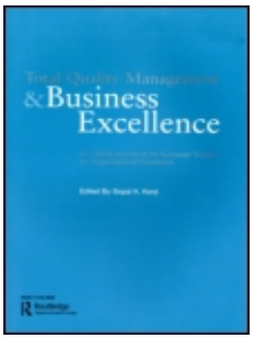

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Marcia Perry & Amrik Sohal

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Improving service quality within the supply chain: an Australian study

MARCIA PERRY[1] & AMRIK SOHAL[2]
[1]*Department of Management, Victoria University of Technology, Footscray, Melbourne, Australia* & [2]*Department of Management, Monash University, Caulfield, Australia*

Introduction

During the early 1990s the Australian Textiles, Clothing and Footwear (TCF) industry suffered a major setback, reducing by over a third in size. The setback was caused first by the economic downturn and second by a flood of cheap clothing imports. The import flood followed the implementation of a level-playing-field government policy to lift progressively import restrictions. Using outmoded and poor methods of manufacture, and having poor levels of customer service throughout the supply chain, many companies could not compete for the custom of local consumers. In order to survive, companies either outsourced overseas or sought to become more competitive through improving service quality. A recognized service quality factor for competitiveness over textile and clothing imports to Australia is delivery time (Textiles, Clothing and Footwear Development Authority, 1992, p. 4).

Some companies, such as Diana Ferrari, shoe manufacturer, actually flourished through adopting a strategy of delivery timeliness. Diana Ferrari has been a participant in the government project under study in this paper. The project, called the Quick Response Programme, has aimed at improving TCF industry service quality to retailers and end customers. The quality takes the form of on-the-shelf product availability of targeted products that meet customer demand. The Quick Response Programme has been a success, hinging upon the development of vertical supply chain partnerships strategically galvanized towards timely service to retailers and end consumers. The government programme has now been expanded to include other industries, such as automotive, market, food and furniture.

The findings presented here are from a wider research project conducted on the pilot Quick Response Programme. That research included a survey of the state of the TCF industry, case studies, a longitudinal study of quick response practices occurring in the participant companies and the development of an industry-tested model of effective quick response practices.

Supply chain workshops focused on quick response

In this paper a range of quality processes are discussed which occur in the supply chain workshops, aimed at developing and maintaining a cooperative group committed to timely response to end-customer requirements. The building of trust between supply chain partners

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was a key focus of the workshops. This paper will explain how the quality of the workshop processes, coupled with overall improved manufacturing process quality, led to higher aggregate levels of service quality in terms of speed-to-market of better quality products. The higher quality of products and service was also linked to higher aggregate levels of sales and increased competitiveness. The paper will also show that the participant companies were able to provide better quality service to each other, with more of 'the right product at the right time' throughout the supply chain pipeline.

Fifty companies participated in the Quick Response Pilot Programme. As well as an ongoing workshop programme, support was provided for each participant company in the form of infrastructure funding, a series of quick response seminars, electronic data interchange (EDI), installation support and consultant assistance. The partnerships comprised, typically, a manufacturer, a supplier to the manufacturer and a major retailer.

Cooperation throughout the entire supply chain was identified in the research findings as a key strategic factor in timely product availability to the end department store customers. Its strategic importance has been established clearly by writers such as Blackburn (1991), Juran (1995), Kolarik (1995), Lowson (1995) and Pugh (1991). The TCF industry reports of the early-to-mid-1990s also reiterated the need for supply chain cooperation to improve the market responsiveness of manufacturing companies.

Fifteen of the government-initiated supply chain workshop meetings were observed and workshop minutes examined. Through the workshops, senior managers met regularly. It is evident that the workshop process was of considerable benefit to all the parties concerned. Indeed, from the anecdotal evidence the feeling of trust and the overall improved communication and information flow that resulted were viewed generally as being linked to improved customer service quality. The anecdotal findings were further supported by the case study findings.

Four common workshop procedures were noted, namely:

(1) circulation of company 'wish lists' aimed at faster customer service improvement within each cluster group;
(2) discussion of the wish lists and the development of group and company action plans;
(3) the inclusion in each group of a consultant selected by the manufacturing company for assistance with in-house quick response implementation activities;
(4) follow-up strategic and tactical planning amongst the cluster group.

The wish lists frequently contained requests for improved working relationships between the partners, improved response to customer orders and reduced pipeline waste and delay. Prior to the workshop meetings, participants had been asked by the government-appointed facilitator to develop selfish 'wish lists', that is, lists of things they would like to happen in the supply chain to improve their own performance and profitability. It was speculated that because the 'wishes' by definition were framed as challenges, they tended to be thought of in a positive light, rather than as problems with negative connotations. From observations of workshops, group acceptance of 'wish list' items and desire to address the inherent challenges were high.

The retailers' wish lists were mainly concerned with having the right product available on the shelf for their customers in order to maximize sales. They believed that better planning with their suppliers would improve in-full, on-time deliveries and lessen end-of-season markdowns. They also requested more involvement of the manufacturer at the designing/planning stage and ongoing communication on product development.

