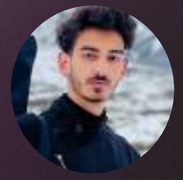
OptiVerse

BY BIHAR-G

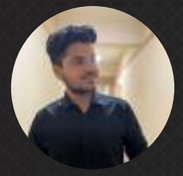
IIT KHARAGPUR

The Team



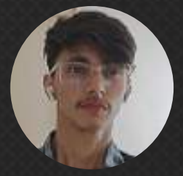
Mehran Farooq Shah

CEO



Syed Mehran Ahmed

CSO



Azam Hussain

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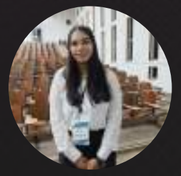

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TABLE OF CONTENTS

All Of The Slides Have Been Made By

Mehran Farooq Shah
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PROBLEM STATEMENT

Inefficient logistics causing loss to country's GDP: MoS Commerce and Industry

- The small-scale industry sector, with its significant contribution to the national economy, accounts for around **85%** of industrial units, **40%** of manufacturing sector output, **36%** of exports
- These are predominant in the state of **Bihar**, with the manufacturing sector being among the fastest-growing ones
- Some factors inhibiting the development of these manufacturing industries include lack of optimization, research and education

1

Lack Of Optimisation

In Bihar's small-scale manufacturing sector, inefficiencies abound, hindering growth and stifling potential. Without optimised workflows, industries struggle with wasteful resource allocation, inefficient inventory management, and disjointed production plans.

2

Lack Of Research

The absence of research stifles progress, leaving businesses without the insights needed to compete in dynamic markets and identify their bottlenecks and constraints

3

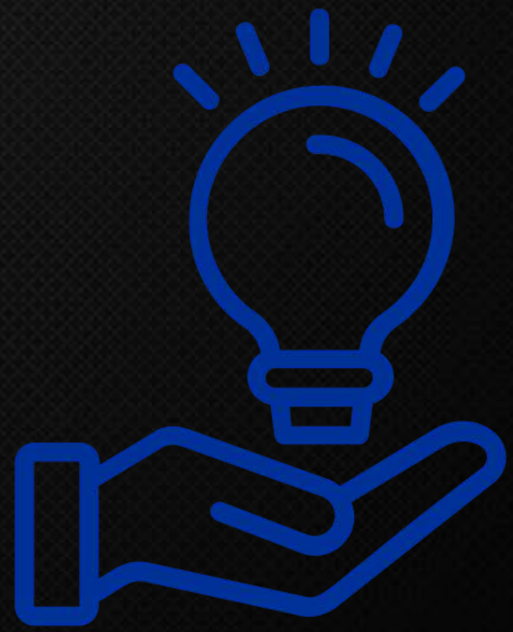
Lack Of Education

The dearth of education limits the workforce's potential, constraining skill development and innovation. It also affects the above mentioned points

Our Solution

An AI-based optimisation tool to streamline manufacturing processes

- **Reduce Decision-Making Time By up to 50%.**
- **Increase Productivity By Upto 30%**
- **Decrease Costs by upto 20%**



Key Features

- Intuitive Interface
- Automated Data Analysis
- Personalized Recommendations
- Real Time Alerts
- Accessible Training Resources
- ROI Maximization
- Resource Optimization
- Cost Reduction
- Increased Profitability
- Inventory Control
- Community Building
- Decision Making Abilities

How Will We Do That?

To achieve the proposed solution having the aforementioned features, we will implement the following measures:

AI-powered workflow Optimization:

- Implement AI-driven NLP model pre-trained and fine-tuned Operations Research techniques, linear and non-linear programming, large cases of industrial needs and techniques, that analyses historical production data, market trends, and external factors to identify inefficiencies in the manufacturing process.
- It formulates a mathematical programme with all the constraints and expands them into optimal decisions.

Integrated Production Planning:

- Develop an integrated system that generates optimised schedules considering production capacity, order priorities, and lead times. By streamlining production schedules and minimising setup times, manufacturers can increase throughput and meet customer demand more efficiently.

