

Chapter 12

Improvement of Resource Utilisation Through Forecasting, Planning, and Information Flow: An Adoption of Lean Principles

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ABSTRACT

Demand forecasting and production planning are challenging issues when working to supply perishable goods to fulfil supermarket requirements as opposed to dry goods that can be manufactured and have a fixed storage life. The focus of this report is on the improvement of resource utilisation through better forecasting, planning, and information flow. There is a fluctuation for labour demand within the processing function; controlling the number of staff daily is vital to the efficient running of production and waste reduction. It is the belief for the management that left unchecked the production planners can tend to overorder staff as a contingency.

INTRODUCTION

Company X (CX) is a privately-owned company whose main business is the service provision of fresh produce for supply to major retailers within the United Kingdom (UK). CX is part of the CX Group whose mission is to develop new apples for commercial release to growers. CX also imports top fruit (apples and pears) and works with British growers of top fruit to supply retailers year-round. It is the

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largest service provider of top fruit to major supermarkets in the UK. Interests that include joint ventures in table grape production in Greece and Chile pursuing a vertical integration strategy supplies fruit to China and the UK.

The main site in Kent has a state-of-the-art packing facility. Until recently, the focus of the site has been to pack and supply grapes to a single major retailer, delivering around 5.5 million cases of grapes per year. The retailer has decided to streamline its business. They have chosen to move their grape packing to a new bespoke site that will supply several products giving efficiencies of scale that they believe they were lacking. This change has a huge impact on the site in Kent, and for the site to remain a viable going concern CX must find new customers to replace the lost volume.

For the last 15 years, CX has packed fruit either as an importer or a service provider for a single major retailer. During this time CX has prided itself on an exemplary service level of 99.97% and being able to meet the retailers' daily requirements no matter the fluctuation or complexity of the orders in an already complex global supply chain. Delivering these 52 weeks of the year requires flexibility. Although the retailers' sales may be relatively steady throughout the year, table grapes have short seasons and to supply year-round the fruit is imported from a minimum of thirteen countries. Generally, grapes from northern hemisphere countries can be packed and shipped in a relatively short time frame of ten days. This fruit can be packed at source "retail-ready" requiring little or no remedial work prior to onward delivery to the retail customer in the UK. Whereas fruit from the southern hemisphere can arrive upwards of 30 days after packing at source and is generally not packed as "retail-ready", this fruit requires much more work on arrival in the UK to prepare for retail. This is the main factor that determines the demand for labour within the pack-house and imposes the need to employ agency staff within the packing process at CX facility at Orchard Place to complement the core staff at certain times of the year, as the column chart Figure 1 below shows. Core staff are employed year-round as permanent staff members, whereas a third-party labour provider supplies agency staff on a daily shift basis. This way of working optimised to meet the retailers quality requirements has served CX well over time. However, as it seeks to find a new business without the security of the retailers', CX must look inwardly and ensure the business is competitive.

Figure 1 shows that in the period March 2020 to February 2021, agency staff made up to as much as 71% of the pack-house workforce with a high requirement from March through to mid-June when the need for agency staff fell to zero. The requirement for agency staff remains relatively low through the summer and is sporadic through September to January, when the requirement increases once again.

This chapter focuses on the packing facility at Orchard Place. It defines how to improve labour resource utilisation by improving the flow and accuracy of information from the commercial and technical teams at CX to the pack-house manager and planners.

To attract new business, the site must work to improve its efficiencies and prove itself competitive. The site at Orchard Place has around 240 employees, including office, warehouse, and pack-house staff (the packhouse staff work on a four-on-four-off shift pattern; therefore, there are approximately 80 packhouse core staff per shift). To achieve the requirements of new customers efficiently, CX should aim to better control the management of daily workflow and staff levels required.

The Senior Management believes that in meeting the retailers' demanding specification, the pack-house is generally overstaffed and works to Parkinson's Law. The Law proposes that "Work expands to fill the time available for its completion" (Gough, 2011), suggesting that the pack-house will work to complete the daily order cycle in the 12 hours allotted to each shift, without a great incentive to improve efficiency.

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