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Contents

SECTION A: Executive Summary

A1. Introduction

Edu Path Ltd (EPL), a leading company in the corporate training sector, set out to develop an e-learning system prototype within three months, addressing the diverse needs of its stakeholders. Maya Katoch, head of IT at EPL, recommended using Agile methodologies, specifically DSDM Atern, to manage this challenge. Agile methodologies prioritize flexibility, iterative development, and stakeholder collaboration, making them ideal for projects with constantly changing requirements (Highsmith 2002). This brief assesses the suitability of Agile for EPL's project, drawing on the findings from Sections B and C, supported by academic research and case study evidence, to determine its effectiveness in delivering a timely, user-centered prototype.

A2. Main Findings

2.1 Advantages of Agile for EPL

Agile methodologies offer significant advantages for EPL, including flexibility, stakeholder collaboration, and iterative progress. Unlike Waterfall, which requires fixed requirements, Agile adapts to change through iterative cycles, ensuring alignment with evolving needs (Highsmith 2002). This is important for EPL, where requirements such as bank synchronization may change. Agile promotes collaboration through regular sprint reviews, allowing stakeholders like the finance and application teams to provide ongoing feedback. This ensures that must-have features identified in the MoSCoW table in Part B (e.g., registration, booking, payment integration) are delivered early and refined in each iteration. Research highlights Agile's 64% success rate compared to Waterfall's 49%, driven by adaptability and stakeholder satisfaction (Standish Group 2015).

2.2 Drawbacks of Agile

Despite its strengths, Agile poses challenges for EPL. Its reliance on stakeholder involvement may strain resources if participants are unavailable or uncommitted, potentially causing delays (Boehm and Turner 2004). Additionally, teams new to Agile, like EPL's IT division, may face a learning curve, slowing initial progress. Scope creep is another risk; Agile's flexibility could

lead to overextension, threatening the three-month timeline without strict oversight. These drawbacks require careful management to ensure Agile's benefits are fully realized.

2.3 Case Study Insights

The case study highlights the relevance of Agile to EPL. Maya's preference for DSDM Atern fit within the project's tight three-month timeline, as Agile's rapid iterations supported the rapid delivery of a functional prototype. The workshop facilitated in Part B highlighted the diverse stakeholder needs such as real-time updates and bank synchronization that highlighted the need for the flexibility and collaboration that Agile provides. Part C notes Agile's support for legal, social, ethical, and professional (LSEPI) issues, enabling iterative compliance with GDPR, accessibility under the Equality Act 2010, fair assessment tools, and accurate payment systems, ensuring EPL meets regulatory and ethical standards.

A3. Conclusion and Recommendation

Agile methodologies, particularly DSDM Atern, were well suited to EPL's e-learning prototype development process. The advantages of flexibility, collaboration, and iterative progress outweighed the manageable disadvantages of stakeholder demands and learning curves. Supported by research and case study insights, Agile ensured EPL delivered a compliant, user-centric prototype within the deadline, effectively addressing stakeholder needs and LSEPI requirements.

Section B: High-Level Requirements Analysis and MoSCoW Prioritization

B1. Review and Identify High-Level Requirements

Some workshop members did not seem to understand the format of clearly defined high-level requirements. Below is a review to identify high-level functional requirements for the new EPL Training System, ensuring clarity and relevance during system development.

Table 1. Review of High-Level Functional Requirements

Requirement	Appropriateness	Reason
A login facility	Appropriate	Essential for user authentication and access control, a fundamental feature for secure system access.
A payment system	Appropriate	Essential for processing financial transactions, a key function for the finance department.
A facility to track funds allocation	Appropriate	Essential for financial management and budget tracking, supporting core financial operations.
Synchronization with the banking system	Appropriate	Ensuring data consistency and reducing manual errors, a key function for financial integration.
The system should be fast and responsive	Inappropriate	A non-functional requirement focused on performance, not a specific system function.
Communication with stakeholders	Appropriate	Enables interaction with stakeholders, a key feature for marketing and customer engagement.
Training booking support	Appropriate	Core functionality for managing training sessions, essential for EPL operations.

