

**Project Design Phase-I
Proposed Solution
Template**

Date	23 October 2023
Team ID	EXT592545
Project Name	Garment Worker Productivity Prediction Using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<p>How can we effectively employ machine learning to predict and optimize garment worker productivity in the garment industry?</p> <p>The textile and apparel sector is among the world's largest, with garment worker productivity being a key determinant of company success and profitability. This project aims to create a robust machine learning model for predicting worker productivity, utilizing a dataset encompassing various production attributes. The dataset includes factors like department, day, time allocation, incentives, idle time, and actual productivity. This predictive model has the potential to significantly impact manufacturing, HR, and supply chain management, enabling data-driven decisions to enhance efficiency, reduce costs, and maintain a competitive edge in the market. Moreover, it holds the promise of improving labour conditions and environmental sustainability in the industry.</p>
2.	Idea / Solution description	<p>The proposal aims to predict and optimize garment worker productivity in the textile and apparel industry by collecting and preprocessing data on production attributes, focusing on feature engineering, and developing machine learning models using techniques like regression, time series</p>

		analysis, and deep learning. The models will be trained and evaluated, and a decision support system will be provided, along with training programs for workers.
3.	Novelty / Uniqueness	The proposed revenue model offers a flexible, client-cantered approach, offering various options like the Subscription Model, Pay-Per-Prediction Model, and Licensing Model. It caters to different needs and budgets, making it a versatile and customer-focused solution in the machine learning solutions market.
4.	Social Impact / Customer Satisfaction	The implementation of productivity improvement strategies in the garment industry through machine learning has a significant social impact by fostering skill development among workers. These strategies typically involve training and skill development programs, equipping the workforce with valuable competencies. As workers gain new skills, it not only enhances their immediate job performance but also has far-reaching effects on their long-term career prospects. The newfound skills and knowledge acquired in these programs can empower workers to explore opportunities beyond the garment industry, opening doors to a broader range of career options. This, in turn, can lead to higher earning potential, improved job security, and increased overall well-being for workers and their families. By investing in the skill development of garment workers, the industry not only boosts its own productivity and efficiency but also contributes to the socioeconomic development of the workforce, creating a positive ripple effect in less developed regions where the garment industry is a key economic driver.
5.	Business Model (Revenue Model)	Our business model revolves around providing a comprehensive workforce management software solution. We specialize in optimizing attendance tracking, forecasting per-worker output, and manpower requirements for

		<p>manufacturing and service industries. Our key resources include skilled developers and analysts, supported by a robust database. We generate revenue through subscriptions and additional fees for customizable software features. Strategic partnerships with HR consultancies and tech providers bolster our expertise and market reach, ensuring accuracy and efficiency for our clients.</p>
6.	Scalability of the Solution	<p>The revenue model is designed for scalability, catering to businesses of different sizes. It employs a subscription-based model, pay-per-prediction option, licensing fees, and consulting services. This diverse approach ensures adaptability and long-term viability for garment manufacturing enterprises, offering them cost-effective and flexible solutions.</p>