

# UNIVERSITY OF TOLEDO INTERNAL AUDIT DEPARTMENT

## SCHEDULE PRODUCTION

### Control practices

The following control objectives provide a basis for strengthening your control environment for the process of scheduling production. When you select an objective, you will access a list of the associated business risks and control practices. That information can serve as a checklist when you begin reviewing the strength of your current process controls.

This business risk and control information can help you assess your internal control environment and assist with the design and implementation of internal controls. Please note that this information is at the generic business process level and many companies will need to go beyond generic models to address the specific business processes that support the financial and nonfinancial disclosures being made. You can combine the insight of this business risk and control information with your industry-specific knowledge and understanding of your company's environment when conducting internal control assessments and designing and implementing recommendations.

### Effectiveness and efficiency of operations

- A. Production schedules minimize inventory levels while ensuring sufficiency of inventory to meet expected demand.
- B. Made-to-order products are produced on time.
- C. Production downtime is minimized.
- D. Employees and management are provided with the information needed to control the production scheduling process.
- E. Relevant management information is provided to managers and empowered employees on a timely basis.
- F. Production schedules are complete and accurately reflect source information.
- G. Performance measures used to control and improve the process are reliable.

### Compliance with applicable laws and regulations

- A. Production schedules comply with applicable laws and regulations.

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Effectiveness and efficiency of operations

**A. Production schedules minimize inventory levels while ensuring sufficiency of inventory to meet expected demand.**

### **Business risks**

- The inability to provide goods on desired delivery dates will reduce customer satisfaction.
- Excess inventory will generate increased costs.
- High stock levels will contribute to greater stock obsolescence and higher levels of damaged stock over time.

### **Control practices**

1. Use standard formats and documents to prepare and communicate sales forecasts.
2. Ensure production personnel receive sales forecasting information on a timely basis.
3. Establish effective communication processes to link production, sales, and marketing.
4. Prepare production schedules in accordance with sales forecasts.
5. Adjust production schedules for any changes in sales forecasts to ensure production scheduling and inventory quantities are appropriate and balanced.
6. Base production priorities on marketing plans, sales forecasts, established criteria, and/or management judgment.
7. Require management approval of production schedules.
8. Compare material requirements with production schedules and product bills of materials.
9. Choose relevant performance measures after accounting for over- and underproduction resulting from production system problems or errors.
10. Evaluate the costs and benefits of establishing a just-in-time system, or similar production and inventory management philosophy.

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### **B. Made-to-order products are produced on time.**

#### **Business risks**

- The company will fail to meet customer delivery requirements, resulting in customer dissatisfaction.
- The company will lose sales and competitive advantage.

#### **Control practices**

1. Award vendor certifications to qualified suppliers.
2. Monitor vendor performance, and test service quality periodically, in lieu of inspecting goods when they are received.
3. Analyze the reasons for product returns and look to improve the process, including downstream to the suppliers, to eliminate product defects.
4. Rely on cross-functional communication to help meet production and delivery requirements.
5. Use relevant performance measures, such as the number and percentage of late deliveries attributed to production scheduling problems, and the number and percentage of orders that are produced prior to delivery date, so they must be stored as inventory.

### **C. Production downtime is minimized.**

#### **Business risks**

- Production will be delayed or halted as a result of poorly maintained, misused or obsolete equipment.
- Production will be delayed or halted as a result of inadequate skilled labor.
- Production will be delayed or halted as a result of natural or other disasters.

#### **Control practices**

1. Maintain equipment in accordance with an established preventative maintenance program.
2. Evaluate production equipment periodically in light of repairs and maintenance cost, capacity, breakdowns, obsolescence, and other factors.
3. Evaluate the costs and benefits of acquiring new equipment.
4. Train employees in the proper use of equipment and performance of specific tasks.
5. Monitor instances of production downtime due to equipment failure.
6. Maintain, update, and periodically test contingency and natural disaster plans.

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**D. Employees and management are provided with the information needed to control the production scheduling process.**

### **Business risks**

- Information provided to employees and management about the production scheduling process will not support company objectives.
- Employees will not improve the performance of the production scheduling process on a timely basis.
- Plans to improve the production scheduling process will be based on incorrect perceptions of what actually is happening.

