VIZITECH USA

HIGHER ED MARKET

# V-MED PRO CAPSTONE

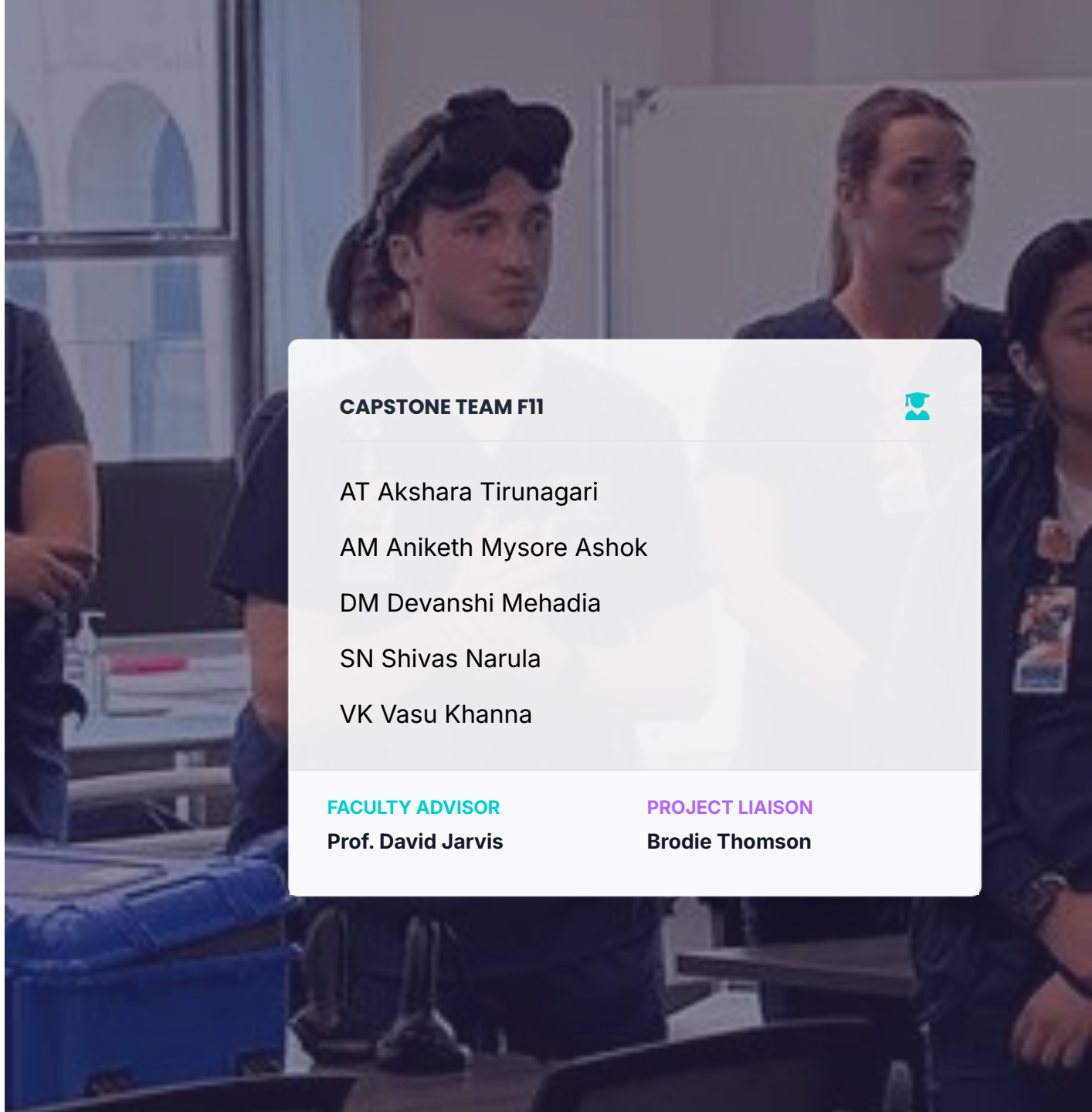
## PROJECT ANALYSIS

> Strategic adoption analysis for the VR EMS Training Platform, integrating cutting-edge immersive technology for paramedic education.

