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Importance of Technology Protection

• Transferring technology knowledge from one organization to another (whether in the form of know-how, know-what or know-who) is well known to be problematic as far as Intellectual Property (IP) is concerned.
• It differs from the transfer of products and goods in various ways. Exchanges of knowledge cannot be reversed. Once knowledge is transferred it cannot be taken back.
• In certain cases it is difficult to verify if a specific piece of knowledge has been (ab)used. For example, it is difficult to ascertain if specific know-how on production technologies has been employed in another company's production plants.
• It is extremely difficult to pinpoint the ownership of an idea and where it originates.
• Every country has different laws regarding knowledge protection.
• It is very difficult to assemble the necessary parts of knowledge required to develop future IP.

Protection

• Protected/Proprietary technology is a process, tool, system or similar item that is the property of a business or an individual and provides some sort of benefit or advantage to the owner. Content that is protected by a copy protection technology could include movies, games, software, CDs or digital music.

Types of Technology Protection

There are two types of technological protection measures:
Access Control Technological Protection Measures
Copy Control Technological Protection Measures

Access control technologies

• technological protection measures which are used by copyright owners to control access to their content.
1 password control systems 2 Payment systems 3 time access controls

Copy control technologies

protections measures applied to copyright content which prevent, inhibit or restrict the doing of a copyright act with that content (eg, making a copy of a protected film, emailing it or putting it online).
– a software lock which prevents you from making a copy of a computer program encryption measures stored on the disk containing a movie or CD which prevent you from copying the movie or songs on the disk
– a technology that 'locks' documents to prevent them from being copied (eg, the function that 'locks' a PDF document to stop you from making a copy)
– a technology that makes an unauthorized copy of a film unwatchable (eg, some copy protection technologies add elements to the signal produced by a DVD/VHS player which make any recording of the film unwatchable)

QTypes of S Curves

An S Curve is graphed on an X-Y graph with the X axis representing time, and the Y axis representing a quantity, usually man hours and / or costs. The three basic types of S Curves include here are:
- The Baseline S Curve. This S Curve is generated from the Baseline Schedule and / or baseline fields in the Production Schedule.
- The Target S Curve. This S Curve is generated from the Production Schedule, assuming all tasks are completed as scheduled.
- The Actual S Curve. This S curve is also generated from the Production Schedule, using task percentage complete values to date. The Actual S Curve may also be referred to as the Progress or Progress To Date S Curve.

Baseline S Curve: The Baseline S Curve, also known as the Planned S Curve or the Schedule S Curve, represents the planned or expected progress of a project over its duration. It is typically created during the project planning phase and outlines the planned distribution of work or activities over time. The curve takes the shape of an "S" due to the typical pattern of project progress, where initial activities start slowly, gain momentum, and then taper off towards project completion. The Baseline S Curve serves as a reference against which the actual project progress is measured.

Target S Curve: The Target S Curve, also referred to as the Revised S Curve or the Updated S Curve, is a modified version of the Baseline S Curve. As the project progresses, changes or delays may occur that require adjustments to the original plan. The Target S Curve reflects these modifications and sets new performance targets or expectations. It takes into account any changes in the project scope, schedule, resources, or other factors that impact the project timeline. The Target S Curve serves as a benchmark for evaluating whether the project is on track to meet the revised goals.

Actual S Curve: The Actual S Curve, also known as the Progress S Curve or the Earned Value S Curve, represents the real-time progress of the project as it unfolds. It shows the cumulative performance of completed work or earned value against the planned or targeted performance at different time intervals. By comparing the Actual S Curve with the Baseline or Target S Curve, project managers can assess whether the project is ahead of schedule, behind schedule, or on track. It helps identify any deviations from the planned course and enables proactive measures to address issues and ensure project success.

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Portfolio

A portfolio refers to a collection of investment tools such as stocks, shares, mutual funds, bonds, cash and so on depending on the investor's income, budget and convenient time frame.

Portfolio Management

•Portfolio management is all about determining strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other trade-offs encountered in the attempt to maximize return at a given appetite for risk.
•In simple words, it refers to managing an individual's investment in the form of bonds, shares, cash, mutual funds etc so that he/she earns the maximum profits within the stipulated time frame.

Who is a Portfolio Manager?

•An individual who understands the client's financial needs and designs a suitable investment plan as per his income and risk taking abilities.
• A portfolio manager is one who invests on behalf of the client.