### **Control practices**

1. Identify and understand customer expectations and the company's goals in relation to improving product quality, reducing costs, and compressing cycle time.
2. Track quantifiable and controllable performance measures that link the production scheduling process to company goals and customer expectations while stimulating continuous improvement.
3. Evaluate the adequacy of the company's production capacity.
4. Monitor instances of insufficient or excessive raw materials inventory.
5. Determine which data needs to be collected and how it is to be measured to produce the selected measures.\

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**E. Relevant management information is provided to managers and empowered employees on a timely basis.**

### **Business risks**

- Information used to support business decisions will not be relevant.
- Employees and managers will make poor decisions because the information they use will be incomplete, out-of-date, or irrelevant to the decision.
- Performance measures will not align with strategic plans. Measures will focus on the wrong things and provide incentives for actions that are inconsistent with the strategy.
- The results of the information process will be data rich and information poor if the available data is not synthesized, summarized, and reported at the proper level and in a useful form that supports management decisions.

### **Control practices**

1. Ensure empowered employees with the responsibility to control and improve the process understand why the measures are relevant to the needs and wants of the customer.
2. Understand the relationship between performance measures and company objectives and reinforce the importance of the measures when communicating with employees and coordinating work.
3. Ensure employees and managers determine the information needed to support decision making, when it is needed, where it should be distributed, at what level, and in what form.
4. Design information processes to calculate and report performance measures on a consistent basis in accordance with management's plan.
5. Design control processes in the measurement and reporting system to ensure the reliability of the performance measures that the decision makers want.
6. Monitor performance measures over time against desired performance levels.
7. Analyze variations between performance measures and desired performance levels and, when necessary, take corrective action to improve the process.
8. Assess the effectiveness of the performance measures as a catalyst for continuous improvement in the process, and update the measures as appropriate.

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## **F. Production schedules are complete and accurately reflect source information.**

### **Business risks**

- Errors or omissions in production schedules will result in over- or underproduction.

### **Control practices**

1. Program the production scheduling system to interface with sales forecast information.
2. Ensure the production scheduling system interfaces with the bill of materials master file to automatically produce materials requirements reports.
3. Establish and update bills of material to reflect current material usage and production processes.
4. Use standard computer formats or documents for documenting the production schedule.
5. Test the completeness of product lines against inventory or product master files when developing the standard formats for documenting the production schedule.
6. Test the clerical accuracy of spreadsheet and application formulas prior to using them to schedule production.
7. Require management approval for detailed sales forecasts.
8. Use detailed sales forecasts as a basis for production and inventory control planning, development of production schedules, inventory budgets, and detailed material and labor requirements.
9. Reconcile predetermined control totals with the total sales volumes recorded in the production scheduling spreadsheet or system when sales forecasts or other volume data are used as inputs into production schedules.
10. Require management approval of any changes in production schedules.

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## **G. Performance measures used to control and improve the process are reliable.**

### **Business risks**

- Inaccurate measures will result in erroneous perceptions about what actually is happening in the process, resulting in inappropriate decisions.
- Measures calculated with inaccurate data will drive behavior that is inconsistent with management objectives.

### **Control practices**

1. Develop relevant performance measures to show management whether the scheduling process is aligned with company objectives.
2. Identify and understand customer expectations and the company's goals in relation to improving product quality, reducing costs, and compressing cycle time.
3. Select performance measures that are quantifiable and controllable and that stimulate continuous improvement.
4. Select performance measures that link the production scheduling process to company goals and customer expectations.
5. Ensure that an understanding of how the scheduling process contributes to customer requirements and overall objectives drives all performance measures.

Compliance with applicable laws and regulations

## **A. Production schedules comply with applicable laws and regulations.**

### **Business risks**

- The company will incur fines or other penalties.

### **Control practices**

1. Require legal review of all relevant laws and regulations.
2. Require that the legal department or outside counsel develops a list of operating constraints or parameters that are in compliance with relevant laws and regulations.
3. Consult with industry organizations or regulatory bodies about compliance with laws and regulations and possible future requirements.
4. Monitor the political, lawmaking, and regulatory environment to ensure that company operations remain in compliance with industry standards and applicable laws and regulations.