**120+ Scenarios**
Diverse Training

**Vive XR Elite**
High-Fidelity HW

**AI / ChatGPT**
Smart Integration



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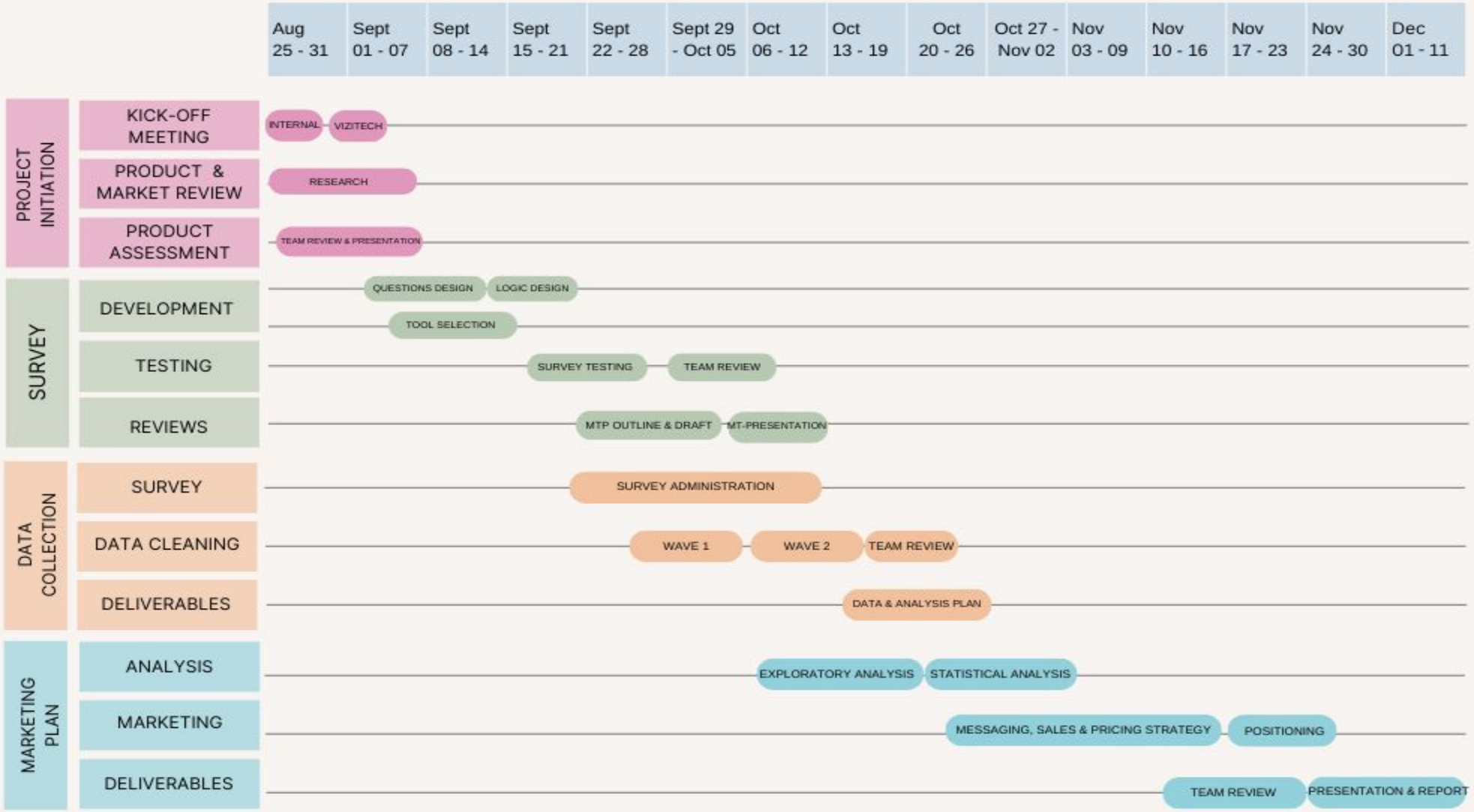
# GANTT CHART


Aug 25 - 31
Sept 01 - 07
Sept 08 - 14
Sept 15 - 21
Sept 22 - 28
Sept 29 - Oct 05
Oct 06 - 12
Oct 13 - 19
Oct 20 - 26
Oct 27 - Nov 02
Nov 03 - 09
Nov 10 - 16
Nov 17 - 23
Nov 24 - 30
Dec 01 - 11
PROJECT INITIATION
KICK-OFF MEETING
INTERNAL
VIZITECH
PRODUCT & MARKET REVIEW
RESEARCH
PRODUCT ASSESSMENT
TEAM REVIEW & PRESENTATION
SURVEY
DEVELOPMENT
QUESTIONS DESIGN
LOGIC DESIGN
TOOL SELECTION
TESTING
SURVEY TESTING
TEAM REVIEW
REVIEWS
MTP OUTLINE & DRAFT
MT-PRESENTATION
DATA COLLECTION
SURVEY
SURVEY ADMINISTRATION
DATA CLEANING
WAVE 1
WAVE 2
TEAM REVIEW
DELIVERABLES
DATA & ANALYSIS PLAN
MARKETING PLAN
ANALYSIS
EXPLORATORY ANALYSIS
STATISTICAL ANALYSIS
MARKETING
MESSAGING, SALES & PRICING STRATEGY
POSITIONING
DELIVERABLES
TEAM REVIEW
PRESENTATION & REPORT

# Market-Ready Product, Unclear Messaging

### Job Readiness

Need to validate if VR training truly translates to field-ready confidence for employers.