How Will We Do That?

Dynamic Resource Allocation:

- Utilise AI algorithms to dynamically allocate resources such as labour, machinery, and raw materials based on real-time demand fluctuations and production priorities. Manufacturers can reduce costs and enhance operational efficiency by optimising resource utilisation and minimising waste.

Predictive Inventory Management:

- Implement predictive analytics models to forecast demand and optimise inventory levels accordingly. Manufacturers can minimise stockouts, reduce carrying costs, and improve customer satisfaction by maintaining optimal inventory levels.

Training and Education Initiatives:

- Offer training programs and educational resources to empower workers with the skills and knowledge to effectively leverage AI technologies.
- Manufacturers can foster a culture of innovation and continuous improvement by investing in workforce development.

Competitive Analysis

IBM Watson Supply Chain

Offers AI-powered solutions for supply chain management, including inventory optimization, demand forecasting, and production planning

SAP Integrated Business Planning

Utilizes AI and machine learning to optimize production planning, demand forecasting, and inventory management.

Kinaxis RapidResponse

A cloud-based supply chain planning platform that leverages AI and concurrent planning to optimize inventory management, resource allocation, and production scheduling.

How Are We Different?

Customization for Small-Scale Operations

Existing solutions are designed for large enterprises with complex supply chains and extensive resources, and we recognise the constraints and requirements of small-scale manufacturing operations in Bihar, which will offer greater flexibility, scalability, and affordability tailored to the needs of these businesses.

Ease of Use and Accessibility

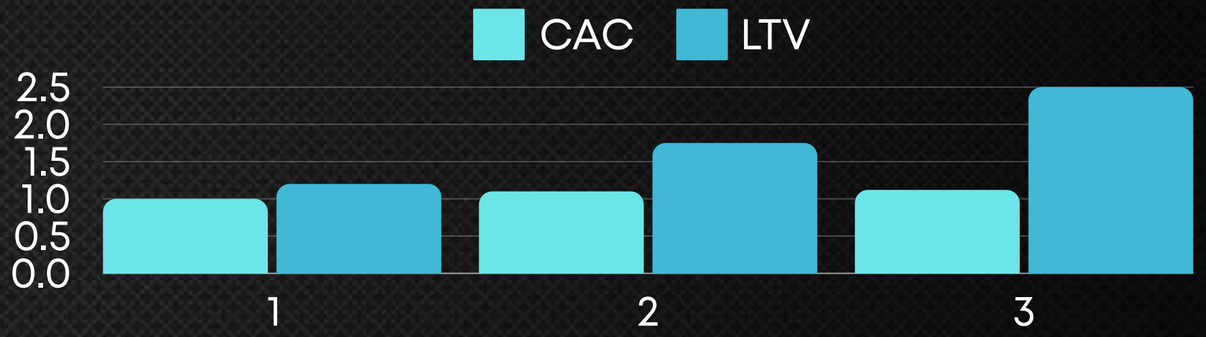
User-friendly nature of our AI-based optimisation tool, ensuring that even users with limited technical knowledge can benefit from its capabilities.

Localization and Community Engagement

Understanding the specific challenges and opportunities within the region, as well as initiatives to engage with local communities, stakeholders, and government agencies will support economic development in Bihar.

	IBMW	SAP-IBP	KRR	OPTIVERSE
SPECIFIC TARGET MARKET	✗	✓	✓	✓
EASY CUSTOMIZATION	✗	✗	✓	✓
COMMUNITY BUILDING & COLLABORATION	✗	✗	✗	✓

Business Model



Our company offers an AI-based optimisation tool tailored for Bihar's small-scale manufacturing sector. We empower manufacturers to enhance efficiency and reduce costs through streamlined workflows.

Revenue streams primarily stem from subscription-based models and potential licensing fees for premium features.

We aim to maximise LTV by delivering consistent value and nurturing customer relationships. With a subscription-based model and focus on satisfaction, our anticipated LTV over 3-5 years reflects substantial growth potential. Continuous product enhancements further bolster retention and LTV growth.

