Anticipating the Next Electronics Components Cycle

Looking Up to the Future

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Review and Outlook

- Value of Distribution - TAMU study update
- 2023 highlights and significant statistical reports published
- Top 50 Authorized Distributors
- A look ahead of what's to come in 2024

Interactive Q&A
The Value Delivered by Authorized Channel Partners for Electronic Components
Findings

- **Case studies frameworks** will demonstrate the **quantified value of distributors** in their collaboration with manufacturers to create efficiencies and value for customers.

- **Web-based tool** will consider **multiple factors** that can be selected as they apply to quantify the value delivered from including distributors as channel partners.

- **Main findings** will contain strategies to enable manufacturers to maximize and **measure value obtained by distributors**.
Executive Summary

The purpose of the ECIA study, “The Value Delivered by Authorized Channel Partners for Electronic Components,” is to explore modern distributor capabilities, covering advancements like digitization and new value-added services (VAS). In addition to identify, analyze, and document the value of services electronic distributors and their partners (manufacturers and manufacturer reps) provide in the supply chain, this study will identify processes related to new product introductions and activities for market expansion and VAS. The study will also produce an analytical tool to represent the value model developed.

Key benefits of the study include:
- Offering electronics manufacturers tools for evaluating cost structures.
- Offering digitization strategies.
- Understanding the existing value of distribution.
- Identification of gaps between current distributor services and customer expectations.

This study also emphasizes how manufacturers can harness distribution to bolster business growth. Information was gathered through questionnaires with the stakeholders around the following categories –

- New Product Introduction
- Market Growth Strategies
- Value Added Services

Using a thorough intensive process across the different segments of the distribution industry, distributors, manufacturers, manufacturer representatives the following findings and differentiation across these sectors were uncovered:

Findings:
- Distributors, Manufacturer, Manufacturer Representatives
- Facility (VAS), Improving lead times, Collaborative forecasting
- Improved production quality, Enhanced customer relationships, Cost-effective sales support

Differentiation:
- Digitization, Manufacturer, Manufacturer Representatives
- Unique sales approach, specialized knowledge, new product introduction, New product introduction

Distributors:
- Dealing with MQO, Improved lead times, Collaborative forecasting
- Improved production quality, Productivity increase, Increased responsiveness to market dynamics

Manufacturer:
- Improved production quality, Increased responsiveness to market dynamics

Manufacturer Representatives:
- Enhanced customer relationships, Cost-effective sales support

During this project a thorough analysis of several scenarios was evaluated, and case studies were generated for distribution, selling direct and with manufacturer representatives. Cost associated with activities conducted served to quantify the value. Some examples are presented below (including market expansion, MPA, value added services).
Cost Model Presents Major Scenarios

Power BI will visualize the value proposition of different scenarios based on following rules:

- **Scenario 1**: Broadline Distributors selling product with high volume product order size
- **Scenario 2**: Broadline Distributors selling product with low volume product order size
- **Scenario 3**: Specialized Distributors selling product with high volume product order size
- **Scenario 4**: Specialized Distributors selling product with low volume product order size
- **Scenario 5**: High service Distributors selling product with high volume product order size
- **Scenario 6**: High service Distributors selling product with low volume product order size

- **Connect. Influence. Optimize.**
CASE 1: MARKET EXPANSION THROUGH NEW CUSTOMER ACQUISITION

**Phases**
- Demand generation
- New Customer Fulfillment
- Customer Assessment

**Processes**
- Solution Requirements
  - Initial Proposal
  - Promotional material
  - Needs analysis
  - Prospect leads
  - Build relationships

**Activities**
- Market research
- Sales force travel
- Content creation
  - Transportation
  - Quality assurance
  - Warehouse rent and utilities
    - Equipment
    - Labor
    - Insurance
    - Maintenance
  - Payment receiving
    - Marketing
    - Payment processing
    - Quote processing
    - Picking and packing
    - Logistics
    - Warranty
  - Technical support
    - Software maintenance
    - Installation
    - Customer training
    - Technology
    - Service
    - Data acquisition
    - Communication and marketing