### Pass Rates

Determining the correlation between VR simulation usage and NREMT exam success.

### Cost Effectiveness

Proving the ROI of V-Med Pro against traditional manikin-based setups.

THE KEY STRATEGIC QUESTION

"What marketing and sales messages will best drive V-Med Pro adoption across Higher Education Institutions?"

**Target Outcome**

Refine product positioning for high-impact targeted campaigns.

120+
VR SCENARIOS

HEI
FOCUS MARKET

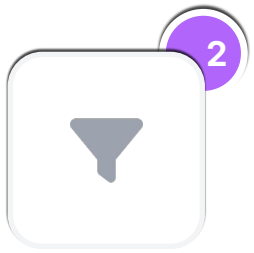
PROJECT METHODOLOGY

# Project Review Flow

GOAL: Build a data-driven story that converts HEI buyers.

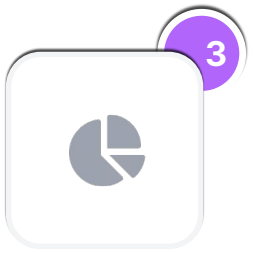

## Data Collection

Gathering raw data sources and inputs



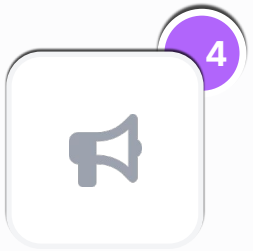

## Data Cleaning & Prep

Processing and normalizing datasets




## Analytics

Deriving insights and statistical proof




## Output & Visuals

Final deliverables and presentations

PRODUCT ARCHITECTURE

# V-Med Pro 3-Phase System

Comprehensive VR ecosystem covering Anatomy, EMT/Paramedic, and Nursing

01

## Anatomy & Physiology

Foundational training module designed to immerse students in complex biological systems.

**KEY FEATURES**

- Interactive Body Systems
- 3D Organ Visualization
- Physiological Mechanics

CORE PRODUCT

02

## EMT/Paramedic Trainer

**120 Outcomes** **3 Assessment Levels**

**4 TRAUMA**

- Car Wreck
- Elderly Fall
- GSW
- Burns

**6 MEDICAL**

- Allergic React.
- Chest Pain
- Abdominal Pain
- Pregnancy
- Altered Mental
- Overdose

**ASSESSMENT MODES:**

1. Guided
2. Unguided Practice
3. Assessment

03

## Nursing Program

**IN DEVELOPMENT**

Expanding the VR ecosystem to cover comprehensive nursing curriculums.

- **CNA** Certified Nursing Asst.
- **LPN** Practical/Vocational
- **RN** Registered Nurse

# 2. Data Collection Strategy

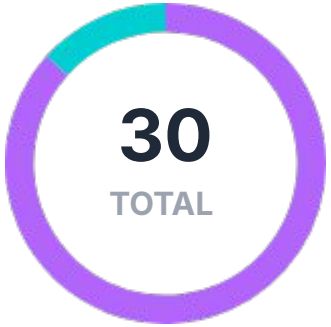
## Secondary Research

Foundation & Context

Rigorous analysis of 16+ academic articles and industry reports establishing the efficacy baseline for VR in medical education.

