



---

**UNIVERSITI KUALA LUMPUR BUSINESS SCHOOL**

---

**FINAL EXAMINATION****2016 JANUARY**

---

**SUBJECT CODE****WBB 10202****SUBJECT TITLE****: INNOVATION MANAGEMENT****LEVEL****: BACHELOR****TIME / DURATION****: 9.00 AM - 12.00 P.M / 3 HOURS****DATE****: 18th MAY 2016**

---

**INSTRUCTIONS TO CANDIDATES**

---

1. Please read the instructions given in the question paper CAREFULLY.
  2. This question paper is printed on both sides of the paper.
  3. This question paper consists of TWO (2) sections; Section A and section B.
  4. Answer ALL questions.
  5. Please write your answers on the answer booklet provided.
  6. All questions must be answered in English (any other language is not allowed).
  7. This question paper must not be removed from the examination hall.
- 

**THERE ARE (7) PAGES OF QUESTIONS, EXCLUDING THIS PAGE.**

---



**SECTION A**

**INSTRUCTION: Answer ALL questions.**

**Please use the answer booklet provided.**

**Question 1**

Briefly explain 3 reasons for choosing external routes to innovation.

**(10 marks)**

**Question 2**

Intellectual property, time and technology are 3 of organization resources that are critical to innovation. Discuss how these 3 resources are critical to innovation.

**(10 marks)**

**Question 3**

According to Kotter & Heskett classification of culture, Theory I says that firms operating in uninhabited markets where they have almost monopolistic power can become inwardly focused, arrogant and bureaucratic and have strong culture. However, having strong culture not guarantee the firm will have excellent performance. Please discuss briefly.

**(10 marks)**

**Question 4**

Organizational infrastructure provides the catalyst that allows innovation to occur. Some minimum level of infrastructure support is absolutely essential for them to move forward. Organization need to carefully assess where they invest their limited resources in new technologies, new market, in products, services or processes. There are 12 most important organizational infrastructures that every organization always depends on in order to move forward.

Based on the above statement:

Please discuss briefly the functions and roles of organizational infrastructures that you think very important.

**(10 marks)**

**Total: 40 marks**

**SECTION B: (Total: 60 marks)**

**INSTRUCTION: Answer ALL questions.**

**Please use the answer booklet provided.**

**Question 5**

**CASE STUDY: An Introduction to Hitachi Lift and Olympia: Efficient, Reliable and Eco-friendly Elevator Systems**

Olympia Group was born out of the alliance of The Khivraj Group, The Space Group and The MK Group. The maiden venture of the group, the Olympia Technology Park was highly successful and was accorded the status of "Largest LEED Gold rated Green Building in the World".

Olympia Group went a step further with Olympia Opaline, its residential venture, and built it using environment-friendly construction materials and techniques. Having set high standards, Olympia Opaline also required a world-class elevator system that would meet the international standards of quality and energy conservation. For the purpose, the group evaluated a number of elevator system providers in India. Upon in-depth evaluation, Hitachi Lift India emerged as Olympia's official technology partner for the elevators at its Opaline project.

Hitachi has close to 100 years of experience in the research and manufacturing of world class elevators. Hitachi has state-of-the-art R&D facilities in Japan, and an ultra-modern manufacturing facility in Singapore. As an expert, Hitachi realizes the importance of an elevator system in determining the degree of serviceability of a high-rise.

Having evaluated and assimilated the physical and technical requirements set by the Olympia Group, Hitachi offered three unique custom elevator systems: Hitachi Gearless Passenger elevator (HGP) mini-machine room system, VFI system and Home Elevators.

Some of the salient features that made Hitachi elevator systems apt for Olympia Opaline are:

- HGP mini-machine-room elevator utilizes a mini-machine-room, and a thinner control panel to facilitate space savings of up to 56%.
- Hitachi home elevators are machine room-less and facilitate maximum space-saving.
- HGP elevators feature Permanent Magnet Synchronous Motor (PMSM) with gearless traction machine which improves mechanical efficiency and saves up to 30% energy.
- Other energy saving features intrinsic to Hitachi elevator systems include automatic dimming indication light, automatic turn-off of elevator light & fan and all buttons using LED lights.
- The serial communication system in Hitachi elevator systems allows transmission channels to work faster and smoother by effectively boosting the precision and speed of signal transmission.
- The integration of tactile button, LCD display and voice synthesizer allows VFI system to respond to different aspects of the human sense - friendly touch, sight and hearing.
- Hitachi elevator systems feature multi-beam door sensor which prevents user from being caught by closing doors.