Key Responsibilities of a Technology Portfolio Manager

•Prepares thorough and articulate executive summaries for senior leadership so that subsequent questions are not required
•Participate and lead project checkpoints to ensure proper adherence to technology standards and procedures
•Tracks project expenses with assigned project manager and ensure adherence to approved budget (as defined in approved business case)
•Collaborates with Program/Project Managers to define time-frames, funding procedures, staffing requirements and assignment of resources Develop internal controls and governance of SDLC standards by partnering with Technology PMO
•Participate in defining requirements for project management tools, project budgeting, etc.
•Prior experience working with onshore and offshore team, including working overlapping business hours to partner with onshore teams
•Participate in leading capacity planning efforts across the technology organization
•Provide coaching to Junior Associates and Associates
•Works independently on complex projects

Need for Portfolio Management

•Portfolio management presents the best investment plan to the individuals as per their income, budget, age and ability to undertake risks.
•It minimizes the risks involved in investing and also increases the chance of making profits.

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Technology forecasting

According to Stanton Technological forecasting is "the process of predicting the future characteristics and timing of technology. When a possible, the prediction will be quantified, made through a specific logic and will estimate the timing and degree of change in technological parameters, attributes and capabilities".
Before discussing the technology forecasting let us discuss an important model very useful for forecasting is scurve of technological progress. The time invention period is characterized by a period of slow initial growth. This is the time when experimentation and initial bugs are worked out of the system. The technology improvement period is characterized by rapid and sustained growth. The mature – technology period stats when the upper limit of the technology is approached and progress in performance slow down. This is when technology reaches its natural limits as dictated by factory such as physical limits.

Technology planning

Technology planning is the process of planning the technical evolution of a program or system to achieve its future vision or end-state. Technology planning may include desired sponsor outcomes, technology forecasting and schedule projections, technology maturation requirements and planning, and technology insertion points. The goal is a defined technical end-state enabled by technology insertion over time. Note that sometimes this is referred to as "strategic technical planning" (STP) applied at a program level, although the preferred use of the STP term is at the enterprise or portfolio level [1]. Followings are the key steps of technology planning:
• Forecast the technology
• Internally owned and external technologies
• Analyze and forecast the environment
• Focus on analysis of opportunities and threats
• Analyze and forecast the market/user
Technology planning is a central component of corporate business planning. It is needed both at the corporate level and at the strategic business unit level. An effective technology planning should be:
- Strategic instead of ad-hoc
- Well integrated into organization and its users
- Active instead of reactive
- Create a robust technology infrastructure
- Can still be opportunistic: Take best advantage of opportunities

Q6 **Patent analysis** is a systematic approach to studying and evaluating patents to gain insights into technological advancements, competitive landscapes, and intellectual property trends. It involves examining patent documents, including their claims, descriptions, citations, and other related information. There are various types of patent analysis, including:
Patent Landscape Analysis: Provides an overview of the patent landscape within a specific technology domain, identifying key players, trends, and opportunities.
Patent Portfolio Analysis: Evaluates the strength, quality, and strategic value of a company's patent portfolio, aiding in decision-making related to IP management and licensing.
Patent Infringement Analysis: Determines whether a product or technology infringes upon existing patents, assisting in risk assessment and litigation strategies.
Technology Trend Analysis: Tracks the development and adoption of technologies over time, aiding in identifying emerging technologies and potential areas for innovation.

Advantages of Patent Analysis:

Technological Insights: Patent analysis offers valuable insights into the latest advancements and technological trends within a specific domain, helping companies stay informed and make informed decisions regarding R&D and product development.
Competitive Intelligence: By analyzing patents, companies can gain knowledge about their competitors' activities, identify potential collaborators or partners, and assess the competitive landscape.
IP Strategy and Management: Patent analysis helps companies develop effective intellectual property strategies, such as identifying opportunities for patent filings, assessing the value of patents, and making informed decisions about licensing and enforcement.
Prior Art Search: Patent analysis assists in conducting prior art searches to assess the novelty and patentability of an invention before filing a patent application, reducing the risk of patent rejection or infringement claims.

Weaknesses of Patent Analysis:

Incomplete Information: Patent analysis relies on the availability and accuracy of patent data. Not all inventions are patented, and there may be delays in patent publication, resulting in incomplete or outdated information.
Patent Quality: Patent quality can vary, and not all patents may have practical or commercially viable applications. Some patents may be overly broad or have vague claims, making the analysis challenging.
Language Barriers: Patent documents are often written in technical and legal jargon, making it difficult for non-experts to understand and interpret the information accurately.
Interpretation Challenges: Patent analysis requires skilled professionals who can interpret the claims, citations, and technical descriptions accurately. Misinterpretation or oversight can lead to flawed conclusions.