

# The Operation Management Issue on Chili Producer: A Case Study at Xing Tong Seng Sdn Bhd

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## ABSTRACT

This research report explores the operations management challenges encountered by Xin Tong Seng Sdn Bhd, a business that operates in a world characterized by increasing technical progress, more globalization, and constantly shifting consumer needs.

A well-known participant in the agriculture industry, Xin Tong Seng Sdn Bhd, faces various difficulties that affect its ability to operate profitably and compete in the market. This report explores the operations management problems the company is facing, with a particular emphasis on how inconsistent chilli yields impact market supply, inefficient use of resources (especially water and fertilisers), and difficulties satisfying market demand as a result of production variations.

**Keywords:** operation management, chili producer, Xin Tong Seng Sdn Bhd

## INTRODUCTION

In the dynamic landscape of modern business, effective operations management is crucial for sustaining and enhancing organizational performance. This study report delves into the operations management issues faced by Xin Tong Seng Sdn Bhd, a company operating in an environment marked by rapid technological advancements, globalization, and ever-changing market demands.

Xin Tong Seng Sdn Bhd, a prominent player in the agricultural sector, is confronted with multifaceted challenges impacting its operational efficiency and market competitiveness [5]. This report delves into the operations management issues faced by the company, specifically focusing on the inconsistency in chili yields affecting market supply, inefficiencies in resource utilization—particularly water and fertilizers—and challenges in meeting market demand due to production fluctuations.

Xin Tong Seng Sdn Bhd, a leading player in its industry, has encountered a spectrum of challenges in its operations management that demand a comprehensive investigation. The significance of this study is underscored by the escalating complexity of the global business environment, where organizations are continually striving to optimize their operations for efficiency and competitiveness.

Xin Tong Seng Sdn Bhd stands as a prominent force in the dynamic realm of the agricultural sector, where it plays a pivotal role in the production and supply of agricultural commodities, particularly focusing on chili cultivation. As the company navigates the intricacies of the agricultural landscape, it has become apparent that it faces a spectrum of challenges that transcend mere operational hurdles and extend to the

heart of its market competitiveness.

Xin Tong Seng Sdn Bhd, a key player in the agricultural sector, is currently grappling with a series of complex operational challenges that demand focused attention and strategic intervention [5]. These issues, each with its unique set of intricacies, pose significant threats to the company's operational efficiency and market competitiveness.

### **The problem face by the company:**

#### **Inconsistency in Chili Yields Affecting Market Supply**

The foremost challenge faced by Xin Tong Seng Sdn Bhd revolves around the unpredictable and inconsistent chilli yields, thereby disrupting the company's ability to meet market supply demands consistently [5]. This inconsistency can be attributed to a multitude of factors such as varying weather conditions, soil quality, and pest infestations, all of which contribute to the volatility in chilli production. The repercussions of this challenge extend beyond the operational realm, impacting the company's market standing, customer relationships, and overall financial performance.

#### **Inefficiencies in Resource Utilization, Particularly Water Fertilizers**

Xin Tong Seng Sdn Bhd is confronted with inefficiencies in the utilization of critical resources, notably water and fertilizers. The mismanagement of these resources not only contributes to increased production costs but also raises environmental concerns. In an era where sustainable practices are gaining prominence, the inefficiencies in resource utilization pose a threat to the company's long-term viability. Addressing this challenge is imperative not only for cost optimization but also for aligning the company with contemporary environmental and ethical standards.

#### **Challenges in Meeting Market Demand Due to Production Fluctuations**

Meeting market demand consistently is a persistent challenge for Xin Tong Seng Sdn Bhd, primarily stemming from production fluctuations [5]. The inability to accurately forecast and regulate production levels in response to market dynamics results in potential stockouts or excess inventory. This not only impacts the company's relationships with distributors and retailers but also poses a threat to customer satisfaction. Addressing this challenge requires a holistic approach to demand forecasting, production planning, and supply chain management.

#### **Interconnected Nature of the Issues**

It is crucial to recognize the interconnected nature of these issues. The inconsistency in chili yields directly affects the company's ability to meet market demand. Simultaneously, inefficiencies in resource utilization contribute to the volatility in production, exacerbating the challenges faced by Xin Tong Seng Sdn Bhd. Understanding the interplay of these issues is essential for devising a comprehensive and effective strategy to enhance operational efficiency.

#### **The Urgency for Resolution**

These operational challenges pose not only immediate threats but also have long-term implications for Xin Tong Seng Sdn Bhd. In a competitive agricultural landscape, where consumer preferences, regulatory standards, and sustainability practices are evolving rapidly, the company must address these issues urgently to secure its position in the market and ensure sustained growth.

## **The Need for Strategic Intervention**

The complexity of these challenges necessitates a strategic intervention that goes beyond mere operational adjustments. Xin Tong Seng Sdn Bhd must adopt a multifaceted approach, leveraging technology, data analytics, and sustainable farming practices to address the root causes of these issues.

