Contract Electronics Manufacturing Service Agreements

Development & Negotiations

Seminar Instructor
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Seminar outline

- Outsourcing contract principles
- Provider financial metrics
- Understanding the RFP/RFQ process
- Outsourcing contract common business models
- Provider report
- Flexibility and inventory liability
- True cost, spend analysis, cost management
- Resource links

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Outsourcing contract principles

- The need for sound legal guidance throughout all phases of contract development and negotiations must not be underestimated
- The service-agreement makes up the 'rules of engagement' between the OEM and the provider
- It outlines what the provider gives to the OEM and what the OEM gives to the provider
- 'Cost' vs 'price'

Outsourcing contract principles

- Good providers seek input from internal functional groups to make sure internal costs are addressed during contract development and negotiations to help prevent surprises from surfacing later on

- Initial stages of contract negotiations and the language of the agreement are both critical to the success of all parties

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Outsourcing contract principles

- Query all internal outsource program-relative functional group members for concerns each has pertaining to the outsource program
  - Process engineering
  - Quality assurance
  - Program management
  - Test engineering
  - Purchasing
  - Planning
  - Logistics
  - Operations
  - Finance
  - Administration

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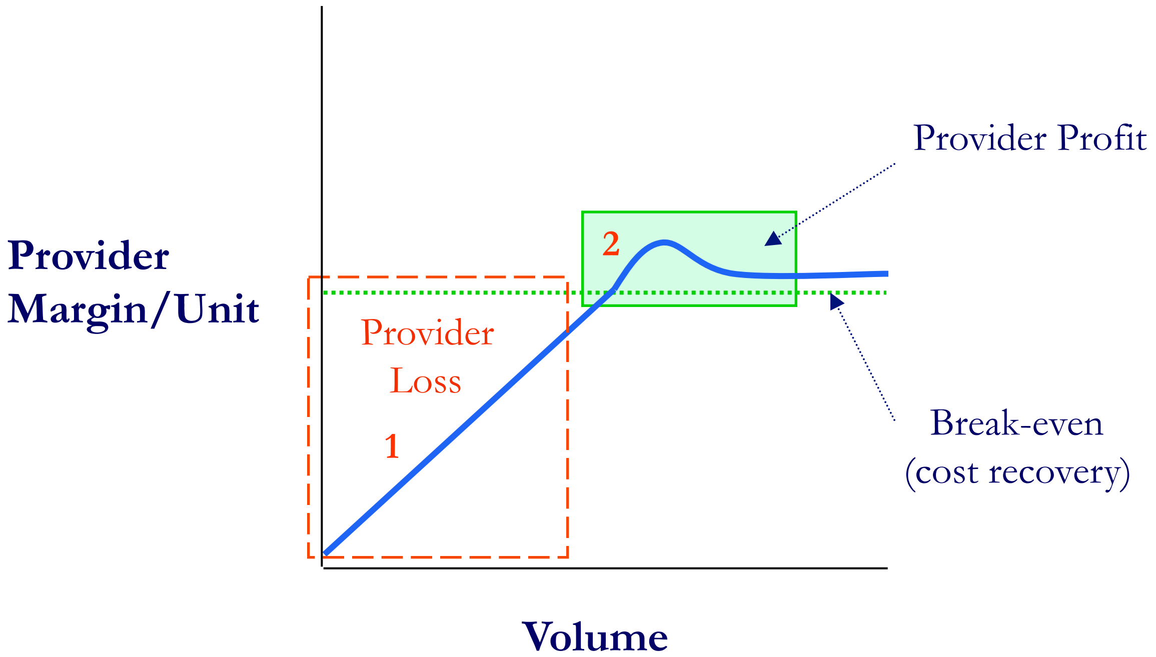
Outsourcing contract principles

Source: Venture Outsource



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Provider financial metrics

- Understand financial stability of a provider and how well he manages his business compared to industry peers
  - Total debt : total capital
  - Return on invested capital
  - Inventory days
  - Days of sales outstanding
  - Days of payable
  - Cash conversion cycle
  - Operating margin
  - More

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Understanding the RFP/RFQ process

- Inputs and drivers for multi-national contract manufacturing pricing models:
  - Location-dependent variables
  - Pricing components
  - Pricing drivers
  - Product-specific pricing inputs

- Mark-up vs. percentage (%) increase

$$\textbf{Mark-up} = \frac{\mathbf{1}}{\mathbf{1 - \%\ increase}}$$

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Understanding the RFP/RFQ process

