

1 INTRODUCTION

The purpose of this document is to highlight the issues relevant to the EduStream pilot project. This in turn will assist stakeholders in evaluating the viability of the project and will help determine whether the project should be initiated. The stakeholders for this project are EdMedia International Pty Ltd (EdMI).

2 Business Analysis

2.1 Reason for the Project and General Approach

EdMI currently holds 60% of primary rights to educational videos and games in Australia. Holding a majority of primary rights to educational videos and games does provide EdMI with a competitive advantage. However, this advantage has not resulted in EdMI holding a majority of the market share in the distribution of educational videos and games space. In fact, over the past few years, EdMI's market share has declined from 40% to 27%.

EdMI's primary clients, consisting of schools, government organizations, and businesses, have indicated the need to access their educational content more freely. For instance, teachers looking to show their students EdMI's educational videos will need to book and use a DVD player. Thus, the content being in DVD form inhibits widespread adoption in schools since having an available DVD player is not a certainty. The risk of a client losing a DVD is a high likelihood occurrence. The loss or damage of EdMI's DVD can disrupt the overall distribution business process. Another client seeking to access the lost or damaged EdMI's will need to rely on EdMI having extra copies available. In the event where EdMI does not have extra copies, the client needs to either wait until one is available or seek alternative solutions.

The proposed EDuStream project is a minimal cost and short time frame pilot project that will pose no risk in disrupting EdMI's current business operations. The pilot project seeks to investigate and determine whether EdMI can integrate a streaming solution for its media deployment. A streaming solution enables all approved EdMI educational games and videos to be instantaneously accessible to all clients over the internet. As a result, EdMI's educational content will be accessible more freely. Clients can have access, at any time, to all the EdMI approved content. While the EDuStream seeks to mitigate the downwards trend in EdMI market share, the project also provides an opportunity for business expansion and growth. The online internet nature of media content deployment means EdMI is able to easily expand to locations geographically distant. For example, expanding to a culturally and politically similar country such as New Zealand would have a low barrier to entry.

The key deliverables of EDuStream project are:

1. CDN Nodes
 - a. Three content delivery nodes, each in different location, and a CDN will encompass the EDuStream servers and is responsible for enabling the delivery of educational content and games in a specific geographic location
2. Client
 - a. Client refers to client application and it enables customers to access the EDuStream system educational content and games
3. Network
 - a. Enables the EDuStream system such as clients and nodes to communicate with each other
4. Security
 - a. In the form of hardware firewall which is a physical device that serves as additional network security protecting EDuStream datacentre.
 - b. In the form of Software firewall which is the application-based program protecting the EDuStream system

EdMI's distinct advantage of holding the majority of primary rights to Australian educational content currently remains strong. However, if EdMI's market share continues to decline, the justification for providing EdMI with future educational content rights loses weight. A competitor with a larger market share will become a more attractive prospect as educational content would reach a wider audience. Losing the advantage of holding the majority of primary rights puts EdMI in a vulnerable position. In today's media content distribution industry, the amount of non-exclusive and exclusive content offered determines whether or not customers will subscribe.

The key steps in the EduStream pilot project include-

- Creation of management documentation
- Obtain board approval to proceed
- Select an appropriate data centre for the system
- Design, procure, develop, and test client software
- Develop training, marketing, and support service materials
- Train the sales team
- Design, procure, develop, and test the first pilot CDN node (Perth)
- Procure, rectify issues, and test the second pilot CDN node (Sydney)
- Procure, rectify issues, and test the third pilot CDN node (Melbourne)
- Identify, procure, and integrate service desk and level 1/2/3 support
- Market EduStream
- Close the pilot project and deliver final reports and deliverables

2.2 Stakeholder Analysis

The following tables provide a synopsis of key aspects that have been identified through a detailed stakeholder analysis.