The manufacturers generally believed that some of the present constraints to in-full, on-time deliveries were in the realms of both retail and supplier operations. They regarded major constraints by retailers as being delays at the retail distribution centre, unscheduled

changes in order quantity, delivery dates and product specifications and complex paperwork. The major supplier constraint was seen generally as frequent long lead times, causing delays.

Particular issues raised on manufacturers' wish lists were the need for the supply of ongoing retail sales data and forecast information (at least 2 months ahead) from the retail buyers. Weekly sales data updates were requested, as was the holding of regular meetings to review a range of activities. The manufacturers also requested a reduction in paperwork from the retailer and wanted the adoption of more streamlined information transfer procedures, including EDI implementation. A common request was for faster movement of stock from the distribution centre to the retail shelf.

Specific items raised by suppliers in relation to manufacturers concerned information sharing, provision of relevant ongoing forecasts, constant order intake and continuing involvement of themselves in new product development. They also wanted to see a reduction of the number of colours/materials in samples and ranges. A frequent point of discussion was that upstream suppliers were 'often in the dark' about future orders and they had to cope with high degrees of uncertainty and resultant peaks and troughs in production. The suppliers also frequently had to 'guesstimate' future requirements, which was costly if the market requirement changed. Throughout the course of the workshops it became evident that the suppliers to the manufacturers were very much needed in the product planning stage for effective end-customer service quality.

Wishes common to all three groups across the clusters concerned joint planning, improved communication and increased information sharing. By discussing these types of wishes first, the government-appointed facilitator of the Quick Response Pilot Programme workshops was able to guide groups towards the development of action plans based on the full range of wishes expressed.

The most frequently proposed course of action was joint season-sales planning and product activity coordination. This was to ensure timely deliveries of initial orders and replenishment stock and to minimize waste and delay. Action to provide accurate knowledge of what was selling included frequently updated sales and forecast data at the retail end. Anecdotal evidence supports a view that many of the clusters saw themselves as improving in timely customer service capability because of the improved communication and information flow between partners.

From observations of the workshop processes it was clear that the round-table communication occurring in the workshops was of great strategic value to all parties. Unlike the more restrictive company-to-company communication of the past, a communication channel had been opened up between the upstream raw material or component supplier and the retailer.

It became evident that all parties were benefiting from the increased understanding of each others' businesses and perspectives. The upstream suppliers were particularly appreciative of being involved in the discussion and they were able to advise the group about the achievability of particular product material options. What was happening in the workshops strongly indicated that improved supply chain communication and information flow was possible through the adoption of the procedures and methods of interaction being applied in the government programme.

Sometimes the upstream supplier had not met the retail buyer prior to involvement in the workshops. The workshops presented an opportunity for allaying misconceptions and enhancing the understanding of all. Hence the workshops opened up inter-company communication which led to increased understanding, to the benefit of all.

It was apparent to the government-appointed workshop facilitator that the level of timeliness, accuracy and volume of information occurring through workshop activity were higher than the norm. With teamwork, regular meetings, increased knowledge of other partners'

businesses, more focused product knowledge and increased streamlining of information flow through EDI, an improved communication scenario was a clear result. The quick response workshops demonstrated clearly that direct communication between supplier, manufacturer and retailer helped to avoid the sorts of misunderstandings that had occurred previously.

Quality interactive processes

From observations of the workshop meetings, three interactive processes stand out as contributing to their success. The first concerned the existence of a positive problem-solving and opportunity-seeking environment. Bailey *et al.* (1991, pp. 259–263) view this environment as desirable for the effectiveness of working groups. The second concerned the involvement of a facilitator who was not aligned with a particular company and was seen by all as being fair, as supported by the views of Raimond and Eden (1990, pp. 97–105). The third concerned the fact that the participants were all senior-level company managers who saw involvement as beneficial to their companies and who were in a position to make decisions and commitments.

The observed facilitator's style was encouraging and positive. At introductory meetings his leadership style was mainly that described by Hersey and Blanchard (1982) as a 'selling' style. However, during workshops his style became more that of a 'monitoring' or 'participating' style, guiding the group into making decisions. This change of style echoed a 'contingency approach', as prescribed for varying situations (Hersey & Blanchard, 1982, pp. 150–171). Workshop participants tended to concentrate on eliciting top-down problem-solving initiatives within clusters and firms—initiatives that could be effected quickly, without requiring large-scale infrastructure changes and associated costs in the first instance. This initial process, witnessed in the cluster meetings, was an 'obstacle removal process', and through this process the manufacturers built a more streamlined supply-line foundation on which to base strategic infrastructure changes, with less risk than in the past. As the workshops progressed, however, the focus did tend to change towards joint creation of new marketing initiatives.