## HEI Survey Data

Respondent Composition



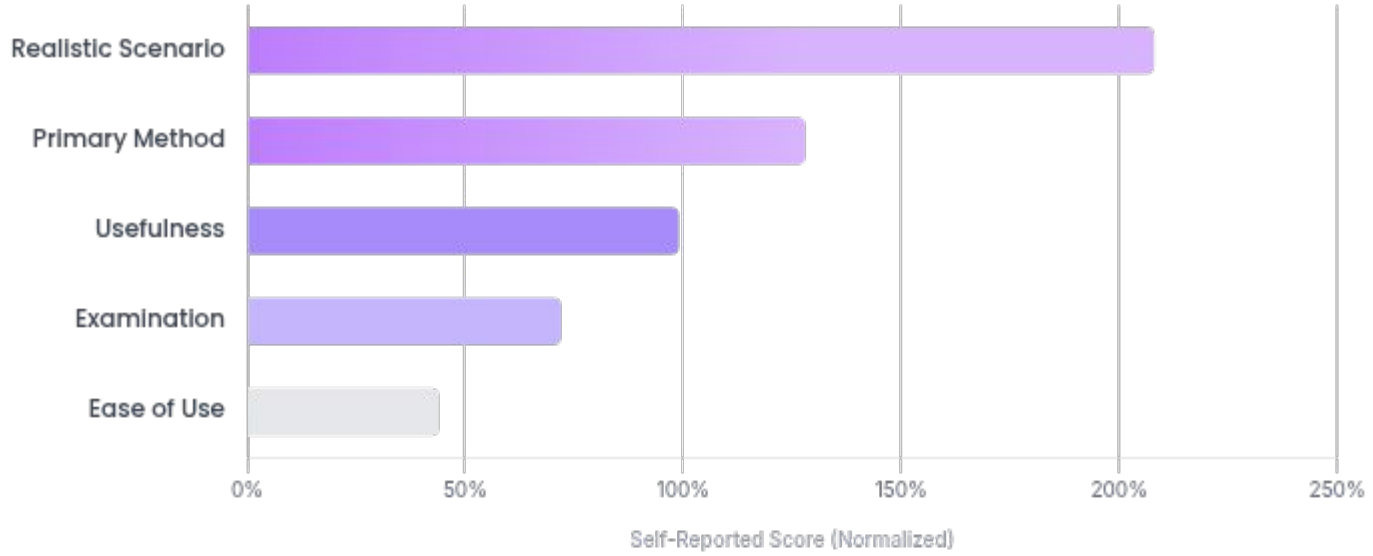

**86.7%** Synthetic

**13.3%** Real

## Student Preferences for VR

KEY ADOPTION DRIVERS

Self-reported percentages across adoption dimensions




### Critical Finding

Realistic Scenarios (208%) and Primary Method (128%) scored highest, validating strong student demand for immersive simulation over traditional lab methods.

METHODOLOGY

# Data Preparation Pipeline

rigorous data cleaning and standardization process to ensure analytical accuracy across all survey responses.

## Handle Missing Values

Systematic identification and treatment of incomplete survey responses. Applied imputation techniques to preserve dataset integrity without introducing significant bias.

INPUT → Clean Dataset

1

## Encode Likert Scale

Transformation of categorical survey responses into numerical format. Converted 5-point satisfaction and agreement scales into quantifiable metrics for statistical analysis.

PROCESS → Numerical Data

2

## Normalize Data

Standardization of data ranges to ensure comparability across different variables. Essential for accurate regression modeling and correlation heatmap generation.

OUTPUT → Model Ready

3

PHASE 4 Analytics & Validation

# Data-Driven Validation

PRIMARY INSIGHT

**22x ROI & 94% Confidence**

## Core Objectives

### Identify Challenges

Pinpointing adoption barriers like financial constraints and faculty readiness.

### Confirm Segments

Validating 'Budget-Sensitive' vs 'Outcomes-Driven' institutional profiles.

### Predict Adoption

Forecasting high-probability adopters using logistic regression models.

*"Data confirms V-Med Pro solves the two biggest HEI pain points: Budget Limitations & Clinical Readiness."*

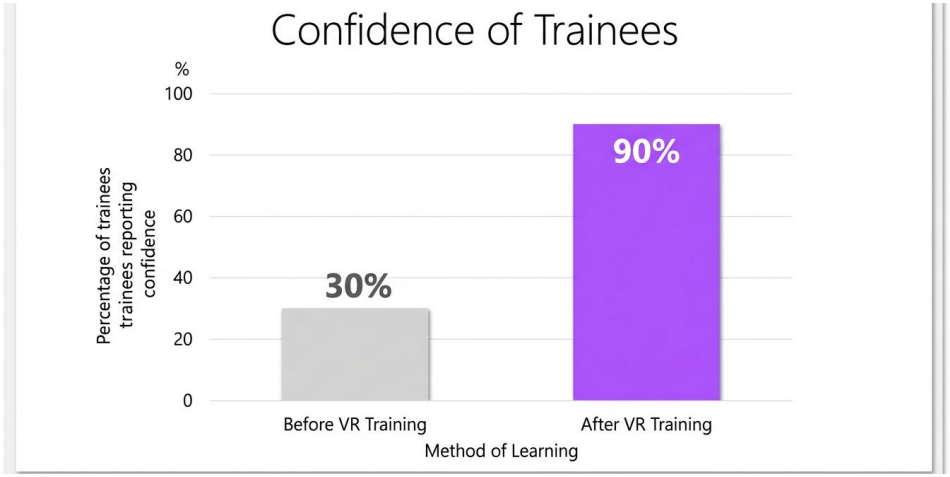
EFFICACY

### Trainee Confidence

**94%**

Post-training confidence vs. 30% baseline.