This case study talks about the journey that led to the association between Olympia Group and Hitachi Lift India and the challenges Olympia Group faced in terms of building operations, space management and energy savings.

It showcases the highly-advanced elevator systems offered by Hitachi Lift India, followed by an insight into the benefits of the elevator systems.

### **Green Technology with Uncompromised Quality**

Olympia Opaline echoes Olympia Group's mission- 'leave a 'Green' footprint across the nation'. Olympia Group took every care to ensure minimal environmental impact right from the beginning of the project to the execution.

Affirming its commitment to conserve environment, Olympia Group decided to have an environment-friendly custom elevator system deployed across its towers, villas and apartments. The elevator system that Olympia patrons envisioned was to meet the Olympia Opaline's serviceability requirements and achieve its energy efficiency goals.

An in-depth research and analysis on the latest elevator systems available in the market. As an outcome, it helped Olympia Group lay down certain technology parameters that reflected its vision and were crucial for winning this prestigious project.

Following were the expectations laid down by Olympia:

- Energy efficiency and reduced carbon footprint, a prerequisite.

## CONFIDENTIAL

- Strong emphasis on compliance with international quality standards with all safeties intact, maximum up time, and minimum possible lead-time.
- Must-have compact installation dimensions unlike conventional elevators systems with bulkier machine rooms.

The expectations served as clear guidelines in order to be considered for the mega residential project.

### **Precisely Mapped Solutions**

The expectations laid down by Olympia Group provided vendors with clear guidelines to follow. Based on these expectations, Hitachi engineered just the right elevator solution for the Olympia Opaline residential project.

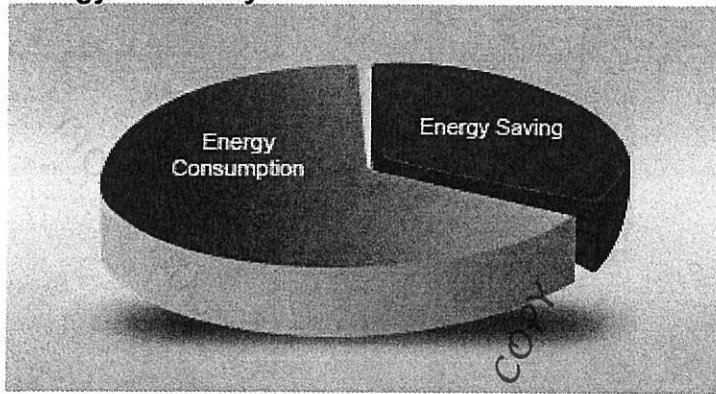
Moreover, to instill confidence and give insights in to Hitachi's mega-expertise, overwhelming design and manufacturing capabilities, Hitachi Lift India invited representatives from Olympia Group to its facilities overseas.

After scrutinizing the proposed Hitachi elevator solution and experiencing first-hand Hitachi expertise at its overseas facilities, Olympia Group appointed Hitachi Lift India as the official technology partner for elevators at Olympia Opaline.

Hitachi proposed Olympia three custom elevators systems- HGP mini-machine room system, VFI system and Home Elevators. Three different elevator systems were offered considering that the Olympia Opaline was going to house different Sky villas and apartments across multiple towers. In order to enable Olympia Group attain its carbon-footprint goals, it was important to map the elevator systems precisely to the requirements of each tower, villa and apartment. Hitachi's international and Indian experts worked closely with each other to realize the expectations Olympia had set forth.

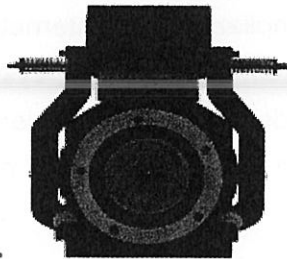
Hitachi exceeded expectations of Olympia Group with regards to technology, environmental harmony, space optimization, efficiency and reliability. Following are the features of Hitachi elevators, that pushed Olympia Group closer towards their goals:

