

OM 02/eOM02
TECHNOLOGY MANAGEMENT

Time: Three Hours

Maximum Marks: 100

Note:

The paper is divided in three sections: SECTION-A, SECTION-B and SECTION-C. There are seven questions in SECTION-A. Students are required to attempt ANY FOUR. SECTION-B has 5 questions, attempt ANY THREE. All the questions of SECTION-C (Case Study) are compulsory.

SECTION-A (10 Marks each)

1. Innovation and Invention are commonly used terms in the context of Technology Management, Differentiate between the two terms by quoting some relevant examples from the Industry.
2. How a firm conducts the economic analysis of technology before acquiring new technology or while allocating funds to develop new technology?
3. Explain the Production, Investment and Innovation capability of a firm. How these concepts help a firm in Technology Management, support your answer with some relevant examples.
4. Freeman and Perez have identified Innovations into four categories, explain each of the categories.
5. Technology selection is a crucial aspect for any Organization, what are the different criteria of selecting Technology?
6. Five steps have been identified by Hill, Schrader and Lumpkin for the Entrepreneurial opportunity recognition process, what are these five steps and explain its impact on an organization.
7. Examine a firm that focuses on Technology development using the Michael Porter's framework for competitive advantage by highlighting the aspects of acquiring new technology.

SECTION-B (15 Marks each)

8. A firm after adopting a technology follows a methodology to assess the technology explain the methodology.
9. What are the different routes available for a firm for technology transfer?
10. Explain the concept of Diffusion of technology as propounded by Everett Rogers, how it impacts the technological adoption of a firm?

11. Explain the importance of Technology Management by quoting some examples from the Indian Cellular Industry in recent times.
12. What are the different factors that influence the selection of Technology by an Indian firm?

SECTION-C (15 Marks)
Case Study (Compulsory)

Description of Company

Senselect Ltd was founded in the United Kingdom by John Topping in 2000. The company was formed to develop innovative and secure biometric access control systems - Senselect technology. Rather than use a single biometric characteristic (like a single fingerprint), Senselect technology uses biometric sequences (like a finger sequence) to provide secure, easy to use systems which replace conventional passwords and PINs. Senselect technology can be applied to a wide range of equipment's from terminals like ATM's, Retail Point of Sale terminals, Computer Systems, Mobile phones, Building access mechanisms and Electronic equipment. Senselect technology simplifies system access whilst both increasing the speed of access and improving system security. Privacy issues are also addressed as a user can change their biometric sequence and thereby control the use of their stored biometric templates.

Senselect supports large scale government, financial and commercial biometric projects and is currently the only technology available to incorporate sequential biometrics. In addition, Senselect technology ensures accurate and high speed matching of an individual's identity in large scale biometric installations like the UK ID Card project or cross-border access control.

Intellectual Property

Senselect owns UK and USA biometric patents. A core technology patent, GB2342749 was published by the UK Patent Office in November 2000 and a complementary USA Patent was granted to the company in November 2003. The original patent is also in an advanced stage of completion within the European Union (EU). Additional patents have now been lodged with the UK and EU Patent Office to create a patent portfolio around the original UK core technology patent. The intention is to take these additional patents forward into USA and into individual European Country patents. The company also registered and was granted three trademarks – Senselect (also the company name), BioSentric and Sign-Gate. All are registered Trademarks of Senselect Ltd.

Issues - Patents as Assets

The direct cost to the company of obtaining the patents was in the region of £25,000. Additional costs such as travel would have to be added to this. Costs were kept low because the company staff did as much of the work on the patents themselves. Now that biometrics is emerging as a very hot topic, the asset value of these patents to the

business runs into millions (most recent valuation is £2.7 million). This in itself is a very healthy return on investment (ROI) over the four years of the company. Finally, in addition to demonstrating the importance of protecting IPR in a situation of high business potential, the whole exercise has helped to understand the business better.

Questions

13(a). As a Technological analyst how you evaluate the value of the patents to Senselect? Do they justify the time and money spent on acquiring them? What are the intangible benefits of IPR?

(3+3+4 Marks)

(b). "Patents are key assets because they underpin the company's business potential and future development. ". Considering the case explain the statement.

(5 Marks)