A startling example of the 'obstacle removal process' occurred in one of the initial workshop meetings and was by no means atypical—a shoe production manager explaining to the group about the 'necessity' for tying up production in making over 200 shoe samples to show buyers for the coming season because he had to show all possible styles and colours. His two suppliers also talked about having to supply large numbers of samples of their products to the manufacturer. The three men were quite taken aback when the buyer present said, "We don't need so many colours, we are more interested in the styles". This interaction indicated a very poor level of supply-line communication prior to the meeting on what was a crucial area—that of product development and the elimination of waste activities (Tidd, 1991, pp. 1–32). It also indicated that the parties had been 'doing what they had always done', perhaps out of habit or fear of losing business.

The outcome of this interaction was a resolution by all the parties concerned to engage in ongoing dialogue and joint product development. Reference was also made to using interactive computer-aided design systems in the future, to replace colour sampling. The outcome of the discussion was highly positive, with creative solutions to members' problems being explored by the group.

As evidenced by this fairly typical example, the quick response workshop meetings proved to be of invaluable importance in increasing understanding between cluster members. Invariably, the workshop discussion spilled over the allotted time of 3 hours and the members were keen to continue the discussion at a follow-up workshop, so commitment to participate

in ongoing meetings was relatively easy to obtain. The usual difficulties associated with finding suitable meeting times for a group of busy working people did, however, arise.

It was considered important by the Quick Response Programme leaders that the company representatives came from as high a level as possible. The reason for this was for high-level commitment to the programme and for the requisite high-level decision-making. In addition, senior managers were likely to be familiar with the quick response requirements. In many instances the senior-level manager and the manager/officer immediately responsible for quick response buying, selling, delivery or production for a particular company were present at the workshop.

From discussions with Quick Response Programme leaders and workshop attendees, the workshops were usually seen as an outstanding success, resulting in many creative improvements being initiated within the companies' capabilities, at little direct cost to the participants. The workshops also served the purpose of cementing the cluster partnerships by building on participants' common interest in mutual growth by servicing end-customer requirements. A further positive feature was the fostering of trust and understanding amongst participants, through the team-building focus (Bailey *et al.*, 1991).

The role of the Quick Response Programme facilitator was a crucial one, and pointed the way to the use of impartial facilitators at supply chain meetings in the future, beyond the Quick Response Programme. This person, perhaps a consultant, needs to draw out very carefully the concerns of the participants, being aware, as far as possible, of the individual and company positions and the group dynamics. It is this person's task to galvanize the group towards becoming a viable problem-sharing and problem-solving team. This is not always easy when, in the past, the communication lines between participants have either been non-existent (as was the case with a number of manufacturers, suppliers and retailers) or the communication lines have been limited, or when relations have been adversarial.

While most of the discussion in this paper has concentrated on the success factors for quick response implementation, at manufacturer level as well as along the supply chain, it is also important to understand the possible impediments to quick response success. From discussions with participants, several factors were reported as lowering levels of supply chain communication effectiveness. These were a lack of dedication of senior management, negative mind-sets, or mind-sets steeped in the traditions of mass production, power-based and adversarial relationships, lack of understanding of the businesses of other members in the chain and poor communication/interpersonal skills. These factors were not overtly evident at the meetings. Indeed, it was difficult to know or gauge the extent to which past difficulties in relationships were influencing the seemingly mostly positive workshop interactions that were being observed.

A major impediment at the retail end was the fact that the retailers still generally needed large-scale restructuring in practices and systems to accommodate quick response. They also needed to develop a well-defined and visible quick response culture.

In-house practices to facilitate responsiveness

Effective responsiveness requires not only supply chain cooperation but also a set of enabling in-house organizational and manufacturing practices. The wider study identified a number of manufacturing practices as pivotal in facilitating the meeting of immediate customer and end-customer requirements. These were time reduction, lean manufacturing, productivity improvement, having a quick response champion on site, investment in computer hardware/software and EDI, or the Internet and having products pre-packed for the retailer. Further important supportive practices, where significant aggregate improvements occurred over the

time of study, were total quality management, change management, just-in-time, the use of advanced manufacturing technologies and time-based benchmarking.

Improved performance

A significant finding was that retail sales increased over the 3 years of the project, indicating better product/service quality. Furthermore, average manufacturing sales also increased dramatically from US$1.1 million to US$2.1 million. This result confirmed the findings of Blackburn (1991), Lowson (1995) and Kurt Salmon and Associates (1988), which associated increased sales with quick response activity.

In addition to increased sales, the research findings revealed that the companies participating in the quick response workshops had greatly improved their performance quality over the period. More timely service along the supply chain was evident through 'increased orders by the due date' from 53 to 92.6%. Actual product quality had improved, with a reduction in 'level of product rejects' from 2.5 to 2.1%. Moreover, a sign of the increased inter-company reliance throughout the supply chain was a doubling of the amount of 'business conducted with the immediate customer', from 8 to 16%.

Through the important vehicle of the government programme workshops, the supply chain partnerships developed trust, improved inter-company communication, increased information flow and eliminated many mistakes made in the past through lack of correct information, especially at the upstream end of the chain. It was found, however, that the quality of the supply chain processes (leading to more positive relationships, better quality of information and better products) was the most significant factor in bringing about increased service quality.

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