## **METHODOLOGY**

The chosen methodology involves in-depth interviews with critical stakeholders. Structured interviews will be conducted with the operations manager to understand overarching strategies and challenges. Farmers will provide insights into on-field practices, while technologists will offer perspectives on technological integration. The triangulation of data from these sources ensures a holistic understanding of the operational landscape [7].

### **Insights into Inconsistent Chili Yields**

To understand the factors contributing to inconsistent chilli yields, interviews will delve into the susceptibility of the primary chilli variety to pests and the impact of weather fluctuations. The operations manager highlighted the need for a deeper understanding of the challenges posed by these factors. Through targeted questions, the team will explore challenges and obstacles in maintaining stable production. The operations manager emphasized the susceptibility of the primary chilli variety to pests and the influence of weather fluctuations as major contributors to inconsistent yields.

#### **Insights into Inconsistent Chili Yields:**

Interviewee: Operations Manager

Response: “Our primary chilli variety, ‘Spicy Supreme,’ is susceptible to pest infestations, particularly aphids. Moreover, irregular weather patterns, such as unexpected heavy rains, have led to fluctuations in chilli yields.”

#### **Challenges and Obstacles in Maintaining Consistent Production:**

Interviewee: Head Farmer

Response: “Pest control measures are challenging to implement effectively. Weather forecasts help, but sudden changes impact the growth cycle. We struggle to maintain a consistent production rhythm due to these external factors.”

### **Resource Utilization Practices**

Interviews will focus on the current water and fertilizer utilization practices. By probing into the methods employed, the team aims to uncover existing inefficiencies and areas for improvement. The operations manager acknowledged the use of traditional methods and highlighted the potential for optimizing the timing and quantity of inputs. The team will inquire about any inefficiencies or areas for improvement in resource management practices. The operations manager identified room for improvement in optimizing the timing and quantity of water and fertilizer inputs. The irrigation system was specifically mentioned as a potential area for enhancement to ensure better water efficiency.

### **Water and Fertilizer Utilization:**

Interviewee: Agricultural Technologist

Response: “We currently employ traditional flood irrigation and periodic fertilizer applications. The challenge lies in optimizing the timing and quantity of water and fertilizers. Our irrigation system needs an upgrade to enhance water efficiency.”

Identified Inefficiencies in Resource Management:

Interviewee: Head Farmer

Response: “Our current irrigation system could be more efficient. There are times when we overapply fertilizers, leading to unnecessary costs. Optimizing resource use is crucial for sustainable farming.”

### **Market Demand Challenges**

Impact of Production Fluctuations on Market Demand:

Interviews will seek perspectives on how production fluctuations have impacted Xin Tong Seng’s ability to meet market demand. By examining specific instances or patterns of production fluctuations, the team aims to understand the challenges faced in adapting to market dynamics. The operations manager highlighted instances where sudden spikes in market demand couldn’t be met, resulting in missed opportunities.

Interviewee: Sales Manager

Response: “Production fluctuations have impacted our ability to meet sudden increases in market demand. There were instances where we fell short due to unexpected spikes in chili orders.”

### **Quality Control Measures**

The team will inquire about the existing quality control measures in place during the chili production process. Questions will focus on the effectiveness of these measures in ensuring a consistent and high-quality chili supply. The operations manager acknowledged the presence of quality control checkpoints at key stages but emphasized the need for improvement, particularly in systematically collecting customer feedback.

Interviews will aim to gauge the perceived effectiveness of the existing quality control measures. The operations manager acknowledged the need for improvement in the feedback mechanism, suggesting that a more robust system could enhance overall quality control.

Existing Quality Control Measures:

Interviewee: Quality Assurance Officer

Response: “We have checkpoints during planting, flowering, and harvesting. However, our feedback mechanism relies heavily on internal audits. Customer feedback collection lacks a systematic approach.”

### **Effectiveness of Quality Control Measures:**

Interviewee: Quality Assurance Officer

Response: “While internal audits help identify issues, a more robust feedback system involving customers would provide real-world insights. We need to enhance our quality control with external perspectives.”

## **FINDINGS AND DISCUSSION**

### **Inconsistent Chili Yields Affecting Market Supply**

To critically analyze the inconsistent chili yields, the Six Sigma methodology can be applied [5]. This approach involves defining, measuring, analyzing, improving, and controlling processes. In this context, the define phase involves outlining the specific parameters of chili yield variability. The Measure phase employs key performance indicators (KPIs) such as yield per acre, growth cycles, and environmental factors affecting chili plants. The Analyze phase delves into root cause analysis, identifying factors like pest infestation, climate variations, or soil quality. The Improve phase suggests targeted interventions and the Control phase establishes ongoing monitoring mechanisms to ensure consistent yields.

#### **Root Cause Analysis:**

**Pest Infestation:** Conduct a thorough examination of the crop and implement pest control measures. Utilize pest control models to predict and prevent infestations.

**Weather Conditions:** Analyze historical weather data and employ statistical tools to predict and plan for weather fluctuations.

**Soil Quality:** Implement soil testing procedures to assess and enhance soil quality, ensuring optimal conditions for chili cultivation.