Our strategy prioritizes maintaining a healthy Customer Acquisition Cost (CAC) through targeted approaches and efficient marketing channel utilization. Strategic partnerships and optimized campaigns ensure cost-effective customer acquisition

Business Model Canvas

Key Partners

- **Technology Providers**
Collaborate with AI technology providers for algorithms and software providers for platform and website development
- **Local Industry Associations**
Partner with local industry associations to understand the specific needs and challenges of manufacturers in Bihar
- **Research Institutions**
Collaborate on research projects, joint development initiatives and for case-study conductions to enhance our tool's capabilities

Key Activities

- **Platform Development**
Develop and maintain the optimisation tool, including the features and resources
- **Data Analysis**
Analyse data from production records, inventory levels, and market demand forecasts
- **Marketing and Sales**
Develop marketing materials and campaigns for promotion

Customer Relationship

- Technical Support & Tool Updates
- Long-Term Partnerships
- Training & Assistance

Value Propositions

- **Streamlined Workflows**
Optimise resource allocation, inventory control, and production planning for improved operational efficiency
- **Cost Reduction**
Identify cost-saving opportunities and minimise waste through data-driven decision-making
- **Increased Profitability**
Enhance productivity and competitiveness, leading to higher profitability for small-scale manufacturers.

Key Resources

- **Human Resources**
Skilled professionals including AI experts, software developers and data analysts
- **Technological Infrastructure**
Includes IaaS, to host the tool in the cloud, ensuring accessibility from anywhere
- **Training & Support Resources**
Training resources, including tutorials, videos, and online courses, to onboard users and facilitate skill development
- **Financial Resources**
Capital to finance operations
- **Partnerships & Collaborations**

Customer Segments

- **Geographic focus**
Regions with high concentration of target industries
  - Small To Medium Sized Manufacturing enterprises
  - Process Oriented Industry
  - Inventory Intensive Businesses

Channels

- **Direct Sales**
Reach customers through direct sales: online marketing, industry events etc businesses
- **Partnerships**
With associations, technology providers, and local government to reach a wider audience

Cost Structure

- **Development Costs:** Resources for software development, including salaries for developers and infrastructure costs.
- **Marketing and Sales:** Budget for marketing and sales efforts to promote the solution and acquire customers.
- **Support and Maintenance:** Set aside funds for customer support, training, and ongoing maintenance of the platform

Revenue Stream

- **Subscription Model:** Offer the tool on a subscription basis, with tiered pricing based on the scale of operations and usage.
- **Licensing Fees:** Charge licensing fees for access to premium features, such as advanced analytics and customisation

