

# Supply Chain Dynamics – Demand Management

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In crises managers are pressured to improve the financial position of the company at the same time that demand levels are dropping dramatically. This typically leads to strategic decisions such as reducing inventories (to reduce the level of working capital), downsizing (to reduce operational expenses), and closing manufacturing facilities (to reduce fixed assets). These decisions, however, have

substantial operational consequences when demand increases at a later stage: the reduction of inventory levels, workforce, and manufacturing facilities are decisions that require significant time to be reversed. If the situation that triggered such decisions is temporary and demand recovers faster than the speed at which firms can react, lost sales and general problems with inventory management will appear.

Knowledge about the underlying dynamics behind the demand slump is therefore needed to avoid costly mistakes. With regard to supply chain dynamics, observations are generally made that (a) production variance tends to be greater than demand variance, and (b) that this difference increases the further upstream a firm is. This has the effect of greatly amplifying demand fluctuations through a supply chain and has been termed 'the bullwhip effect'.



Tactically, for managers it is much more important to keep track of consumer demands, supported by an endogenous simulation or demand driven methodologies of ordering behaviors, rather than relying exclusively on information obtained from one or two echelons downstream. These simulation-based results can drive decisions on plant openings and closures, staffing decisions, and aggregate inventory strategies.

