

Emerging Business/Revenue Models

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Micro-Tech Consultants

Global Power Supply Industry

State of the Industry

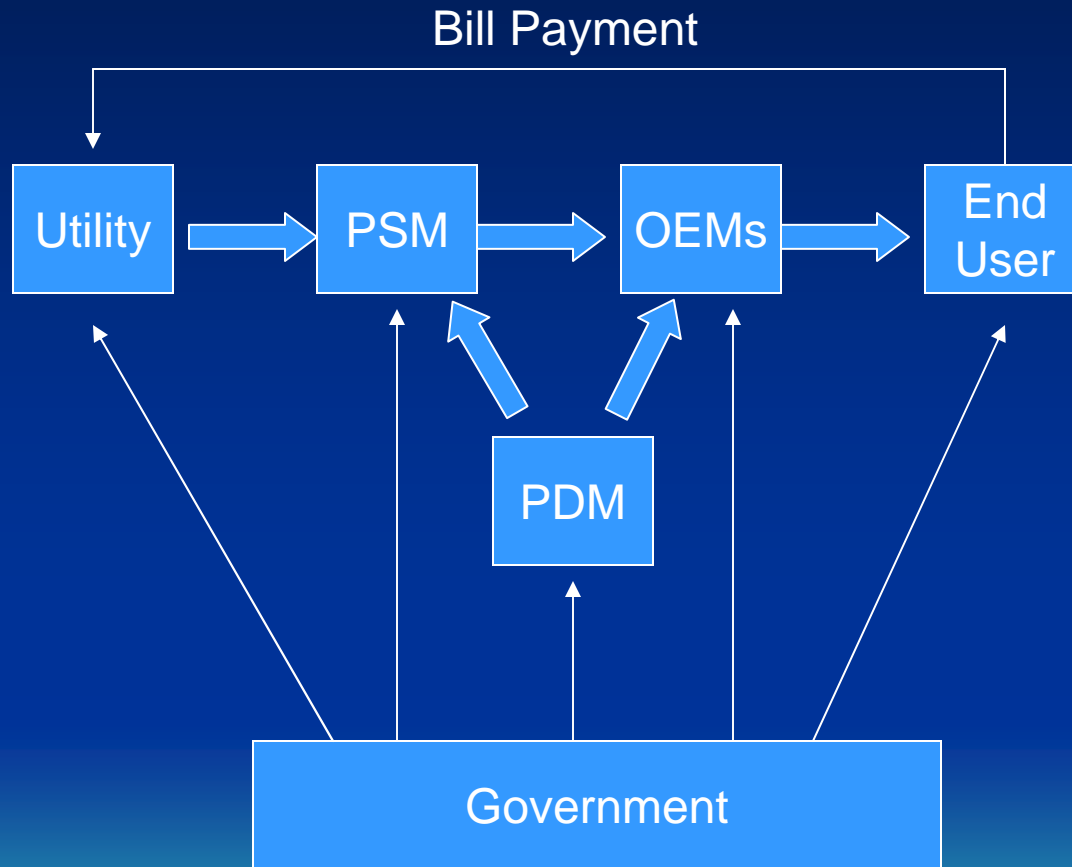
- Industry-wise Dynamic
- Technically/Technologically Exciting
- Business-wise Challenging
- Good to be in Power Supply/Electronics

Global Power Supply Industry

Industry Structure

- Power Utility
- Power Devices
- Power Supply Manufacturer
- Power Supply User: Equipment Manufacturer
- Equipment User: Buying equipment and paying Electricity Bills to Power Utility
- Government

Global Power Supply Industry Industry Structure Relationship



Global Power Supply Industry

A Variety of Products

- OEM Power Supplies (SPS)
- Telecom Power Systems (Energy Systems)
- Uninterruptible Power Supplies (UPSs)
- High Voltage Power Supplies (HVPS)
- Inverters
- Ballasts
- Discrete Devices

Global Power Supply Industry Market Trends

- Government Regulation
- Government Guidance
- OEM Customer Demands
- End User Demands
- Technical/Business Feasibility

Global Power Supply Industry

Demand & Supply Rules

- Power supplies do not create their own demand but rather they are sold in high quantities because the equipment where they are design-in is sold in high quantities
- Power supply companies do not have control over the demand of the equipment
- Power supply companies have control over the competition or the supply of the products.
- Power supply companies do not have control over technology development over the end-equipment, but only over its own technology

Global Power Supply Industry

Business Trends

- Lower Prices: Revenue Models
- Higher R&D and Lower Gross Margins
- Product Standardization (Alliances)
- Multiple Sourcing (Alliances)
- Power Supply Alliances with Power Semiconductor Companies
- Contract Manufacturing (Purchasing Power)

Global Power Supply Industry Products

- AC-DC & DC-DC
- High Volume & Low Volume
- NA/EU Manufacturers & Far-East Manufacturers
- Public Companies & Private Companies