Cost Of Development

Cost of Employee: INR 8,00,000

- Employees: Software Developers, AI Experts, Project Manager

Cost of Technology: INR 11,00,000

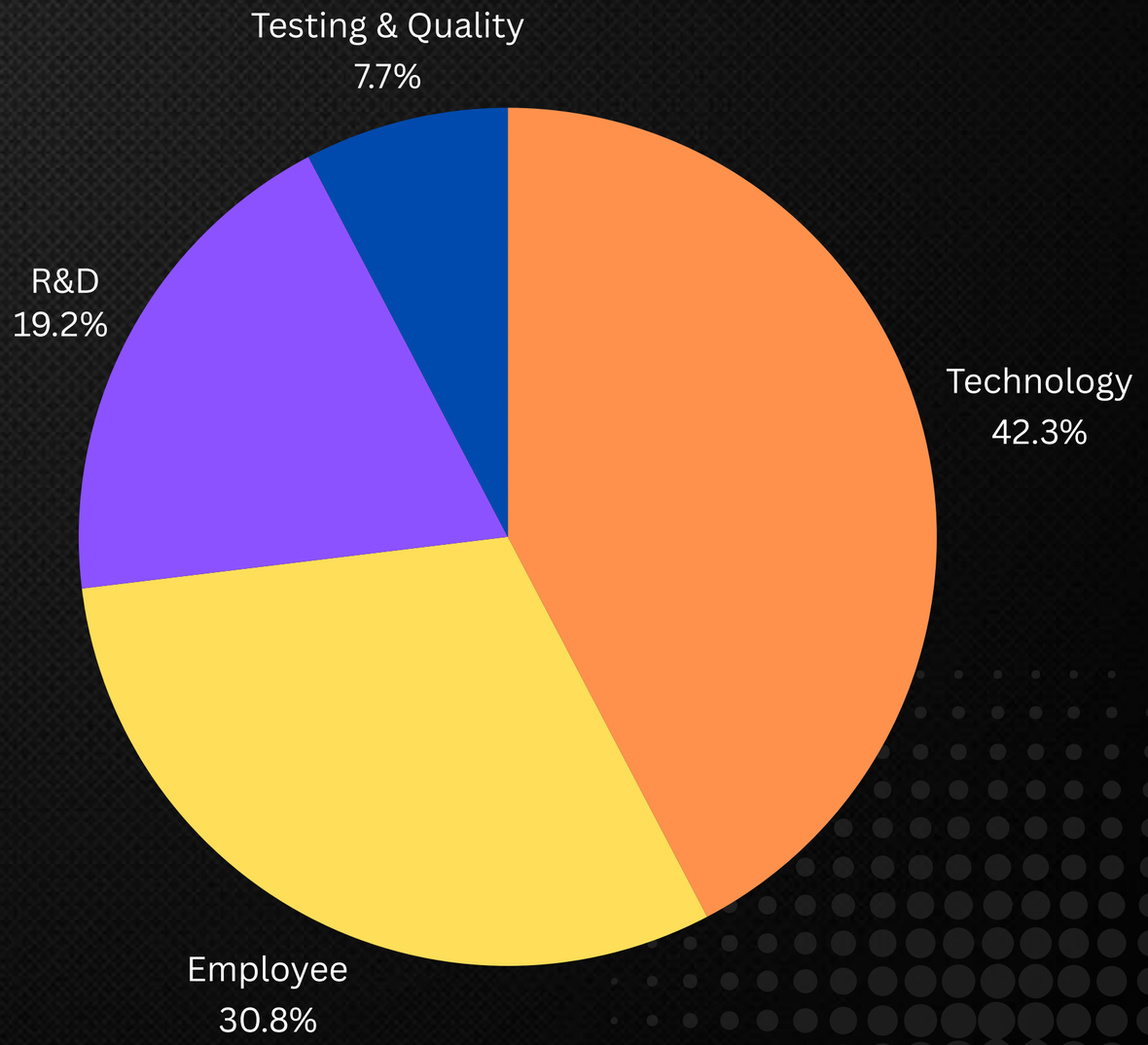
- Cost associated with servers, cloud services and software licenses (INR 6,00,000)
- App Development Cost (INR 5,00,000)

Cost of Research & Development: INR 5,00,000

- Costs associated with researching and developing AI algorithms, optimization models, and software features