#### **Impact on Market Supply:**

Inconsistent yields not only lead to market unpredictability but can also affect customer trust and satisfaction. Understanding and addressing these factors are crucial for stabilizing chili production.

### **Inefficiencies in Resource Utilization (Water and Fertilizers)**

Efficient resource utilization aligns with the principles of lean management. Value Stream Mapping (VSM) is a suitable tool for visualizing and analyzing the flow of materials and information [3]. By Value Stream Mapping (VSM): Visualize and analyze the flow of water and fertilizers throughout the farming process, identifying areas of inefficiency.

**Total Quality Management (TQM):** Implement quality control measures to ensure the proper application of water and fertilizers, minimizing wastage [5].

**Impact on Operational Costs:** Resource inefficiencies lead to increased operational costs, affecting the overall profitability of chilli farming operations. Addressing these inefficiencies is crucial for sustainable and cost-effective farming practices.

### **Challenges in Meeting Market Demand Due to Production Fluctuations**

To address challenges in meeting market demand, Capacity Planning tools can be applied. This involves assessing current production capacities, understanding demand patterns, and identifying production bottlenecks [3]. By utilizing tools such as the Critical Ratio (CR) method, Xin Tong Seng Sdn Bhd can prioritize production tasks based on their impact on meeting market demand. Additionally, implementing a

Just-In-Time (JIT) approach can help synchronize production with market requirements, minimizing excess inventory and associated costs. Continuous monitoring through tools like Earned Value Management (EVM) ensures the alignment of production with market demand over time [3].

### **Root Cause Analysis:**

Capacity Planning: Assess the current production capacities and align them with market demand patterns.

Critical Ratio (CR) Method: Prioritize production tasks based on their impact on meeting market demand.

Just-In-Time (JIT) Approach: Implement JIT principles to synchronize production with real-time market requirements.

### **Impact on Market Competitiveness:**

Production fluctuations can lead to missed market opportunities or excess inventory, impacting the competitiveness of Xin Tong Seng Sdn Bhd. Strategic capacity planning is essential for market responsiveness and competitiveness. In conclusion, employing methodologies like Six Sigma, Value Stream Mapping, Lean Management, and Capacity Planning provides a structured approach to critically analyze and address the identified operational challenges at Xin Tong Seng Sdn Bhd [3]. These tools offer systematic insights, enabling the development of targeted strategies for improvement in chili farming operations.

## **RECOMMENDATION**

Based on the feedback from the interview and data collected from the staff from Xin Tong Seng, we would suggest a few recommendations to mitigate the problem statement that occurs in their company. First, inconsistency in chili yield, the company needs to enhance the diversification of chili varieties. The company should explore and introduce pest-resistant chili varieties to mitigate the impact of pests on yield consistency. Implement Integrated Pest Management practices including biological control methods and regular monitoring to minimize pest infestations and increase the production of chili. Train farmers on IPM techniques, emphasizing the use of beneficial insects and targeted treatments to minimize the reliance on chemical pesticides. Provide training programs for farmers and staff to enhance their skills and understanding of modern agricultural practices. Encouraging continuous learning and adaptation to new technologies is also important to make sure the quality production of chili yields.

Secondly, inefficiencies in resource utilization may lead to waste of cost and quality of the chili. Precision farming techniques by upgrading the irrigation system to incorporate precision farming techniques and optimizing water distribution. Besides that, a customized fertilization schedule may be applied to be more efficient and develop and implement a structured fertilization schedule based on soil and plant needs to enhance fertilizer efficiency. Before that, soil tests must be conducted to determine nutrient requirements, and tailor fertilizer application, accordingly, reducing waste and environmental impact. Afterwards, invest in modern irrigation technology, such as drip or sprinkler systems, to ensure precise and efficient water application. Next, put into practice quality control measures. Introduce quality control checkpoints in the production process to identify and address inconsistencies early on.

Subsequently, challenges in meeting market demand, and a few methods that could be significant to mitigate this issue. The company may implement such things as demand forecasting, collaborative supply chain, and market expansion [3]. Working on advanced demand forecasting tools to anticipate market needs and plan production accordingly. Adopt software solutions for demand forecasting, considering historical data, market trends, and seasonal variations. Next, strengthen collaboration with key buyers, distributors, and suppliers to create a more responsive and adaptive supply chain. Instead of that, establish regular



communication channels with key stakeholders to share production plans, identify potential challenges, and collaboratively address market demands. Furthermore, boosts market expansion to enlarge the market demand. Examine potential avenues for expanding the company's market reach while considering local and global marketplaces. Form strategic alliances with distributors and retailers to increase market penetration. In essence, a comprehensive strategy that combines advanced demand forecasting, collaborative supply chain practices, and strategic market expansion mitigates challenges in meeting market demand and positions the business for long-term success in a dynamic and competitive marketplace [3].

## CONCLUSION

This project aims to provide Xin Tong Seng Shd Bhd with a comprehensive analysis of its chili production challenges and offers actionable recommendations and solutions to improve overall efficiency and meet market demand consistently. The successful implementation of these measures will contribute to long-term sustainability, and growth of the company, meanwhile indirectly increasing our economy.

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