

Operation and supplychain management flashcard



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BUSTER**

Read this carefully This exam is a closed book exam: you are not allowed to have books, articles, notes etc. On your desk. Please take care of your handwriting. You need to be very specific about which question you are answering - it is noticed here that often one question exists of several sub questions. Please explain all your answers and write down your name and student number on each sheet of the answering paper. Try to answer the questions in a well-structured way (I).

It is allowed to answer the questions in Dutch. SUCCESS!! Exam

Specialization course Operations and Supply Chain Management 17th April 2008 1 . In tenet KICK, Slack Ana Less take ten concept AT strategic reconciliation as a starting point for operations strategy. They discuss four perspectives on operations strategy, namely top-down, bottom-up, market requirements and operations resources. A. Explain the concept of operations strategy, starting from the four perspectives and discuss the concept of strategic reconciliation - based on the model of Slack and Lewis. (10 points) b. Operations strategy is different to operations management. These differences can be related to four elements, namely time-scale, level of analysis, level of aggregation and level of abstraction. Explain these differences starting from these four elements. (4 points) 1 . Several articles address different approaches to operations such as Lean Manufacturing, Agility and the Socio Technical Approach. A. Explain and compare the main elements of Lean Manufacturing (Lean Operations) and Agile Manufacturing (Agility). (8 points) b.

In the Socio Technical Approach the idea of self organization is very important. What are the four principles of self organization? Explain these

principles. (4 points) 2. Supply chains have their own dynamic behavior patterns which tend to distort the smooth flow of information up the chain and product moving down the chain. A well-known and often occurring phenomenon with respect to supply network behavior is the so-called 'bull whip effect' or 'supply chain amplification'. A. Explain the phenomenon called the bull whip effect' and discuss and explain at least three causes of the bull whip effect. (5 points) Slack and Lewis discuss three types of proactive actions which operations use in managing supply chain dynamics: coordination activities, differentiation activities and reconfiguration activities. B. Discuss these three types of activities and use examples to explain the activities. (6 points) c. Compare the risk pooling strategy, being a strategy to reduce or hedge uncertainty, to the above-mentioned types of activities to deal with supply chain dynamics. Does it fit in one of these activities (4 points) In ten enclosure you can Tina ten case Bonkers conflate Factory.

In next Stetsons are either "theoretical" (testing your theoretical knowledge) or "practical" (testing your ability to apply different theoretical concepts or models on a practical setting). The practical questions refer to the case Bonkers Chocolate Factory as will be indicated in the question. 3. Slack and Lewis discuss changes in capacity levels as an important decision related to capacity strategy. In deciding on changing capacity levels the first decision is when to make the change. According to Slack and Lewis there are three generic timing strategies: capacity leading, capacity lagging and smoothing with inventories. . Explain the three generic strategies for timing capacity change. (3 points) b. Discuss one advantage and one disadvantage of each generic timing strategy. (6 points) c. Which of these strategies apply

most for the situation of Bonkers Chocolate Factory? Explain your choice and underpin with arguments. (3 points) 4. According to Slack and Lewis there are three dimensions that relate to process technology. These dimensions are very important in defining and assessing the operations strategy of a company. A. Define the three dimensions of process technology and illustrate them by using the case Bonkers Chocolate Factory. 4 points) b. Compare the characteristics of the rent technology and the potential characteristics of the new technology at Bonkers Chocolate Factory by applying the product-process matrix of Hayes and Wheelwright and discuss the consequences of these positions related to the performance. (10 points) 5. Describe the current situation of Bonkers Chocolate Factory in terms of market requirements, taking into account the opportunities and threats Bonkers Chocolate Factory is facing. (8 points) 6. Analyses the strategic reconciliation process of market requirements and operations resources of Bonkers Chocolate Factory.

In doing so, start from the current situation and compare this reconciliation process with the potential strategic options of Bonkers Chocolate Factory. (15 points) 1. In ten KICK AT Slack Ana Lewis Tour pure types AT organizational Torts are described. A. Discuss the four pure types of organizational forms and explain the differences between these types. (5 points) b. Discuss which type seems to be used by Bonkers Chocolate Factory and explain how this organizational form may affect the implementation of a new technology. Underpin your answer with arguments. (5 Bonkers Chocolate Factory

Chocolate making starts with a series of primary processes to convert milk, sugar and cocoa into thick viscous liquid chocolate. The coaching process is <https://assignbuster.com/operation-and-supplychain-management-flashcard/>

a critical element of the primary process, taking fatty powders and, through a shearing action between large contra-rotating rollers which releases fats and disperses solids, to produce liquid chocolate with various controllable physical properties, such as temperature and viscosity. This chocolate is then used at secondary processes; to McCollum solid bars, to coat biscuits and assortments, and to make specialist products such as

Christmas novelties. Bonkers Chocolate, the American division of a multinational candy company, was facing a critical decision over the future of its conching technology. Late in 2001, at a meeting of the Bonkers Chocolate Management Committee, discussion centered on the purchase of additional equipment for the Chocolate plant. The Engineering Director was proposing the implementation of a new in-house conching technology, whereas the Manufacturing Director wanted his \$3 million capital application for a fifth conventional conch machine (to provide an additional 25 per cent capacity) approved.

