A literature review is a critical and comprehensive analysis of existing research and publications on a specific topic or subject. It serves several purposes:

1. Research Context: It provides context and background for a research study by summarizing and evaluating existing knowledge on the topic.

2. Identifying Gaps: It helps researchers identify gaps in the current literature, which can be explored in their own research.

3. Synthesizing Information:It synthesizes and organizes information from various sources to offer a coherent and structured overview of the subject.

4. Methodological Assessment: It assesses the methods and approaches used in previous studies, helping researchers understand the strengths and weaknesses of existing research.

5. Theory and Conceptual Framework: It aids in the development of a theoretical or conceptual framework for a research project by highlighting key concepts and theories related to the topic.

6. Critical Analysis: It involves critically evaluating the quality and reliability of the sources, such as academic papers, books, and articles, used in the review.

7. Supporting Arguments: It provides evidence and references to support the arguments and claims made in a research paper or study.

Literature reviews are commonly found in academic research papers, theses, dissertations, and scholarly articles and are essential for establishing the credibility and validity of new research by demonstrating that it builds upon and contributes to the existing body of knowledge.

Certainly, here is the literature review based on the provided questions:

Professional Practices Report - Literature Review

The role of a Chief Technology Officer (CTO) in a company is multifaceted, and their considerations when hiring individuals vary according to the specific needs of the organization. When recruiting for junior positions or internships, a fundamental understanding of IT basics, along with a passion for the field, is highly valued. However, for senior positions, the focus shifts towards candidates with a deep understanding of professional IT practices and their ability to address complex issues effectively. The reasoning behind this preference is that juniors can be trained and nurtured, but seniors are expected to contribute immediately with their expertise.

Handling situations involving employees engaged in illegal or criminal activities, whether within or outside the company, is a matter of utmost importance. Companies, including JMM Technologies, prioritize maintaining a professional, ethical, and legal stance. Employees are required to sign Non-Disclosure Agreements (NDAs) upon joining, and any engagement in illegal activities that violates these agreements, or company rules, is subject to action. Regardless of seniority, all employees are held to the same standards of conduct and adherence to company policies.

In the event of a data breach significantly impacting an organization, the response varies depending on the intent behind the breach. If the breach was conducted for ethical reasons, such as exposing vulnerabilities to enhance security, offering the responsible individual a position in cybersecurity to bolster data protection may be considered. However, if the breach was malicious and breached NDAs, legal action is taken to protect the company's interests.

Organizations like IEEE and ACM play crucial roles in upholding standards and best practices in the software engineering field. While JMM Technologies may not have direct affiliations with these organizations, they recognize the value of the standards they establish. JMM Technologies adheres to international software requirements specifications (SRS) standards, ensuring that its projects align with global best practices.

Regarding international recognition, JMM Technologies does not have direct contact with organizations like IEEE. Nevertheless, the company maintains international recognition by aligning its engineering qualifications with global standards. Software engineers at JMM Technologies are well-equipped to work on an international scale, and the company actively participates in global initiatives and organizations like the IEEE to stay updated with industry best practices.

Managing liabilities is an essential part of any business. JMM Technologies effectively manages liabilities through its Quality Assurance and Quality Control departments. Quality Assurance ensures that software, products, and services meet industry standards, minimizing potential liabilities and associated risks.

JMM Technologies operates as a privately-funded startup, with four partners who are collectively responsible for securing the necessary finances based on their respective shares. The company's approach to financial management is multifaceted, evaluating the financial landscape for each project and considering options such as loans, grants, and selling shares based on project-specific requirements and financial risks.

When considering loans, JMM Technologies focuses on several key factors, including the specific financial needs of projects, associated risks, and repayment terms. To mitigate borrowing risks related to interest rates and payback conditions, the company carefully assesses project cash flows, budgets, and negotiates favorable lending terms.

Ownership of JMM Technologies is held by its four partners who are collectively responsible for the company's main decisions.

JMM Technologies places a strong emphasis on individual responsibility, ethics, and transparency. The company maintains clear roles and accountabilities, an ethical code guiding decision-making, and transparent processes. Open communication is facilitated through an open-door policy and the HR department, led by Mrs. Kainat Inayat, which ensures a harmonious work environment.

The organizational structure of JMM Technologies is hierarchical, supporting professional practices. The company manages projects using Agile methodology, specifically SCRUM, with cross-functional teams and project managers to ensure open communication and adherence to industry standards.

JMM Technologies ensures compliance with data protection laws, intellectual property rights, and software licensing through legal reviews, regular training, and internal audits. The company upholds ethical standards by respecting client confidentiality and ensuring data security throughout the development process.

To encourage teamwork and open communication within the team, JMM Technologies implements the SCRUM framework and HR-led initiatives. The combination of SCRUM and HR efforts helps maintain strong teamwork and open communication.

In assessing organizational success, JMM Technologies primarily focuses on customer satisfaction as a key indicator. The company tracks various Key Performance Indicators (KPIs) and celebrates milestones such as securing and successfully executing larger projects.

Professional development opportunities at JMM Technologies include hiring and training fresh talent, motivating employees to obtain professional certifications, and sponsoring these certifications to promote career growth. The company ensures compliance with industry standards and best practices to provide quality services to clients.

JMM Technologies maintains positive client relations while ensuring professional and ethical conduct by utilizing Agile methodologies and open communication. Client feedback and change requests are accommodated throughout the development process, emphasizing flexibility and client satisfaction.

In terms of professional certifications, employees at JMM Technologies are encouraged to obtain relevant certifications, such as the Scrum Master certification for those involved in SCRUM projects. The company ensures compliance with industry standards, such as ISO, CMMI, and Agile frameworks, to guarantee high-quality services and adherence to best practices.