Learning Outcomes for a two-year BS Technical Operations Management Completion Program

Open-ended Survey

Dear ________: I am conducting a study in order to identify learning outcomes for an undergraduate BS Technical Operations Management that will be designed for a midwest college in the near future. I am seeking your expertise because you have been identified as member of one of the following groups:

- Faculty and/or curriculum designers from colleges that have graduate and undergraduate programs in technical operations management or operations management.
- Faculty and curriculum designers from colleges that have operations management courses.
- Alumnus from operations management programs.
- Individuals involved with employing individuals with bachelors in Technical Operations Management.
- Individual employed or engaged in Operations Management or Technical Operations Management.

My objective is to provide you with the constructs I have identified from contemporary literature that relate to this topic. I will do this in the form of open-ended questions to solicit your thoughts and let you develop the ideas further and also request that you provide any additional items, thoughts, or constructs that have been overlooked.

This is the first of a three-round Delphi study. Round two and three will be in the form of Likert-like surveys (ratings-type scales). The round two survey will be provided to you after the results of the round one (open-ended) survey is compiled. The round three survey will be provided to you after the round two survey is compiled.

Your participation in this Delphi study is voluntary. Choosing not to participate at any time before or during the study will result in no consequence to you. Your name will be kept confidential unless you otherwise request it in writing not to be. By filling out the survey, you will have provided consent to participate in this Delphi Study.

This survey will take about 25 minutes to complete. Round two and three of the surveys will each take much less time to complete. Thank you for your assistance. All information will be kept confidential—no identities will be exposed.

The first part of the questionnaire will gather background information from you. The second part presents the open-ended questions. If you have any question about this study, please contact _________________.

Thank you!
Round 1 Delphi

Name of participant: ____________________________
Date: ____________________________

Expert Categories

Please indicate which category best describes you.

- Faculty and/or curriculum designers from colleges that have graduate and undergraduate programs in technical operations management or operations management.
- Faculty and curriculum designers from colleges that have operations management courses.
- Individuals involved with employing individuals with bachelors in Technical Operations Management.
- Alumnus from operations management programs
- Individual employed or engaged in Operations Management or Technical Operations Management.

If involved in teaching operations management or technical operations management, what level you teach.

<table>
<thead>
<tr>
<th>Graduate</th>
<th>Undergraduate</th>
<th>Both</th>
<th>Neither</th>
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Is the institution/program/department you work/teach ATMAE, ABET, or AACSB accredited?

Yes       No
○          ○

By completing this survey, you have given consent to participate in the study.

Background of the Study

This first survey is an open-ended questionnaire. Each question identifies a construct that is found in the literature that may be important to a BS Technical Operations Management (BSTOM) curriculum. This program will be a completion program only; students who have completed a technical associate’s degree may apply for this completion degree.
You are being asked to expand the construct and provide items within the construct that should be included in the BSTOM curriculum. If you find that the constructs presented are not complete, please provide the additional constructs/items that you believe should be included in the BSTOM curriculum. If you feel the construct is not relevant, please indicate so.

1. **Productivity**
   a. In an undergraduate BSTOM, what factors about productivity should be covered?
      Operations processes, income distribution process, market value process ... what other topics in this area should be covered?
   b. In an undergraduate BSTOM, what productivity measures should be covered?
      Single-factor, multifactor, variable types ... what other topics in this area should be covered?

2. **Ethics and Social Responsibility**
   Should ethics and social responsibility be covered in a BSTOM program?
   If so, what areas of ethics and social responsibility should be included in a BSTOM program?
   Conflict of stakeholders, sociality impact ... what other topics in this area should be covered?
   Ethic models deontological, utilitarianism, moral relativism ... what other topics in this area should be covered?

3. **Globalization**
   Should a BSTOM teach about globalization issues relating to technical operations management?
   If so, what globalization issues should be covered?
   Labor issues, supply chain issues, import/export, local markets ... what other topics in this area should be covered?

4. **Project Management**
   Should a BSTOM teach about project management?
   If so, what areas of project management should be covered?
   Work breakdown structure, project selection, project charter, project control methods, high performance teams, project management techniques, CPM, project management software, GANT, PERT ... what other topics in this area should be covered?
5. Product/Service Design

Service design is the process of planning and organizing, infrastructure, people communications, and materials to deliver at the quality and the interaction level desired by the customer and service provider.

Product design is the process of identifying potential products and designs, then manufacturing these items. This is accomplished through interaction with customers and designers and manufacturing in order to find out what the public wants from old products—how these products can be delivered.

Should a BSTOM program cover topics in Product / Service Design?

If so, what topics should be included in a BSTOM program?

Topics such as standardization, life cycle management, CAD, CAM, value analysis, house of quality, quality function deployment, design for X … what other topics in this area should be covered?

6. Quality Systems

Should quality systems be taught in a BSTOM program?

If so, what systems?

Six sigma, ISO 9000, 14000, lean systems, value stream mapping, good lab, charting, TQM, JIT, benchmarking, service blueprinting, quality circles, practices … what other topics in this area should be covered?

7. Process Selection

Should process selection be taught in a BSTOM program?

If so, what topics in process selection should be taught? Project process, batch, line, continuous, work cells, office layout, retail layout, warehousing layout…

8. Computer Systems and Analytics

Should computer systems and analytics be taught in a BSTOM program?

If so, what topics should be taught?

Spreadsheet setup and analysis, linear programming setup and analysis, data base setup and analysis, flow chart software, advanced word processing, presentation software and skills, remote meeting software … what other topics in this area should be
covered?

9. Supply Chain Management
Should a BSTOM program teach about supply chain management?

If so, what topics should be taught?

Location strategies, exchange rates, political risk break even analysis, call center, factor rating, outsourcing, core competencies, international risk factors, logistics management, on shoring … what other topics in this area should be covered?

10. Purchasing and Procurement
Should a BSTOM program teach about purchasing and procurement?

If so, what topics should be taught?

Vendor evaluation, negotiations, online catalogs, RFQ, inventory tracking, inventory planning, reorder points, fixed period model, contract law, economic order quantity … what other topics in this area should be covered?

11. Associate Resource and Job Design
Should work and productivity measurements be taught in a BSTOM program?

If so, what topics should be taught?

Labor planning, employee stability, legal supervision, work classification, teams, motivation, insensitive plans, time study … what other topics in this area should be covered?

12. Forecasting
Should forecasting be taught in a BSTOM program?

If so, what topics should be taught?

Naïve approach, moving averages, exponential smoothing, error measuring, seasonal variations, cyclical, regression … what other topics in this area should be covered?

13. Inventory and Aggregate Planning
Should a BSTOM program teach about inventory and aggregate planning?

If so, what topics should be taught? ABC analysis, cycle counting, physical inventory, inventory classification methods, FIFO, LIFO,
planning horizons, aggregate planning strategies, independent and dependent demands … what other topics in this area should be covered?

14. MRP and ERP and Scheduling

Should a BSTOM program teach about MRP and ERP and scheduling?

If so, what topic should be taught? Master schedule, bill of materials, lead times, lots, serial numbering, capacity planning, forward and backward scheduling … what other topics in this area should be covered?