I believe that we cannot survive and grow without this type of leading-edge development. In my view, the old technology is often barely able to achieve the demands placed on it by the complex new products being dreamed up by our Development people. There are at least six advantages of this technology, not all of which can be evaluated financially: (1) Trials indicate that for 50 per cent of recipes, fat content can be reduced by up to 1 per cent without significant changes to flavor or texture. As cocoa butter is expensive, this could give significant savings for some products.) The new process gives much greater control over viscosity, allowing more precise coating potentially reducing reject levels on all coated products. (3)

Conventional conches take hours to clear for a recipe change, during which time the output is a mixture of two recipes, which can, therefore, only be used on the lower quality specification product (usually selling at a lower price). The new conch, in comparison, fully clears all material in less than half an hour, reducing the cost of materials. 4) The new conching process will allow a much wider range of chocolates of the producer, as it can produce too enlarged velocity and to tolerated tolerances. (We believe that the technology will work at any size from one-tenth to double the size of conventional conches. They can be custom built for our specific needs. (6) The new conch occupies 1, 500 square feet on one level, whereas a similar sized, conventional machine occupies 2, 000 square feet on three levels (total 6, 000 square feet).

These modern and efficient process technologies will be critical in our future developments; Mars and Nestle© are certainly investing heavily in their factories' (Engineering Director). ' If we cannot approve the purchase of another conch machine, we won't meet forecast demand growth for 2002/2, and will be forced to cut back on expansion plans. We already experience frequent capacity problems in the chocolate plant..... It is nearly impossible to plan an efficient sequence of production to satisfy the needs of all the secondary user departments.

We should purchase another (identical) conventional conch machine to be installed in under 6 months and we would have considerable flexibility... To move staff around the different conches, to plan for any type of chocolate on any conch, and to hold standard spare parts. The new technology conch could take 12 to 15 months to develop, would require different skills in

production and maintenance and different planning rules. All this would be too disruptive, just when we need to concentrate on output and new product development' (Operations Director). To support the purchase of another conventional conch so we get into production by mid-2002; the new technology conch would not be into production until at least 6 months later. But, even more importantly, whilst we know that the small trial machine as made chocolate which the tasting panel cannot distinguish from our standard product, there is no guarantee that would be the case for a machine ten times larger. We know that conching is critical in creating our unique Bonkers Best flavor and texture, so we should take no risks and stick with the process we have been using for at least eighty years.

The extra capacity will allow us to go ahead with trials and product launches, which are already being disrupted by capacity and planning constraints' (Sales Director). We will have to defend existing volume brands by maintaining price competitiveness and quality (taste). The factories must be able to support this by delivering cost reductions but we must also launch new, high-quality, high-margin products at a faster rate than ever before. I know there are plenty of eager competitors out there ready to erode our shelf space in the convenience stores and supermarkets.

Realistically, not all of these new products will be a success and few will ever even reach ten per cent by weight of sales of core products. Taken together however they will be very profitable and provide most of our projected growth. I think you can see why I favor the conventional conch technology. It minimizes the fixed-cost burden of extra capacity and ensures low-cost production without any risks associated with new processes' (Marketing

Director). I en Engineering Dielectric Ana Eden expecting resistance Trot sales Ana Marketing but had made attempts to convince Operations of the advantages of the new conch technology.

The Finance Director also objected, on the grounds that providing the same level of capacity in the new process would cost about \$4 million rather than \$3 million. It appeared that two years of research and trials had been for nothing - but he sprang to the defense of his proposal. I understand your worries but trials of the one-tenth scale conch have been successfully used on our full product range and the tasting panel reports no detectable changes in taste, texture or aroma.

I also accept that the new conch could delay capacity by around 6 months and cost a little bit more. The relative annual cost saving of the new technology conch (compared to a conventional conch) in the primary processes would be around \$280, 000: The labor saving is only small, perhaps half a person or around \$20, 000. Space savings are estimated by Finance to be worth around \$40, 000 in opportunity cost. Improved control of cocoa fat content will save the department around \$60, 000 based on our trials on the prototype machine.

The biggest saving is reduced material wastage at changeovers: we expect a \$160, 000 reduction here. But the big benefits will be seen in the secondary departments, where there will be much more control of coating thickness and less quality and productivity problems. Unfortunately, these savings are much more difficult to predict. Our conventional capital expenditures applications have always had to demonstrate clear departmental cost

savings such as reductions in direct Barbour and associated overheads which result from automation technologies.