PART 1: WHAT DO WE WANT FROM THIS PROJECT?
<ul style="list-style-type: none"> • Ability to offer EdMI media content on the internet to the clients. This helps achieve the clients need of having greater flexibility with EdMI media content • Ability to support EdMI existing customers • Delivery of EdMI project within the approved budget • Delivery of EdMI project within the approved schedule • Ensure that implementation and development of the project does not interfere with current business operations • Ability of EduStream to be maintained, supported and operated with limited strain on resources
PART 2: WHAT DO OUR CLIENTS WANT FROM THIS PROJECT?
<ul style="list-style-type: none"> • Teachers would want online and offline access to high quality educational video and games. This provides greatest flexibility in access the educational content since internet connection at school may be unreliable. Having the ability to pre-download the videos on the internet and playing it offline achieves this • Schools would want to ensure that the EduStream eventual product is affordable and offers some level of customer support. School budget is generally not stable and so when spending needs to be cut having the product being affordable ensures the venture was not for nothing and can be kept • Government would want their educational video and games to be secure and be potentially restricted access. In the case where the videos are classified restricting access and ensuring it is secure is necessary • University students would want high quality, in-depth, and latest educational video and games. Out of date information in their field of study will deter adoption • Businesses would want the educational videos and games being offered of a wide variety. In regards to business there are different many different industries so covering a wide range ensure their business is covered • Young school students would want the educational video and games being fun in nature. A boring video and game does not keep their attention so ensure the content closely resembles a game they would normally play or video they would normally watch • Parents would want the educational video and games being as close to free of charge as possible

2.3 SWOT Analysis

A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was conducted in relation to the implementation of the EduStream project. The following table provides a synopsis of the key points that were identified in this analysis.

INTERNAL ISSUES OF IMPORT FOR EdMI AND THE EDUSTREAM PROJECT
STRENGTHS
<ul style="list-style-type: none"> • Own primary rights of 60% of Australian educational content and games. This allows for a large content library on the outset • EdMI controlling the majority of primary rights means they are able to make content exclusive which by nature attracts subscribers • EdMI is an Australian company that has had extensive experience targeting Australian consumers. The prior knowledge can be leveraged so that the company maintains continuous alignment with the consumer's culture • We can utilise our existing sales personnel in each state. Each state personnel will know how to best sell the product to their state • Good existing relationship with our primary clients. We are able to ask them what they want for their specific need • Given most of the work it outsourced due to the current employees not being capable of doing it means the existing operations will not be affected. Majority of existing employees will not be taken away from their line of work. No risk of not being able to fund the project due to it inhibiting current operations
WEAKNESSES
<ul style="list-style-type: none"> • Lack of technology knowledge in the company means we need to rely on outside consultants or advice • Board is not completely on board meaning minor changes will need to go up the chain in order to get approval. Will take longer time and effort to achieve the approval • Cost of needing to train employees. Given our personnel have been trained on how to market and sell physical DVD/Blu-ray copies asking them to sell and market technology products is different. Thus, we would need to take time to train them. • Lack of existing reputation, presence when it comes to EdMI being able to deliver an online service. Given the current process revolves around EdMI sales personnel communicating with organisational clients about their physical product our existing organisation clients will have trouble accepting our credibility in running and managing an organisation predominantly relying on delivering an online service • Lack of existing technology infrastructure relevant to the project • Not as strong financial capital and declining revenue trend. Given there has been a decline of our market share over the last years. The need to be frugal would be high. So, the project budget would likely need to be a hard wall budget. This limits our flexibility
EXTERNAL ISSUES OF IMPORT FOR EdMI AND THE EDUSTREAM PROJECT
OPPORTUNITIES
<ul style="list-style-type: none"> • Widens the existing client base. The process of delivering our services to individual clients is easier and economically viable. The system will automate and be responsible for dealing with individual clients • Potential clients are not restricted by geographical location. The service delivered online. Hence, delivering to a location far away will be instantaneous