**Metrics**
- Customer retention rate
- Lead response times
- Conversion rate
- Average order value
- New customer acquisition rate
- Contribution to sales revenue
- Lead time reduction
- Order frequency
- New customer retention rate

**Support Services**
- Warehousing
  - Source
  - Stock
  - Sell
  - Ship
- Technical support
  - Software maintenance
  - Installation
- Customer feedback
  - Improvement opportunities
  - Develop solution
  - Implement strategies
- Communication and marketing

**Technology**
- Development
- Quality assurance
- Maintenance
- Payment processing
- Quote processing
- Picking and packing
- Logistics
- Warranty
- Technical support
- Software maintenance
- Installation
- Customer training
- Technology
- Service
- Data acquisition
- Communication and marketing
APPLICATION TO EXAMPLE 1: SELLING DIRECT

Selling through Distribution

- Distributor's sales revenue
- Purchasing cost
- Distributors costs
- Distributors operating income

Activity 1 cost
Activity 2 cost
Activity 3 cost
Activity 4 cost
Activity 5 cost

Phase

Demand generation
New Customer Fulfilment
Customer Assessment

Processes
Solution requirements
Solution proposal
Promotional material
Needs analysis
Proposal
Build relationships

Activities
Market research
Sales force travel
Content creation
Transportation
Quality assurance
Warehouse rent and utilities
Equipment
Labor
Insurance
Maintenance
Payment receivable
Marketing
Payment processing
Quote processing
Filing and packing
Logistics
Warranty
Technical support
Software maintenance
Installation

Supporting
Customer tracking
Accounting
Purchasing
Data acquisition
Communication and marketing
The value proposition to the manufacturer can be quantified by the gain in operating income for the manufacturer by selling through distribution.
2023 Highlights

~ December 2023 ~
Americas TAM / DTAM Revenue Growth Comparison

Americas Revenue Growth

- Semiconductor TAM
- Semiconductor DTAM
- Passive TAM (C/R/I)
- Passive DTAM

2018 2019 2020 2021 2022
Electronic Component Revenue Growth - Worldwide

Worldwide Revenue Growth

Source: World Semiconductor Trade Statistics (WSTS), World Passive Trade Statistics (WPTS)
Electronic Component Revenue Growth - Americas

Americas Revenue Growth

Source: World Semiconductor Trade Statistics (WSTS), World Passive Trade Statistics (WPTS)
Electronic Component Revenue Growth - Americas

Americas Quarter-over-Quarter Revenue Growth

Source: World Semiconductor Trade Statistics (WSTS), World Passive Trade Statistics (WPTS)

Semiconductor Revenue Growth Cycle

- Quarter-over-Quarter growth should break positive by end of 2023!
- Annual revenue cycle follows quarterly growth
- Annual trend for high single digit 2023 decline
- Rising ASPs boost revenue growth
- August 2023 marks beginning of new cycle
- Strong demand and technology drivers
- Inflation and interest rates undermine consumer spending? (70% of US GDP)

Source – WSTS
Semiconductor Growth Trends

Quarter-over-Quarter Growth

- Total Semi
- DRAM + Data Flash
- Other Semi

Source – WSTS
No Clear Unified Trend Across Markets

- Memory ICs Amplifying / Distorting the Cycle
- All other components started downturn in mid-2021
- Most categories bending up in last 3 months
Cycle: Reached the End – Looking Up Now

Note: Low point in current cycle is -12.7 in Nov ’19

Source – WSTS
Cycle Near Standard Length

ANNUAL CYCLE LENGTHS

- Pink: Decreasing
- Green: Increasing

Months

Cycle Start

Source – WSTS
But What About the Americas?

- Counter-cyclical trend starting in summer 2020 but aligning in mid-2022
- High memory mix in Americas contributes to volatility
- Healthy upward trend in Americas – Could break above zero by end of 2023
- Will inflation impede long term growth?

Source – WSTS
But What About the Americas?