## Energy Efficiency



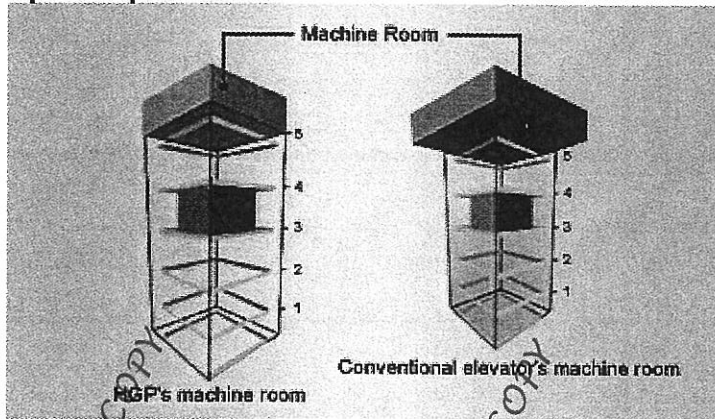
Without attaining energy efficiency, a project cannot aspire to be environment friendly. The conventional elevators lacked energy efficiency, and therefore, could not be considered for Olympia Opaline. Hitachi with a clear environmental vision helped Olympia overcome this hurdle by offering the most energy efficient elevator systems. The next generation technology intrinsic to HGP system, VFI system, and Home Elevators enables Hitachi elevator systems to save significant amount of energy consumption compared to the conventional elevator systems.

## Permanent Magnet Synchronous Motor (PMSM)



The futuristic Olympia Group wanted to embrace the advanced Permanent Magnet Synchronous Motor (PMSM) technology. The latest technology though globally popular, is still newer to conventional elevator suppliers in India. However, HGP and VFI system are based on this new technology. The elevator system feature gearless traction machine that not only renders mechanical efficiency but also makes them highly energy efficient compared to conventional elevator systems.

**Space Optimization**



The elevator systems were to have compact dimensions in order to save space for free convenient use. With Hitachi experts at the helm of affairs, achieving space savings was easier than Olympia Group experts had thought of. HGP system utilizes a mini-machine-room and a thinner control panel to make it possible. Moreover, Hitachi Home Elevators are based on machine room-less concept which means more available space and reduced energy consumption.

**Compliance with International Standards**

Project of the scale of Olympia Opaline was going to serve as a commercial real estate benchmark in the years to come. Hence, the compliance with international standards was emphasized upon by the Olympia Group. HGP system, VFI system and Home Elevators meet the highest international standards of quality, efficiency, safety and reliability with years of R&D going into the design and development of each elevator system.

Olympia Opaline is now home to hundreds of families. The project as promised, is offering residents a lifestyle of sophistication and luxury in the lap of nature. Hitachi is proud to be associated with Olympia Opaline, and being a part of its success story.

**Space Utilization, Energy Savings and Enhanced Response Time**

Hitachi Lift India's contribution towards the making of Olympia Opaline proved fruitful and it takes immense pride in being associated with the project. HGP system, VFI system and Home Elevators have helped Olympia Opaline to accomplish its goals and achieve unprecedented success in the real estate industry.

Olympia Opaline has been deemed as one of the most eco-friendly real estate projects of recent times. It has also been revered as a futuristic and innovative pan-India realty development.



## CONFIDENTIAL

Some of the key achievements made by the Olympia Opaline are as follows:

- Up to 30% more energy conservation after installation of the HGP and VFI elevator systems.
- Up to 56% more space utilization concept from HGP mini-machine room elevator system.
- The intelligent serial communication system has led to enhanced response speed of the elevator cars resulting in less wait time for the passenger.

Owing to Olympia Group's determination and faith in the Hitachi expertise, Hitachi Lift India was able to deliver befitting elevating solution to the Olympia Opaline. The partnership between Olympia Group and Hitachi Lift India has been mutually beneficial. Hitachi manages to secure the confidence of Olympia Group and has won numerous repeat orders for a large number of ongoing and future Olympia Group real estate projects.

### QUESTIONS

5.1 What type of innovation was adapted by Olympia Group for introducing a world class elevation system that environmentally friendly and energy saving? Justify your answer based on innovation management concept.

( 20 marks)

5.2 Olympia Group is developing Olympia Opaline project which is a residential project based on Green Building concept. Analyze Olympia Group innovation on Olympia Opaline project based on the innovation continuum. Which innovation strategy was applied by Olympia Group in introducing new elevation system?

( 20 marks)

5.3 What are the real factors that contribute the success of Olympia Group in developing Olympia Opaline project?

( 20 marks)

**Total: 60 marks**

END OF QUESTION PAPER