OPPORTUNITIES
<ul style="list-style-type: none"> • Ability to scale service based on needs. EdMI project ensure that the technology that will be used is not excessive. If our service needs to support many clients then the server technology will expand to support this • Increased value and relevance to, and engagement with, our clients. The project demonstrates EdMI listens and values the client and their feedback • Enables big data analytics implementation which provides additional data information to EdMI. Implementing big data analytics for our current system is impossible since the existing technology used to record keep functions independently. Big data relies on technology fully communicating and integrating with one another at all times • Reliable data analytics. The system will be responsible for transactions processing. Human errors when manually inputting transaction information is eliminated
THREATS
<ul style="list-style-type: none"> • The law stipulating our primary rights to EdMI's educational content. We would need to validate whether it extends to being able to put the content online and with exclusivity • Rampant online piracy. EdMI will need to be aware of this issue and understand that all our exclusive content may be pirated and distributed illegally • The service has a low barrier to entry. Streaming services can be replicated on a small scale • Lax online piracy enforcement and consistency. The difficulty of online piracy enforcement is that if the piracy and distribution come from a geopolitical enemy the ability to prosecute a case and have a fair trial against the perpetrator is limited • Existing competitors. Currently, there are several successful online streaming services including Netflix and Disney. They will have the ability to easily compete with our service offerings • Negotiations surrounding keeping intellectual property (IP). It takes a lot of effort to obtain full control of IP for contracted work. Any potential IP challenges will inhibit and slow this project progress

3 PRELIMINARY FINANCIAL ANALYSIS

3.1 ROM Cost and Revenue Estimates

The following table contains the Rough Order of Magnitude (ROM) cost and revenue information for the EduStream project. These figures have been adjusted to take into account the discount rate, which includes expected inflation and the cost of capital.

Description	Year 0	Year 1	Year 2	Year 3
Discounted ROM Costs/Expenditures	1205000	674500	738000	731000
Discounted ROM Benefits/Revenues	256000	1059250	1620000	2125000
Expected NPV adjusted Profit(+)/Loss(-)	-949000	+384750	+882000	+1394000

The figures within the previous table were used to implement a rationalised financial analysis for the project. Results from these calculations are provided in the following table. This table lists the calculated Net Present Value (NPV), Return on Investment (ROI) and expected Payback Period for the EduStream project. These figures are influenced by the assumptions outlined in Section 3.2 (below).

NPV	1711750
ROI	51%
Payback Period	2.64 years (2 years 6 months and 4 days)

When deliberating the financial viability of EdMI EDuStream project the following measurements were considered- Net Present Value (NPV), Return on Investment (ROI) and Payback period. These three measurements were calculated using Rough Order of Magnitude (ROM) cost and revenue information. NPV is one of the key indicators that represents roughly how much money will be eventually gained or lost for a project undertaken. It takes into account inflation and interest. The EduStream project is expected to make an eventual gain of \$1711750. The payback period helps determine whether the eventual gains are seen soon or in long term. Given the payback period is 2 years 6 months and 4 days the EduStream project will make money in a short amount of time. Finally, the ROI is 51% which indicates that the EduStream project is expected to outperform the average return provided from investing in the ASX over a three-year period. All three measurements indicates that EDuStream project is viable.

3.2 Assumptions

The following table lists the key assumptions that are applicable to the financial analysis information provided in the preceding sections.

FINANCIAL/PROJECT ASSUMPTIONS	
•	Assume a decrease market share for EdMI service correlates with a decrease in profit
•	Assume likely average ROI for 3 years in ASX is the average annual return (8.8%) multiply by three so 26.4%
•	Assume EdMI has high liquidity currently and over the next three years during the potential EDuStream project undertaking. Ensures EdMI can handle the expenses before the break-even/payback period
•	Assume financial analysis results are in AUD
•	Assume inflation rate for the next 4 years is 1.8% per annum
•	Assume project is funded through a loan with fixed loan of 3.8% per annum
•	Assume project starts at year 0
•	Assume discount rate does not affect capital cost and inflation
•	Assume ROM expenditure encompasses- equipment, software, personnel, services and indirect cost. Is considered a hard wall budget for the pilot program

FINANCIAL/PROJECT ASSUMPTIONS

- | | |
|---|---|
| • | Assume the expenses are paid and offered in AUD without conversion into AUD |
|---|---|

4 PROJECT PLANNING (OVERVIEW)

4.1 Key Dates

The following table lists the key dates applicable to this project.

Submission to the Board	31 March 2023
Project Start Date	26 April 2023
Project End Date	3 June 2024

4.2 Key Schedule Milestones

The following table lists the key project milestones that have been identified. Meeting these milestones will help to ensure that the project can be delivered on time.