- Logic, Micros, and Memory turning up
- Optical & Discretes only slightly negative
- Analog moving strongly down in counter trend
- Most categories sustained growth through most of the Worldwide downturn
- Americas capturing a notably larger share of the worldwide semiconductor market

Source – WSTS
Top 50 Authorized Distributors
Americas Revenue for Top 50 Authorized Distributors

Americas Sales by Component Category

- Semiconductors
- Interconnect
- Passive
- Electro-mechanical
- Computer / Systems
- Power & Battery
- Other

Millions of Dollars

- 2022
- 2021
- 2020
- 2019

Electronic Components Industry Association
Worldwide Revenue for Top 50 Authorized Distributors

- Semiconductors
  - 2022: 145 billion
  - 2021: 140 billion
  - 2020: 130 billion
- Interconnect
  - 2022: 10 billion
  - 2021: 8 billion
  - 2020: 5 billion
- Passives
  - 2022: 5 billion
  - 2021: 4 billion
  - 2020: 3 billion
- Electro-Mechanical
  - 2022: 2 billion
  - 2021: 1 billion
  - 2020: 0.5 billion
- Computer/System
  - 2022: 1 billion
  - 2021: 0.5 billion
  - 2020: 0.2 billion
- Power & Batteries
  - 2022: 1 billion
  - 2021: 0.5 billion
  - 2020: 0.2 billion
- Other
  - 2022: 1 billion
  - 2021: 0.5 billion
  - 2020: 0.2 billion

Billions of Dollars

ECIA
Electronic Components Industry Association

Distribution TAM by End Market

Americas Revenue by End Market

Worldwide Revenue by End Market


Electronic Components Industry Association
Top 50 Authorized Distributor Growth

**Americas Top 50 Authorized Distributor Growth**

- 2017: 11.7%
- 2018: 10.7%
- 2019: 21.4%
- 2020: -3.1%
- 2021: 20.0%
- 2022: 11.7%

Top 2 Growth Q1-Q3 2023 = -8.2%
- 2022 Combined Share = 58.4%

**Worldwide Top 50 Authorized Distributor Growth**

- Power & Batteries: 36.5% (2021), 40.0% (2022)
- Computer/Sys: 17.4% (2021), 25.0% (2022)
- Electro-Mechanical: 17.4% (2021), 22.4% (2022)
- Passive: 10.0% (2021), 25.0% (2022)
- Interconnect: 19.4% (2021), 31.2% (2022)
- Semiconductors: 28.9% (2021), 32.6% (2022)

Top 3 Growth Q1-Q3 2023 = -5.8%
- 2022 Combined Share = 40.2%

Looking Forward

~ 2024 + ~
North America Quarterly Sentiment Survey Trends

North American Sales Performance Compared to Prior Quarter

Q4 '23 - EM / Connectors
Q1 '24 - EM / Connectors
Q4 '23 - Passives
Q1 '24 - Passives
Q4 '23 - Semiconductors
Q1 '24 - Semiconductors
Q4 '23 - Overall Average
Q1 '24 - Overall Average

- Down > 5%
- Down > 3% - 5%
- Down > 1% - 3%
- Flat (Down 1% - Up 1%)
- Up > 1% - 3%
- Up > 3% - 5%
- Up > 5%

Source: ECIA Electronic Component Sales Trends Survey
Increasing Lead Times Reappear

Product Lead Time - October to November Comparison

Source: ECIA Electronic Component Sales Trends Survey
Observations:

- Forecast built up category-by-category with experienced analysts from all regions
- WSTS Expectation of Strong 2024 rebound
  - Worldwide = +13.1%
  - Americas = +22.3%
- Gartner 2024 WW Forecast = 16.8%
- Memory IC drives Americas dramatic swing
- Expectation of solid growth through forecast period

Source: WSTS
Long-term Semiconductor Growth Trends

- Average annual growth
  - 2005-2015 = 5.5%
  - 2015-2023 = 5.3%
- $512 B in 2023?
- $1.0 T by 2033?
- $1.5 T by 2041?
- HOW?

Source – WSTS

Figure 9: “How Important Is Trade Between the U.S., Mexico and/or Canada for the Growth and Competitiveness of Your Business or Suppliers?”

- Very important: 37.2%
- Somewhat important: 45.0%
- Not important: 15.0%
- Uncertain: 2.8%

Source – National Association of Manufacturers (NAM)
Thank you!

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