Tracking training progress	Appropriate	Essential for tracking and evaluating training programs, a key system feature.
Collation of contacts and mailing lists	Appropriate	Supporting marketing and communications efforts, a specific functional requirement.
Categorization of training programs	Appropriate	Helping organize and present training options, a key function for training management.
Consultation with clients to determine training	Inappropriate	Describes a business process rather than a system feature, not a functional requirement.
Compilation of preliminary application forms	Appropriate	Includes creating or managing forms, a functional requirement for application processing.
Tools available to help choose the best training	Appropriate	Decision support tools that enhance usability and efficiency, a functional requirement.
Real-time updates to application forms	Appropriate	Enables dynamic form management, improving flexibility and responsiveness.
Applicant tracking and notification	Appropriate	A general feature to keep applicants informed, essential for the application process.
Notification of application outcomes (e.g., notifying successful applicants)	Appropriate	Important for communicating application results, a core function.
Selecting a suitable time and date to book the session	Appropriate	Essential for the booking process, a core feature for applicants.
Active training management (tracking deadlines, notifications, and notes)	Appropriate	Core functionality to manage training, support deadlines, and notifications.

Organizing a virtual celebration	Inappropriate	Not a core system function; more like a specific event feature with lower priority.
Legacy system integration	Inappropriate	Development directive, not a functional requirement for system capabilities.
Maintaining consistent branding	Inappropriate	Non-functional requirements relate to design and usability, not system functionality.
Applicant registration	Appropriate	Basic functionality for managing user accounts, essential for applicants to be able to access.
Viewing available training sessions	Appropriate	Essential for applicants to make informed choices, a core functionality.
Automated notifications for completed actions	Appropriate	Enhance user experience with feedback and validation, a key feature.
Enabling context-sensitive information in application	Appropriate	Support relevant information gathering, improving application quality and suitability.
Reducing unnecessary phone interactions	Inappropriate	Vague and process-oriented; does not specify clear functional requirements for the system.

B2. Rewrite and Add High-Level Requirements

Once identifying which requirements qualify as high-level functional requirements, the table below will round out the essential functional requirements for building the system. Each requirement has been carefully selected based on its alignment with the organization's operational needs and strategic goals.

Table 2. Updated High-Level Functional Requirements

ID	User Story	Justification
R1	As a finance team member, I want the system to automatically sync with the banking system for accurate payment data and reduced manual errors.	The case study highlights the finance team's difficulty in manually copying data between systems, leading to errors. Synchronization ensures data integrity and efficiency.
R2	As an applicant, I want to register and create a personal account so I can access and manage my training sessions.	A core requirement for user interaction, allowing applicants to engage with the system, is fundamental to EPL's registration and booking process.
R3	As an applicant, I want to browse available training sessions and book accordingly so I can plan my training effectively.	Essential for the booking function, allowing applicants to select sessions that fit their schedules, a key operational need for EPL's service offering.
R4	As a corporate client management team member, I want to track training progress and completion status so I can ensure customer satisfaction and on-time delivery.	The case study highlights the need to track client engagement, making it critical to managing business relationships and meeting deadlines.
R5	As an application management team member, I want tools to evaluate and categorize applications so I can efficiently assign applications to appropriate programs.	The application team needed decision support tools to streamline the selection process, addressing the inefficiencies noted in the case study.
R6	As an applicant, I want real-time application status updates so I can update information without having to contact support.	Improving the applicant experience and reducing administrative burden addresses the case study's focus on transparency and efficiency in application management.
R7	As a finance team member, I want an integrated payment system so that candidates can securely pay for their lessons within the platform.	A secure payment system is critical to financial management, addressing the finance team's need for efficient transaction processing as noted in the case study.

R8	As an application management team member, I want real-time updates to the application form so that I can quickly adapt to changing requirements.	Flexibility in form management addresses the need for responsiveness, reducing delays in the application process as noted in the case study.
R9	As an executive, I want reports on bookings, finances, and customer engagement so that I can make data-driven strategic decisions.	The case study highlights the executive team's need for insights to guide system improvement and development, making reporting a key requirement.

B3. MoSCoW Prioritization with Timebox Estimation

The MoSCoW prioritization methodology was applied to the updated high-level functional requirements to effectively prioritize the development of a new training system prototype for Edu Path Ltd (EPL). The following table outlines the MoSCoW priorities and estimated timeframes for each requirement, based on their alignment with EPL's operational needs and strategic goals as identified in the case study.

Must-have: R1, R2, R3, R7 (total 100 hours) – Core system functions essential to operations.
Should-have: R4, R5, R8 (total 55 hours) – Significant improvements to efficiency and customer management.
Could-have: R6, R9 (total 25 hours) – Strategic features and desired user experiences that can be deferred if time is limited.

Table 3. MoSCoW Table

ID	User Story	Priority (MoSCoW)	Timebox Estimation	Justification
R1	As a finance team member, I want the system to automatically sync with the banking system for accurate payment data and reduce manual errors.	Must-have	30 hours	Synchronization is critical to reducing manual errors and ensuring the integrity of financial data, a core need for the finance team.