Cost of Testing & Quality : INR 2,00,000

Total Initial Cost: INR 26,00,000



Target Market

Small To Medium Sized Manufacturing enterprises

Inventory Intensive & Process Oriented Businesses

Examples of these Industries

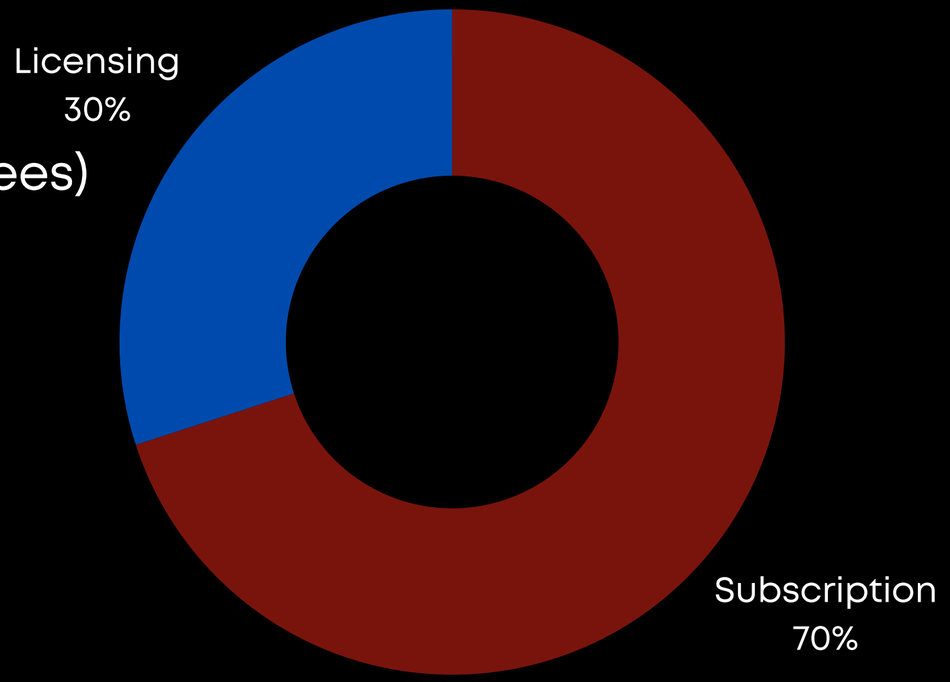
- Agro Based Industries
- Textile Manufacturing
- Food Processing
- Dairy

Revenue Model

* Monthly Subscription Fees: INR 5,000 to INR 50,000 (depending on usage/level of operation)
  Licensing Fees: Additional 50% on Subscription fees

Estimated Annual Revenue:

- 48 Lakh INR (Licensing, Subscription, and Maintenance Fees)



Revenue Streams:

- **Subscription Model:** Offer the tool on a subscription basis, with tiered pricing based on the scale of operations and usage.
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BREAK-EVEN ANALYSIS

Fixed Costs:

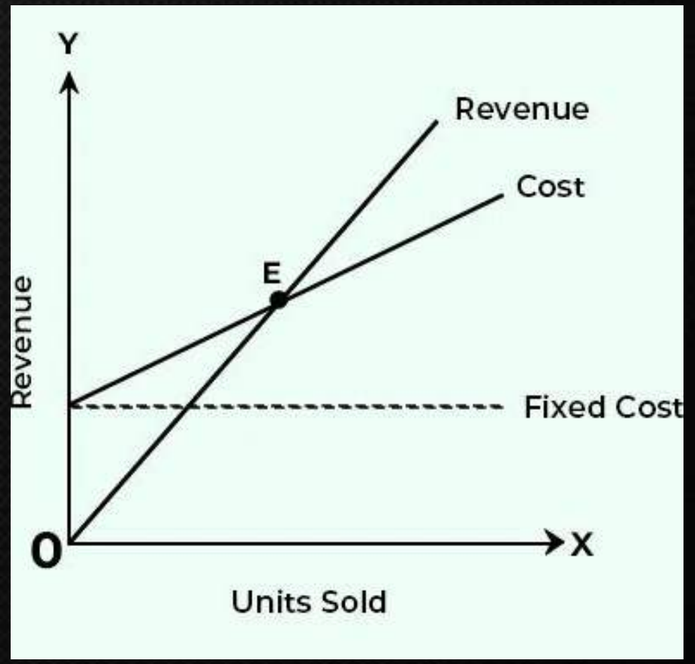
- Technology costs, including infrastructure, software licenses, and development tools
- Research and development expenses.
- Marketing and sales expenses
- Administrative expenses like office rent, utilities, and insurance

Variable Costs:

- Costs of customer acquisition, such as sales commissions or advertising expenses
- Costs of providing customer support and maintenance services
- Salaries of developers, AI experts, project managers, and other team members

Break-Even Point:

- Break-Even Point (in units)=Fixed Costs/(Selling Price per Unit−Variable Cost per Unit)
- Break-Even Point (in revenue)=Break-Even Point (in units)×Selling Price per Unit



