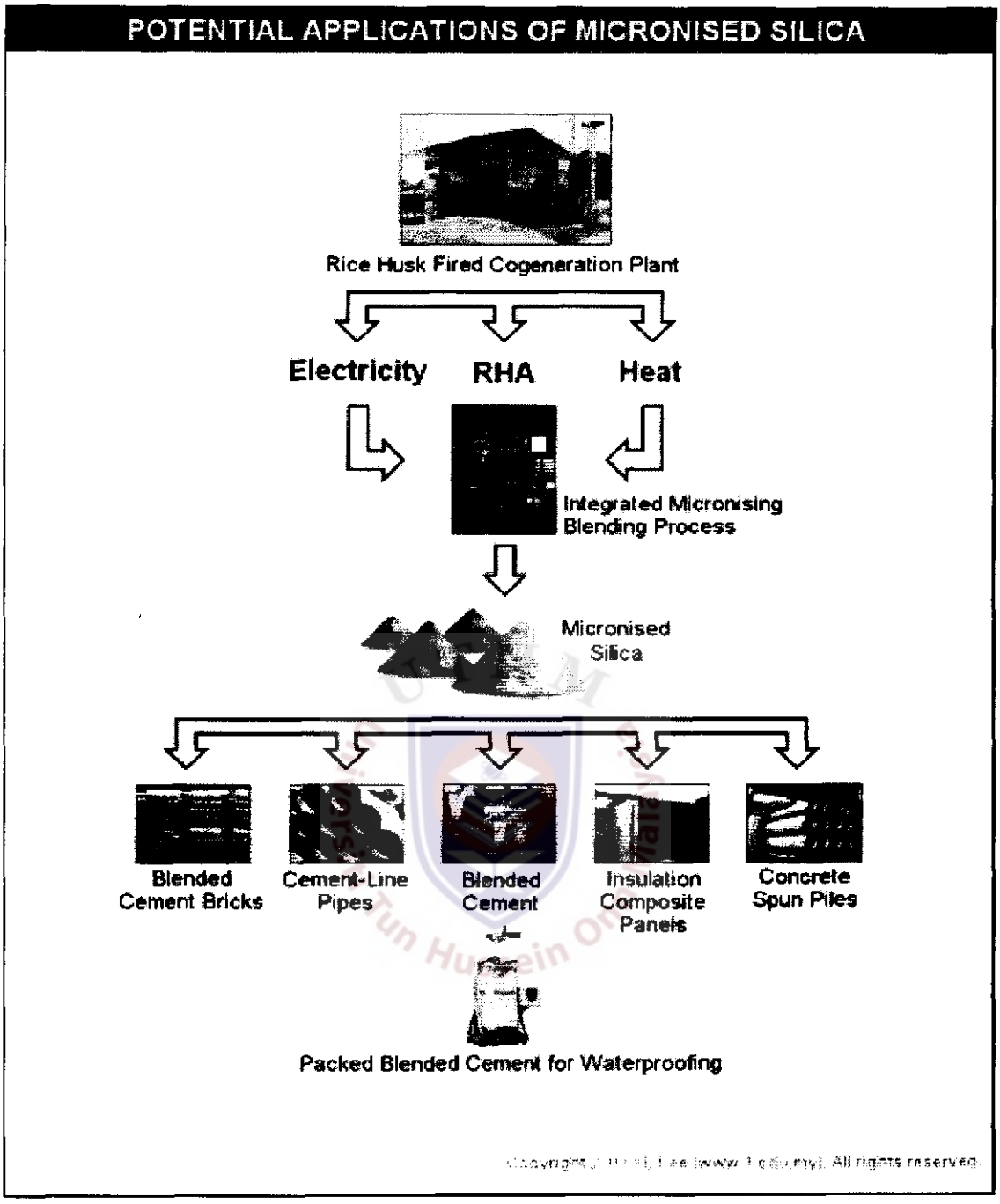

Figure 2 *Renewable Energy and Sustainable Construction Initiatives (www.1.net.my, 2003)*

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