Business Models

Custom High Volume

- AC-DC
- Custom products
- Narrow applications
- High volume
- OEM
- Narrow customer base
- High growth: 10 to 15%
- Low profit:
- Sales: 100%
- CGS: 80-85%
- GP: 15-20%
- Oper Exp:
- SG&A: 8-10%
- R&D: 3-5%
- Oper.Exp: 11-15%
- Oper Income: -0-5%
- Net Income: - to 2.5%

Business Models

Standard Low Volume

- AC-DC & DC-DC
- Standard/modified standard products
- Wide applications
- Low/medium volume
- OEM/Distribution
- Wide customer base
- Low growth: 5 to 7.5%
- Higher profit
- Sales: 100%
- CGS: 60%
- GP: 40%
- Oper Exp:
- SG&A: 15-18%
- R&D: 7-9%
- Oper.Exp: 22-27%
- Oper Income: 13-18%
- Net Income: 7-10%

Business Models

Current Situation

- AC-DC & DC-DC
- Standard/Mod.Std Custom Products
- Wide applications
- Low/medium/high volume OEM/Distribution
- Wide customer base
- Low growth
- Low profit
- Sales: 100%
- CGS: 70-75%
- GP: 25-30%
- Oper Exp:
- SG&A: 20%
- R&D: 10+%
- Oper.Exp: 30+%
- Oper Income: -5-0%
- Net Income: - to Breakeven

Business Models

PS a High-Tech or Low-Tech Product?

- **High-Tech Product**

- **Sales: 100%**
- **CGS: 50%**
- **GP: 50%**

- **Oper Exp:**

- **SG&A: 10-15%**
- **R&D: 15%**
- **Oper. Exp: 25-30%**

- **Oper Income: 15-25%**

- **Net Income: 7.5-15+%**

- **Low-Tech Product**

- **Sales: 100%**
- **CGS: 80%**
- **GP: 20%**

- **Oper Exp.:**

- **SG&A: 8.5%**
- **R&D: 1.5%**
- **Oper. Exp. 10%**

- **Oper. Income: 10%**

- **Net Income: 5%**

Business Models

Current Situation

- Developed like a high-tech state of the art product
- High development cost
- Sold like a low-tech commodity product
- Low selling Price

PS Business Model Dilemma

- Two constituencies:
 - Customers
 - Large
 - Demanding lower prices demanding due to higher volumes
 - Suppliers
 - Large
 - Demanding higher prices due to low volumes

Business Models

Equipment Manufacturers

- Electronics equipment
- Standard/modified standard products
- Wide applications
- Low/medium/high volume
- Wide customer base
- High growth
- Higher profit
- Sales: 100%
- CGS: 35%
- GP: 65%
- Oper Exp:
- SG&A: 25%
- R&D: 15%
- Oper.Exp: 40%
- Oper Income: 25%
- Net Income: 15%

Business Models

Component Manufacturers

- Standard/modified standard products
- Wide applications
- Low/medium/high volume
- OEM/Distribution
- Wide customer base
- High growth
- Higher profit
- Sales: 100%
- CGS: 35-45%
- GP: 55-65%
- Oper Exp:
- SG&A: 20-25%
- R&D: 15%
- Oper.Exp: 35-40%
- Oper Income: 15-25%
- Net Income: 10-15%

Business Model

Linear Technology Corp.

- Sales: 100%
- CGS: 22%
- GP: 78%

- Oper Exp:
- SG&A: 12%
- R&D: 15%
- Oper.Exp: 27%

- Oper Income: 51%
- Net Income: 39%

Business Model Cosel

- Sales: 100%
- Gross Margin: 40+%
- Oper. Income: 27%
- Net Income: 16%

PS Business Model Dilemma

- Third constituency: Financial community
 - Influential in public companies
 - Influential in start-up companies
 - Demands blue-chip customers and higher profit

Future

- Current models are unsustainable?
- Need to evolve into standardized product; possible for DC-DC
- Manufacture in large quantities:
 - Low cost of production
- Sell in high volumes to Blue Chip Customers for growth
- Sell in small volumes to small companies for profit
- Most standard products are sold that way
- Will industry consolidation help this trend?

Business Models

Standard Products Model

- Low Volume through Disty
 - Sales: 100%
 - CGS: 50%
 - GP: 50%
 -
 - Oper. Exp.
 - SG&A: 17-20%
 - R&D: 8-10%
 - Oper. Exp.: 25-30%
 - Oper. Income: 20-25%
- High Volume direct to OEMs
 - Sales: 100%
 - CGS: 75%
 - GP: 25%
 - Oper Exp:
 - SG&A: 15%
 - R&D: 8-10%
 - Oper.Exp: 23-25%
 - Oper Income: 5%

Conclusions

- Power supply industry/companies are faced with multiple challenges:
- Technology Development: High R&D
- Low Gross Margin:
- Global Competition from low cost companies
- Standardization
- Limited Resources
- Large customers and suppliers
- Demands from financial community

Conclusion

- Show me the Money, Jerry.....