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Focusing on Logistics to Improve Customer Service: the Case of Transnational Optical

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The Case of Transnational Optical

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INTRODUCTION

Siobhan Ward, Supply Chain Director for Transnational Optical in Ireland, considered what the plant management team had to achieve. The team had decided that decisive action was needed to increase control of the supply chain with a view to improving customer service and removing 'noise' from the system.

It was critical that the production process add value for customers – they needed key performance indicators that were strongly linked to customer satisfaction. She was confident that Transnational Optical could become an integrated and valuable part of their customers' supply chains, but a lot of effort and staff goodwill would be needed. Production and Marketing were in the process of devising a strategy that would put them at the cutting edge of the industry – they knew where they wanted to go, getting there was the challenge.

Pick/Ship turnaround time (the time from picking the raw material to dispatching the finished product) is now two and a half days; that definitely had to be reduced. Both finished inventory and raw material (substrate) needed to be reduced by 30 - 45% (with no adverse impact on service) and, most critically, lead time needed to be reduced from an unacceptable high of 15 days down to an acceptable 3 days, ideally for all customers and all products.

Volume on Time (VOT), which measures product delivered relative to product ordered, now stood at 90%; Complete on Time (COT), which measures the number of complete orders that the plant delivers, was in the high 80s – both these figures needed to be in the high 90s.

The management team had identified the problem areas. A three-pronged approach to improving customer satisfaction would focus on logistics, production and people.

- Logistics is concerned with right stock, stock accuracy, schedule adherence, pick/ship turnaround time
- Production would focus on flexibility, responsiveness and reliability
- People issues were concerned with ownership

It was all down to finding the best performance indicators, managing and motivating the teams, and above all, being proactive. If they could reconfigure operations to achieve these targets then not only would they have best practice, but customer noise would be gone from the production process, and the Management Team could concentrate on strategic issues that would further secure Transnational Optical's place as a premier supplier of photochromic lenses.

Anyway, the strategy meeting would start with a review of current performance and take decisions that affected the future. Siobhan was looking forward to it

COMPANY PROFILE

Transnational Optical manufactures and markets plastic photochromic prescription lenses on a global basis with representation in five continents. The industry is intensely competitive both for plastic and glass prescription finishes.

The company employs around 1200 people between its headquarters and sales offices in the United States, Australia, France, Hong Kong and Brazil and its manufacturing sites in Florida, Ireland, Canada, Brazil and the Philippines. Transnational Optical invests heavily in research and development and between 1990 and 2002 successfully introduced 9 new families of products globally.

Production for Europe is based in County Waterford, Ireland, with sales and marketing operating from Paris. These two operations between them employ 190 people. The Irish plant, with a workforce of approximately 160, operates 24 hours a day, Monday to Friday across 3 shifts with two 12

managers runs the plant. The age profile of the management team is relatively young and the gender balance is roughly 50/50.

Traditionally, manufacturing plants supplied geographical regions but recently the emphasis has changed. The plant in the Philippines was established as a focus factory for one family of products which are distributed world-wide. A European Distribution Centre (EDC) has been established in France and this centre stores and distributes all product from the Phillipines destined for Europe. The Waterford plant now feeds product through the EDC.

Transnational Optical buys substrate from lenscasters, it then applies its high technology coating either to order or to stock. Make-to-Order goods are shipped back to specific lenscasters and a stock of finished goods is also available for sale to lenscasters on the open market. At the moment, the industry norm is for products to be sold ex-works. (Transnational responsibility is to put the product on the truck, the customer pays freight costs; similarly when Transnational is buying substrate, it is responsible for the freight and transport to bring it in to Waterford). Depending on a number of variables, stocks of finished goods are manufactured one to three months ahead of orders. Because of the volume of business, the company carries a large stock of lenses. Currently it has about 14,000 stock keeping units (SKUs), 8,000 of which are very active.