BREAK-EVEN ANALYSIS

Break-Even Point Calculation:

- **Fixed cost(estd)= ₹11,00,000**
- **Variable cost(estd)= ₹5000 per unit**
- **Unit selling price(wtd mean)=₹20,000**
- **Breakeven = 70 subscriptions**
- **Breakeven revenue= ₹14,00,000**

MARKETING STRATEGY

Market Research & Brand Positioning

Research on preferences and needs of target customers and industries, analyse competitors and use this information to effectively market our product through relevant channels

Community-driven Feature Development

Engage our user community in product development by soliciting feedback, feature requests, and enhancement ideas

Content Marketing

Creation of educational content that addresses the pain points and informational needs of our target audience, like white-papers, case-studies and blog posts

Hackathons for Innovation

Organise innovation challenges where aspiring students and professionals come together to build innovative solutions in the domain offer prizes to winners

Events and Workshops

Conduction of events, hosting webinars, and workshops to share insights, best practices, and success stories with our target audience.

Partnerships and Collaborations

Strategic partnerships with industry associations, government agencies and universities

TECHNICAL CHALLENGES

Development of an accurate AI framework that is efficient and scalable to handle large datasets and complex manufacturing processes

Ensuring compatibility with a wide range of manufacturing equipment and systems to facilitate easy integration and adoption

Developing strong cybersecurity measures concerning data privacy and regulations compliance

Creating an intuitive and user-friendly interface that provides insights and recommendations to users without overwhelming them with technical details

STRATEGIC CHALLENGES

Developing a market acceptance and penetration strategy within existing conventional landscape.

Planning for long-term sustainability to remain relevant in the future while achieving short term goals

Achieving compliance with regulatory frameworks and compliance requirements.

Developing strategic partnerships with government agencies and industry stakeholders.

S

- Advanced AI based optimisation algorithms with superior performance.
- Customisable features according to customers' needs.
- Effective marketing and sales strategies.

W

- Dependence on technology infrastructure and connectivity.
- Initial resistance from traditional industry stakeholders to adopt new technology.
- Need for continuous updates and refinements to AI algorithms.

O

- Growing demand for optimisation solutions in indian industries
- Collaboration opportunities with government and private associations.
- Expansion to other states and sectors beyond Bihar.

T

- Competition from existing firms in the market.
- Economic and political instability affecting customers' spending capacity.
- Data privacy and cybersecurity risks.

Future Roadmap

Our next steps involve refining our product and expanding our market reach. We aim to secure funding to scale our operations, enhance product development, and accelerate customer acquisition efforts, enabling us to establish ourselves as a leader in our segment.

Foundation
2024

Expansion
2025

Scaling
2026

Innovation
2027

2024

Foundation

Develop and launch our product with focus on core features and functionality, along with building awareness and establishing partnerships

2025

Expansion

Expand the capabilities of our product primarily based on customer feedback and market analysis, adding additional technologies and intensive targeted marketing

2026

Scaling

Scaling up the operations to meet growing demands, including hiring additional staff and exploring opportunities such as government collaborations and other industrial segments

2027

Innovation

Increase R&D investment, publish case- studies and white papers, continue to innovate and by adding new premium features, technologies, the addition of services, stay ahead of competitors and lead the segment

Work Done

1 MEHRAN FAROOQ SHAH

- Idea Formulation
- PS & Solution, Features
- Competitive Analysis
- Business Model & Canvas
- Marketing Strategy
- SWOT Analysis
- Technical & Strategic Challenges
- Future Roadmap

2 SYED MEHRAN AHMED

- Solution Implementation Analysis
- Cost of Development Estimate
- SWOT Analysis
- Revenue Estimate
- Target market
- Break-even Analysis

3 ADEEBA ANSARI

- Marketing research
- SWOT Analysis
- Technical & Strategic Challenges

4 KRISH

- Research on stats
- Research on competition

5 SUNNY

- Marketing research

Thank You