↑ 213% Increase



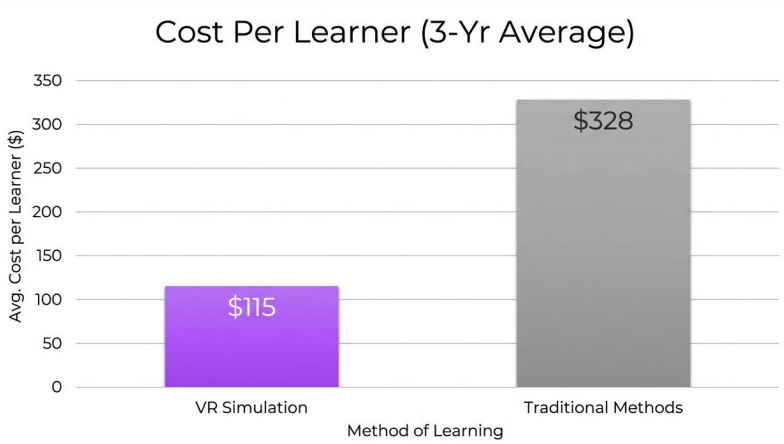

EFFICIENCY

### Cost Per Learner

**22x**

ROI improvement compared to traditional simulation.

↓ $213 Savings/Student



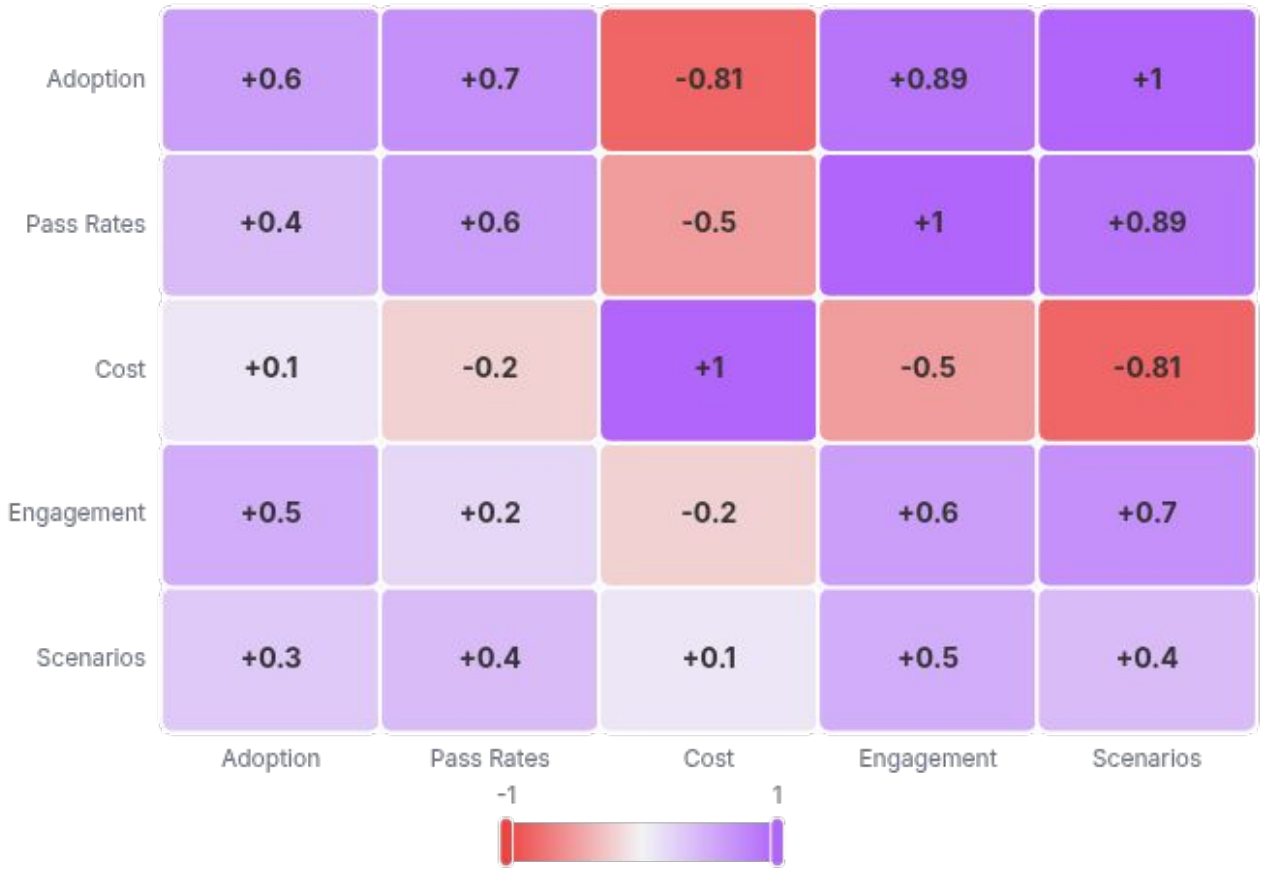

Source: 2024 Capstone Research • n=30 HEI Respondents

ANALYTICS & INSIGHTS

# Correlation Analysis

identifying the strongest drivers for V-Med Pro adoption in the HEI market.

## Variable Correlation Matrix




**61.8%**

Average Adoption Likelihood

Moderate to High Intent

### KEY DRIVERS DETECTED

Pass Rates (Positive): Strongest positive correlation with adoption. Institutions prioritize student outcomes above all.

Cost (Negative): Significant barrier for budget-constrained segments, inversely related to adoption.

# Sentiment Analysis

TOPIC MODELING & KEY FINDINGS

VADER Analysis

Score: ~1.0

## Enhanced Learning

Virtual simulations enhance learning effectiveness via realistic, repeatable scenarios that build muscle memory without real-world risks.