R2	As an applicant, I want to register and create a personal account so I can access and manage my training sessions.	Must-have	20 hours	Registration is essential for user access and interaction, providing a foundation for applicant engagement in the system.
R3	As an applicant, I want to browse available training sessions and book accordingly so I can plan my training effectively.	Must-have	25 hours	Booking functionality is a core operational feature of the training system, critical to service delivery.
R7	As a finance team member, I want an integrated payment system so that candidates can securely pay for their lessons within the platform.	Must-have	25 hours	A secure payment system is essential for financial transactions and revenue generation, a non-negotiable requirement.
R8	As an application management team member, I want real-time updates to the application form so that I can quickly adapt to changing requirements.	Should-have	15 hours	Flexibility in form management addresses the need for feedback, reducing delays in the application process as outlined in the case study.
R4	As a corporate client management team member, I want to track training progress and completion status so I can ensure customer satisfaction and on-time delivery.	Should-have	20 hours	Progress tracking improves manageability and customer satisfaction but is not critical to the initial system launch.
R5	As an application management team member, I want tools to evaluate and categorize applications so I can efficiently assign applications to appropriate programs.	Should-have	20 hours	Assessment tools improve efficiency in application management but can be added after core features are implemented.
R6	As an applicant, I want real-time application status updates so I can update information without having to contact support.	Could-have	15 hours	Real-time updates enhance the user experience and reduce support workload but are not necessary for basic functionality.

R9	As an executive, I want reports on bookings, finances, and customer engagement so that I can make data-driven strategic decisions.	Could-have	10 hours	Reporting provides strategic insights to executives but is not necessary for initial system releases.

Section C: Legal, Social, Ethical, and Professional Issues

C1. Legal, Social, Ethical, and Professional Issues

1.1 Role of the Data Controller

The Data Controller plays an important role in ensuring that EPL complies with data protection laws, in particular the General Data Protection Regulation (GDPR). As defined in the GDPR, the Data Controller determines the purposes and means of processing personal data (European Commission, 2018). Responsibilities include:

Ensuring Lawful Processing: Ensuring that data collection and use comply with GDPR principles, such as lawfulness, fairness, and transparency.

Safeguarding Personal Data: Implementing technical and organizational measures, such as encryption and access controls, to protect data from breaches.

Primary Contact: Acting as the primary point of contact for data subjects and supervisory authorities, such as the Information Commissioner's Office (ICO), to address data-related issues or requests.

Documentation and Assessments: Keeping records of processing activities and conducting Data Protection Impact Assessments (DPIAs) for high-risk activities (ICO, 2023).

In the context of EPL, the Data Controller oversees the secure processing of applicant and customer data within the e-learning system. This includes managing the data collected during registration, training booking, and payment processes, ensuring that the data is processed lawfully and protected from unauthorized access.

1.2 Legal, Social, Ethical, and Professional Issues for EPL

Legal Issues: EPL must comply with legal obligations, primarily GDPR, which requires secure and transparent data processing (European Commission, 2018). Non-compliance risks fines of up to €20 million or 4% of annual turnover. A practical example is the synchronization between EPL's e-learning system and the company's banking system. This integration transfers financial data, requiring strong encryption and secure protocols to prevent breaches. Failure to protect

this data could result in legal penalties and loss of trust, highlighting the need for strict compliance measures.

Social Issues: Social responsibility requires EPL to ensure its e-learning platform is accessible to all users, including people with disabilities, as required by the Equality Act 2010 (UK Government, 2010). Accessibility features, such as screen reader compatibility and adjustable text size, are essential to inclusivity. For example, EPL's system must support visually impaired users to book training, ensuring equal access. This not only fulfills its legal obligations but also broadens EPL's audience, reinforcing its commitment to social justice.

Ethical Issues: EPL must maintain fairness in its processes, particularly in the allocation of training and applications. GDPR and ethical principles require that data processing must be free from discrimination (BCS, 2021). An example is the assessment tools in EPL's system used to assess the suitability of candidates. These tools must be designed to prevent bias such as bias towards certain demographic groups ensuring that all candidates are assessed on merit. This maintains fairness and is consistent with ethical standards of equality and integrity.

Professional Issues: EPL must maintain data accuracy, transparency, and industry standards to maintain its reputation. The British Computer Society (BCS) Code of Conduct emphasizes accountability and reliability in the operation of its systems (BCS, 2021). A relevant example is the payment system integrated into EPL's e-learning platform. This system must accurately process transactions and securely handle financial data to prevent errors or fraud. Any inaccuracies can erode customer confidence, highlighting the need for close professional oversight and system reliability.