At any one time up to 15 lenscasters supply Transnational Optical with regular orders. However, customers may have several subsidiaries and multiple shipping sites, so a single customer could generate 25 separate orders to be delivered to different shipping points. The business is unusual in that nearly all Transnational Optical suppliers are also customers. However, this facilitates a partnership rather than an adversarial approach. Orders are taken via Electronic Data Interchange (EDI) and Transnational Optical is working towards increasing supply chain visibility by sharing stock information on a monthly basis with its biggest customers.

THE STATE OF PLAY

The Waterford management team is determined to eradicate erratic service levels that feed customer dissatisfaction. The company is very focused on customer service levels; these are always recorded and always communicated to the customer via a monthly report. Complaints from customers are closely monitored. The Plant management likes to work with its customers and finds strong lines of communication foster good customer relations, but if the plant is falling down in such a basic thing as supplying orders, then it is difficult to talk to customers about developing relationships. If noise could be eliminated then management could concentrate on more value-added conversations and discussions.

Currently, VOT at around 90% means that customers are unable to optimize their supply chain. COT is around 85% and backorders are high, with up to two weeks delay in supplying the balance of orders. Order to delivery times can take as long as 15 days, with different order turnaround times for different customers, depending on the product type and on the contract negotiated by the Sales and Marketing Department.

Inventory is a challenge. High levels of inventory are a major problem not only in terms of financials, but also in terms of inhibiting new product development. In fact, management spends a lot of time thinking about getting the stock right; the emphasis is on effective stock and the search is on to find one figure that would tell how good the inventory is; one figure that really means something.

When stock is accurate what is in the system matches what is on the shelf. Obviously this is very important financially; financials tend to be based around stock and if you have less on the shelf than on the system you have to write off product. However, too strong a focus on financials can hide the fact that accuracy is not the total picture, e.g. while the total figure may be accurate, one SKU could be up twenty units, another down twenty, which could lead to a backorder. Part of the problem lies with the nature of the SKUs – because numbers run in sequence across parts that are sometimes almost indistinguishable, you could be talking about one digit out on a label. Workers in a hurry, or in a

careless mode, might place SKUs in the wrong place, leading to a perceived shortage or to an operator picking the wrong SKU for an order.

Inventory, picking, and scheduling are all interlinked. Schedule adherence, from a raw materials perspective, starts in the receiving warehouse where the raw lenses are held. The operator's job doesn't end until they have picked the substrate according to a schedule and delivered it into the beginning of the production line. Obviously, if they don't have it picked in time or pick the wrong SKUs, then you have production down-time or you actually process the wrong product. Problems with stock, both raw and finished, lead to more than one pick, high numbers of back orders and dissatisfied customers.

The management team is grappling with the amorphous nature of the plant. At the moment, manufacturing tends to be one big black box with products being moved to a number of different ovens, a number of different coating machines and a number of different packaging machines; a lot of time is lost in setting up changeovers. When a product goes into the process it could bounce around a number of sections, making it difficult to assign responsibility. Lot sizes are large and sometimes lead to bottlenecks (bottlenecks happen when one part of a system cannot handle the rate of productivity; work piles up, and slows the overall process). Multiple handling of the product often results in scratched lenses which seriously affect yield. (Yield looks at the number of lenses coming out of the process against the number going in).

Transnational Optical, a non-union house, has always used a team approach to manufacturing. However, manufacturing teams are not perceived to be working to full potential and are certainly not the panacea suggested by textbooks. Sometimes team profiles are unsatisfactory, at other times teams seem unsure exactly what they are being measured against, or what their objectives are. Team members can be slow to take responsibility for particular issues, in other words teams become a good place to hide. Siobhan and her colleagues are looking for a way to encourage individuals to take ownership of problems. Changing the plant bonus scheme, currently paid on a bi-annual basis across numerous performance indicators, offers

a possible opportunity for improving team performance. Issues for decision are whether the bonus should be individual, team or whole-plant based; if team or plant based should there be a recognition and reward process for exceptional effort from individuals or teams; should the performance indicators fuelling the bonus be stream-lined and if so what should these performance indicators be. Another area for decision is whether bonus measures should be all or nothing. Should some be percentage based depending on approximation to the target? If the target is exceeded, should there be an accelerator?