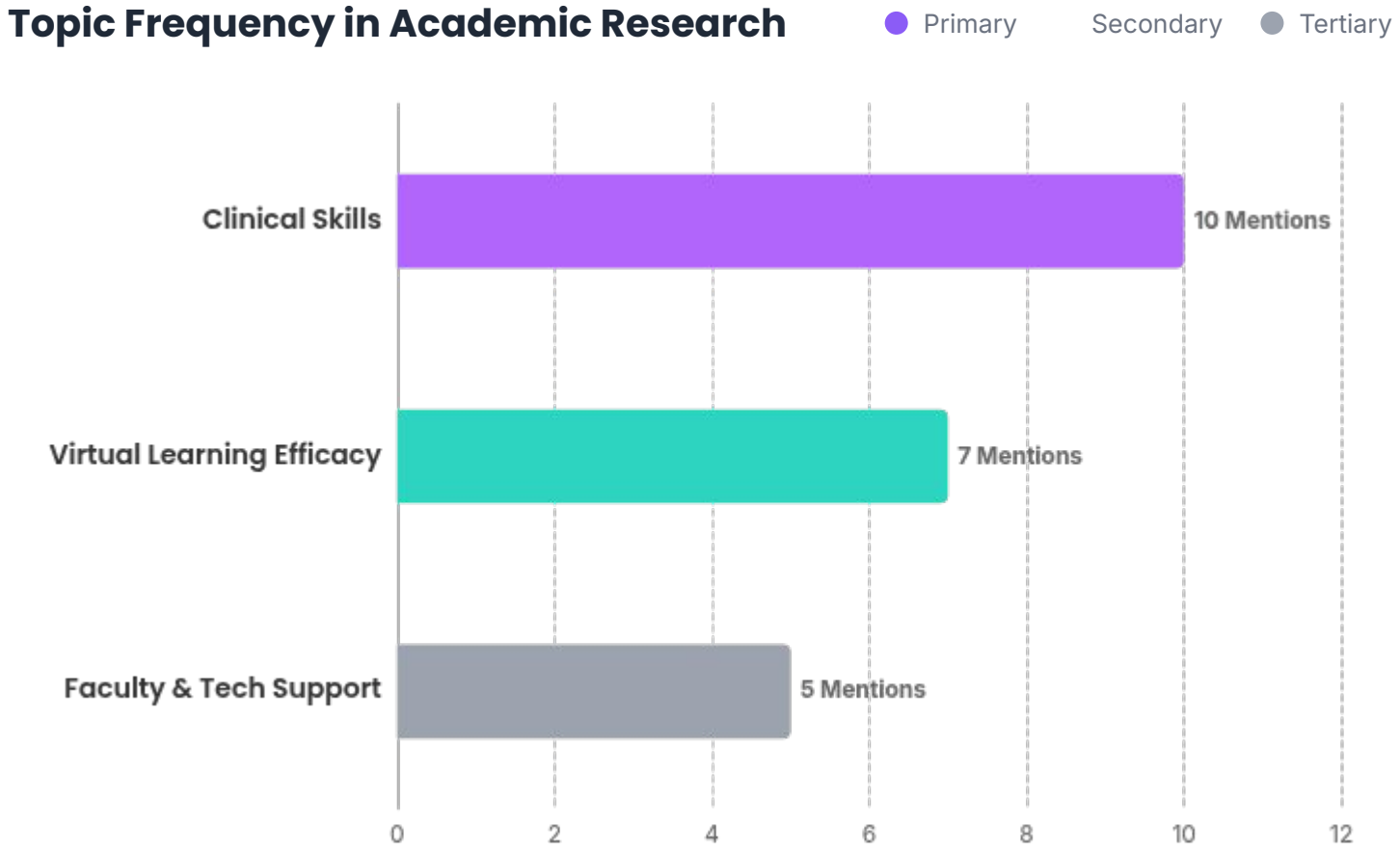
## Positive Outlook

Academic literature shows an overwhelmingly positive outlook on the transformative potential of VR and AI-driven simulations in healthcare education.

## Growth Opportunities

Future directions focus on scalability, measuring long-term clinical impact, and integrating AI for personalized learning paths.

## Topic Frequency in Academic Research




Source: Analysis of 16 peer-reviewed academic papers

Method: Latent Dirichlet Allocation (LDA)

V-MED PRO ANALYTICS

# Python Analytics Pipeline

Automated end-to-end data processing workflow built with Python & Streamlit, transforming raw survey inputs into actionable predictive insights.

### Tech Stack

- Pandas
- NumPy
- Streamlit
- Scikit-Learn

VMed_Pro_Analytics_App.py

## Automated Workflow

6-Step Data Processing Sequence

Pipeline Active

**01 LOAD DATA**

Ingest live Capstone dataset

```
pd.read_csv()
Input: 30 responses
```

**02 CLEAN & ENCODE**

Handle missing values & map text

```
fillna(median)
72 values imputed
```

**03 DESCRIPTIVE**

Visualize key variables

```
sns.heatmap()
Correlation Matrix
```

**04 HYPOTHESIS**

Statistical validation tests