C2: BCS Code of Conduct

2.1 Purpose of the BCS Code of Conduct

The BCS Code of Conduct is designed to establish ethical and professional standards for IT practitioners, promoting integrity, accountability, and competence in the industry (BCS, 2021). Its primary purpose is to guide professionals in making decisions that protect the public interest, maintain trust in IT systems and ensure compliance with legal and organizational expectations. For EPL system developers, the Code serves as a roadmap for addressing ethical and professional responsibilities in the development of e-learning systems. It highlights the

importance of balancing technical excellence with ethical considerations, ensuring that systems benefit stakeholders while upholding the reputation of the IT profession.

2.2 Practical Examples

Public Interest: This requires IT professionals to prioritize public safety, privacy, and accessibility (BCS, 2021). A practical example for EPL developers is ensuring that e-learning systems are accessible to all users, including those with disabilities. The Equality Act 2010 requires digital services to meet diverse needs (UK Government, 2010). For example, if a developer omits features such as screen reader compatibility or adjustable text size, users with visual impairments may be excluded, breaching both legal and ethical standards. By designing a user-friendly system, removing barriers such as unnecessary phone interactions, and ensuring inclusion, developers will be aligned with the BCS Code's commitment to the public interest.

Professional Competence and Integrity: This requires IT professionals to maintain their skills, adhere to best practices, and act with integrity by avoiding misrepresentation (BCS, 2021). For EPL developers, providing honest and accurate progress updates to stakeholders is a key issue. Imagine a developer tasked with integrating a payment system into an e-learning platform. If they overstate their expertise or provide overly optimistic timelines despite their lack of experience, this could lead to delays or security vulnerabilities. Maintaining integrity means following industry best practices in system integration such as developing secure APIs and being transparent about capabilities and progress. This builds trust with the EPL and ensures a trustworthy system.

Duty to Relevant Authority: This requires IT professionals to respect the policies and objectives of their employer or client (BCS, 2021). For EPL, the goal is to deliver a rapid prototype within three months, and the developer must align development efforts with this business objective. A practical problem arises if the developer focuses on perfecting unnecessary features such as a complex user interface while ignoring the core functionality required for the prototype. This disconnect can delay delivery and disappoint stakeholder expectations. By prioritizing the EPL timeline and focusing on a functional system, the developer effectively fulfills his or her duty to support the organization's objectives..

Duty to the Profession: This section emphasizes maintaining the reputation and credibility of the IT profession (BCS, 2021). A relevant example for EPL developers is maintaining compliance with data protection laws, such as the General Data Protection Regulation (GDPR). If an e-learning system processes user data without appropriate encryption or access controls, the system is at risk of a breach that could harm the EPL and tarnish the image of the profession. By responsibly applying methodologies such as Agile that ensure iterative improvements including security testing, developers will enhance the quality of the system while reinforcing ethical standards.

Conclusion

This report assessed the development of EPL's e-learning prototype through three interrelated perspectives: the suitability of the Agile methodology, the high-level requirements analysis with MoSCoW priorities, and the legal, social, ethical, and technical issues. Agile, specifically the DSDM Atern, was recommended for its flexibility and iterative approach, which fit within the tight three-month project timeline. The revised high-level requirements focused on essential functionality (registration, booking, payment, and real-time updates), while the MoSCoW methodology clearly defined development priorities and time allocations.

The assumptions underlying this analysis included timely stakeholder feedback, adequate IT resources, and ongoing leadership support for Agile activities and LSEPI compliance. By addressing both the technical and ethical aspects, EPL is well positioned to deliver a safe, user-centric prototype that lays a solid foundation for future developments in the e-learning sector.

List of Tables

References List

Boehm, B. and Turner, R., 2004. Balancing Agility and Discipline: A Guide for the Perplexed. Boston: Addison-Wesley.

Highsmith, J., 2002. Agile Software Development Ecosystems. Boston: Addison-Wesley.

Standish Group, 2015. Chaos Report 2015. Boston: Standish Group International.

BCS (2021) Code of Conduct. Available at: https://www.bcs.org/policy-and-influence/ (Accessed: 15 October 2023).

European Commission (2018) General Data Protection Regulation. Available at: https://ec.europa.eu/info/law/law-topic/data-protection_en (Accessed: 15 October 2023).

ICO (2023) Guide to the General Data Protection Regulation (GDPR). Available at: https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/ (Accessed: 15 October 2023).

UK Government (2010) Equality Act 2010. Available at: https://www.legislation.gov.uk/ukpga/2010/15/contents (Accessed: 15 October 2023).