- Most providers quote at 80% of capacity

- Majority of electronics hardware contract manufacturing providers manage/track their business across six or seven primary cost buckets
  - Materials
  - Materials overhead
  - Scrap / reserve / other
  - Freight
  - Direct labor
  - Manufacturing overhead
  - S,G&A

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Outsourcing contract common business models

- About 80% of all outsource (manufacturing) programs fall under four types of pricing models

  - Fixed materials pricing model
  - Component cost pricing model
  - Cost plus pricing model (fixed profit)
  - Return on invested capital (ROIC) pricing model

$$\textbf{ROIC} = \frac{\textbf{Net Profit}}{\textbf{P,P\&E + Inventory + (AR-AP)}}$$

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Flexibility and inventory liability

- Authorization required from OEM for provider to build excess (buffer) stock

- Authorized component/materials purchase overages
  - Lead times greater than 90 days
  - Purchases greater than required amount in order to achieve price targets
  - Minimum lot purchases
  - Special inventory
  - NCNR documented and reported to OEM on monthly basis
  - Maximum WIP exposure less than/equal to 100% of forecast

Flexibility and inventory liability

- If both parties agree on cancellation, the provider is protected against excess:
  - Finished product
  - Inventory and special inventory
  - Items on order and not cancelable
  - Vendor cancellation charges

- Finished product
  - X% of the contract price for all finished product (FGI) in possession

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Flexibility contracts and inventory liability

- Flexible PO cancellation
  - % (TBD) of contracted price for all FGI in provider possession
  - % (TBD) of contracted price for all Special inventory in provider possession and not returnable
  - % (TBD) of all inventory and special inventory on order and not cancellable
  - Purchases greater than required amount in order to achieve price targets
  - Minimum lot purchases
  - Special inventory
  - NCNR documented and reported to OEM on monthly basis
  - Maximum WIP exposure less than/equal to 100% of (monthly?) forecast

Flexibility and inventory liability

- Inventory and special inventory
  - X% of the cost of the above in possession and not returnable to the vendor or usable for other customers
- Items on order and not cancelable
  - X% of the cost of all inventory and special inventory on order and not cancelable
- Vendor cancellation charges
  - Reimbursement of vendor cancellation charges and any labor / fees associated with supporting OEM purchase orders and forecasts

Provider reports

- Reports provider should present to OEM (intervals TBD)
  - Lead-time
    - Supplier P/N
    - Manufacturer name
    - Mfg./supplier description
    - Lead-time (days, weeks, months)
    - Extended supplier price
    - OEM P/N
    - OEM authorized purchase price
    - OEM authorized purchase qty.
    - Where used (i.e. location)
    - Quantity per OEM unit
  - Operations
    - Order processing cycle time
    - Manufacturing cycle time
    - Pack out/shipping cycle time

True cost, spend analysis, cost management

- Reasonable NRE
  - Screen printing stencils (top and bottom)
  - SMT machine programming charges
  - Wave fixtures
  - Profile oven set-up costs
  - Manufacturing process instructions (MPI) development
  - OEM program-specific tooling
  - Final inspection templates
  - Warehouse / stockroom ESD storage tote boxes
  - Box build set-up charges
  - Labeling templates (packout)
  - IT infrastructure set-up costs (ATO)

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True cost, spend analysis, cost management

Engineering change orders (ECO)

- Following release to production, OEM will be allowed up to three (3) ECOs/wk at no cost…effecting up to 20 line items

- Implementation of greater than 3 ECOs/wk subject to the following:

Qty ECOs/wk	Max Line Items	Implementation Cost
1 to 3	20	Negotiable
4 to 8	20	Negotiable
9 to 12	20	Negotiable

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True cost, spend analysis, cost management

- Many OEMs outsourcing procurement lose sight of costs
  - Accurate baseline pricing
  - Reasonable pricing projections
  - Reasonable demand quantities
  - Changes in BOM
  - Centralized management point of contact

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Resource links

- https://ventureoutsource.com/ems-profit-vs-oem-pricing
- https://ventureoutsource.com/production-vs-inventory-costs
- https://ventureoutsource.com/total-landed-costs
- https://ventureoutsource.com/request-for-quote-best-practices
- https://ventureoutsource.com/ems-documents
- https://ventureoutsource.com/ems-odm-cost-models

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