```
H1: ρ = 0.898
H2: t = -7.635
```

**05 PREDICTIVE**

Logistic Regression Model

```
model.predict()
Adoption Probability
```

**06 COMPLETE**

End-to-end validation ready

✓ Pipeline Success

Runtime: < 2.5s

Localhost:8501

System Operational

VALIDATION PHASE — STREAMLIT PIPELINE OUTPUT

PIPELINE STATUS
Execution Complete

# Analytics Demo Results

Statistical validation of market segments and predictive modeling outcomes from live Capstone data.

## $H_1$ Spearman Correlation

SUPPORTED

Pass Rate Value vs. Adoption Likelihood

CORRELATION COEFFICIENT (P)
**0.898**
Strong Positive Relationship

P-VALUE
**1.65e-11**
< 0.001 (Significant)

Insight: Institutions that highly value Pass Rates are significantly more likely to adopt V-Med Pro, validating our "Outcomes-Driven" targeting strategy.

## $H_2$ Independent t-Test

SUPPORTED

Adoption Likelihood: Outcomes vs. Budget Segments

T-STATISTIC
**-7.635**

Outcomes Segment
**Mean: 4.92**

Budget Segment
**Mean: 3.47**

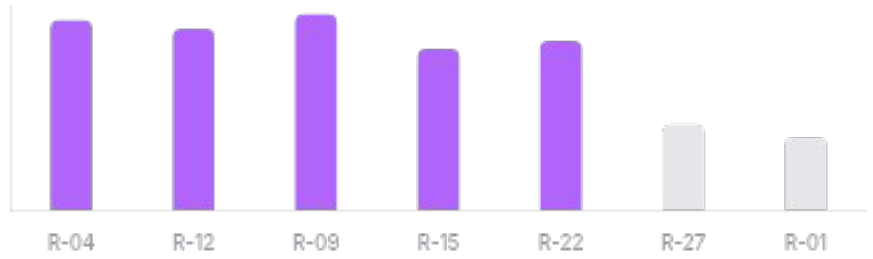
Conclusion: The Outcomes-Driven segment shows statistically higher adoption intent, confirming they should be the primary target for premium subscription tiers.