Date	Event/Milestone
22/2/2023	Preliminary EduStream Pilot Project commencement
31/3/2023	Submit to the Board
11/4/2023	Board EduStream Evaluation
3/4/2023	Tender request release
26/4/2023	Commence EduStream project formally
21/6/2023	Contractor engagement
29/8/2023	Complete system architecture and technical design
30/8/2023	EduStream software and system development
6/9/2023	Marketing preparation
4/11/2023	Sales personnel training
23/11/2023	Service desk goes live
27/4/2023	Finalise clients Beta/Acceptance Testing participants
4/12/2023	Level 2/3 Support goes live
4/12/2023	Launch Perth Pilot CDN node beta
9/1/2024	Client software Acceptance Testing completion
9/1/2024	Perth Pilot CDN node Acceptance/Beta Testing Completion
5/2/2024	Launch Sydney Pilot CDN node beta
29/3/2024	EduStream media campaign
15/4/2024	Launch Melbourne Pilot CDN node beta
29/4/2024	EduStream full market opening
20/5/2024	Final report documentation
3/6/2024	EduStream Pilot Project end

5 DEFINITIONS AND ACRONYMS

Key technical terms associated with the EduStream project are provided in the following table.

Table 1: EduStream definitions and acronyms

Term or Abbreviation	Meaning/Definition of the Term
Batch Updating (<i>for OCA & DB</i>)	The processing of updating a database server through bulk update statements execution. For EDuStream system, the educational video content and games in OCA and the user information stored in DB is updated through the execution of bulk update statements at one time
Client (<i>define this in terms of the scenario – e.g. define this in terms of the hardware</i>)	EDuStream software application that will compatible with various hardware and operating system
CODEC (Coder-Decoder)	Technology that encode and decode data files. In EDuStream system codec compresses and decompresses the educational video content
Colo (co-located) Datacentre	Refers to Colocation America physical server facilities that stores, run, and delivers EDuStream’s applications and services
Content Delivery Network (CDN)	Technical architecture for the EduStream system
Database replication	Process of copying data stored in one database to all other databases. For EDuStream, it is the process of copying data stored in the database of one node to all the other node’s database
Firewall (software/hardware)	Hardware firewall refers to the physical device that serves as additional network security protecting EDuStream datacentre. Software firewall refers to the application-based program protecting the EDuStream system
File Transfer Protocol (FTP)	Communication protocol used to transfer files directly from client to server through a computer network. For EDuStream FTP enables the direct transfer of the educational games from and to different devices on the individual data center network
Flash Video (FLV)	A video file format enabling EDuStream educational video content to be delivered over the internet.
High Efficiency Video Coding (HEVC/H.265)	Video compression standard used to reduce the bandwidth and storage space required to stream EduStream video content
HTTP (HyperText Transfer Protocol)	Another type of video file format that enables EDuStream educational video content to be delivered over the internet.
MPEG-4 (MP4)	A video file format enabling EDuStream educational video content to be delivered over the internet
Node (<i>define this in terms of the CDN Nodes listed in this scenario</i>)	Encompasses a group of geographically distributed servers that are interconnected. For EDuStream, the CDN encompasses the EDuStream servers responsible for enabling the delivery of educational content and games
Service Desk (<i>define this in terms of the scenario</i>)	Main point of contact for support. Offered to academic and organisation clients
Open Connect Appliance (OCA)	A server for video steaming. For EDuStream system, it’s a server used for educational video streaming

Term or Abbreviation	Meaning/Definition of the Term
Real Time Streaming Protocol (RTSP)	Refers to an application-level network protocol used to control the transfer of real time multimedia data between end points. For EDuStream, it is used to enable the transport of the educational content's multimedia data (video/audio) in real time over the internet
Transmission Control Protocol/Internet Protocol (TCP-IP)	Communication standard used to allow computers to communicate over the internet. For EDuStream, allows the "Client" and "CDN nodes" to communicate
Tier 3 Datacentre	Physical facility that stores, run, and delivers EDuStream's applications and services. A classification of tier 3 means IT operations of EDuStream solution will not be disrupted when planned maintenance and equipment replacement occur
Web server	Delivers website content to end users over the internet. For EduStream, it provides the initial entry point (front end) to the client seeking to access EDuStream educational videos and games over the internet

Remaining elements of the standard PC template are not included in this assignment.