## Predictive Model Output

LOGISTIC REGRESSION

```
def predict_adoption(features):
  # Test Set Probabilities
  Resp_004:          0.923          // High
  Resp_012:          0.881          // High
  Resp_027:          0.415          // Low
  Resp_009:          0.954          // High
```

ADOPTION PROBABILITY DISTRIBUTION




Python 3.9 environment

Data: final_30_responses_dataset.csvz  Script: VMed_Pro_Analytics_App.py

STRATEGIC ANALYSIS

# Target Segments & Positioning

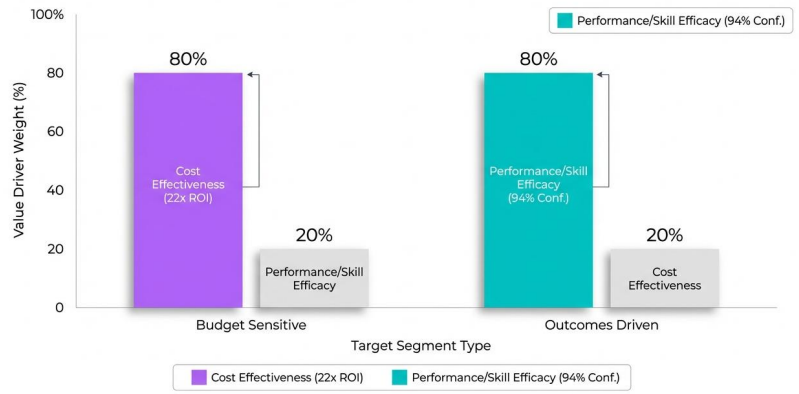
Effective Segmentation Strategy

## Segment Comparison Matrix

| Criteria | BUDGET-CONSTRAINED Cost-Focused | OUTCOME-FOCUSED Performance-Focused |
|---|---|---|
| **Who (Target)** | Community Colleges, Vocational, Smaller Programs | Universities, Medical Schools, Research Hospitals |
| **Primary Hook** | Cost Efficiency | Performance & Outcomes |
| **Key Metric** | 22x Cost Effectiveness | 94% Confidence Boost |
| **Pricing Model** | **CAPEX** One-time / Capital Expenditure | **OPEX** / SaaS Subscription / Operating Expense |

## Value Driver Weights

Data Source: HEI Survey Analysis




**STRATEGIC IMPLICATION**

A "one-size-fits-all" pitch fails. Sales teams must qualify leads immediately to deploy the correct deck: ROI-led for budget buyers vs. Efficacy-led for outcome buyers.

ADOPTION STRATEGY

# Marketing Messages That Convert

Psychologically-grounded narratives tailored to overcome HEI adoption barriers.

APPLIED PSYCHOLOGY
Behavioral Framework

LOSS AVERSION | MENTAL ACCOUNTING

## *"Shift money from running labs to preparing people"*

**THE MECHANISM**

Reframes expense as an investment in human capital. Shifts focus from "cost of goods" to "student outcomes," reducing the pain of spending.

SCARCITY HEURISTIC

## *"Break the physical limits of your training budget"*

**THE MECHANISM**

Targets the fear of resource constraints (space, equipment). Positions V-Med Pro as the tool that eliminates physical bottlenecks.

IDENTITY SIGNALING | STATUS BUILDING

## *"Tomorrow's medics should train like it's tomorrow"*

**THE MECHANISM**

Appeals to institutional pride. Aligns adoption with high status and modernization, positioning the HEI as an innovator.

RISK AVERSION

## *"The safest place for your students to make the hardest calls"*

**THE MECHANISM**

Addresses fear of student failure in high-stakes environments. Offers a safety net for learning critical skills.

FUTURE ROADMAP

# Strategic Recommendations

A scalable sales model designed to increase relevance, reduce friction, and maximize revenue across diverse HEI segments.

01

## Data-Driven Sales Enablement

- Embed validated performance and cost metrics in all collateral to build credibility fast.
- Centralize key findings to create consistent, evidence-led messaging across channels.
- Use insights to disarm skepticism early in the buyer journey.

02

## Segmented Sales Execution

- Qualify leads upfront into Cost-focused vs Outcome-focused buyers.
- Deploy segment-specific pitch decks tailored to each buyer's priorities.
- Replace generic messaging with value-based narratives tied to motivation drivers.

03

## Dual Pricing Architecture

- Offer CAPEX packages for institutions relying on one-time funding grants.
- Offer OPEX/SaaS tiers for programs seeking flexibility and lower upfront spend.
- Align pricing and packaging structure with institution size and content needs.

# Thank You

Ready to revolutionize EMS training with data-driven strategies.

## CAPSTONE TEAM

- Akshara Tirunagari
- Aniketh Mysore Ashok
- Devanshi Mehadia
- Shivas Narula
- Vasu Khanna

## KEY STAKEHOLDERS

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