China Distribution Changes

JOHN DIXON, VICE PRESIDENT, GLOBAL DISTRIBUTION | NOVEMBER 2018
Role of a Distributor

Suppliers → Distributors → Customers

- Operations
- Financial Terms
- Technical Support
Traditional Distribution Networks – Field Based

Worldwide Distributors
($>10B$)

APAC Distributors
($>1B$)

China Distributors
($<1B$)

- **Financial Terms Flexibility**
  - Least
  - Most

- **Geographic Field Coverage**
  - Least
  - Most

- **Demand Creation**
  - Least
  - Most

- **Dedicated Sales**
  - Least
  - Most

- **Field Application Technical Depth**
  - Least
  - Most
Traditional Distribution Networks – Online

<table>
<thead>
<tr>
<th></th>
<th>Global Online Distributors</th>
<th>APAC Online Distributors</th>
<th>Other (TaoBao, Alibaba etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Costs</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Silicon Costs</td>
<td>Market</td>
<td>Market</td>
<td>Low</td>
</tr>
<tr>
<td>Shipping Time</td>
<td>Long</td>
<td>Short</td>
<td>Short</td>
</tr>
<tr>
<td>Field Sales</td>
<td>Low</td>
<td>High</td>
<td>None</td>
</tr>
<tr>
<td>Technical Support</td>
<td>Low</td>
<td>High</td>
<td>None</td>
</tr>
</tbody>
</table>
Other Factors
Market Trends
Distribution Margin Pressure

Margin pressure increasing

- Suppliers are reclaiming margin to the benefit of global distributors putting more pressure on Chinese distributors
- Suppliers are consolidating, reducing distribution margin due to economies of scale
Distribution Field Sales Dilution

- Sales & technical support becoming more diluted with more lines and support needs being added at traditional distributors
- Suppliers are seeing less demand creation from the distribution network and moving towards fulfillment-only margin models
More Non-traditional Online Market Places Emerging

Customer’s Due Diligence Begins

Customer’s First Contact With Suppliers

Customer’s Purchase Decision

70% COMPLETE

淘寶網 Taobao.com

Alibaba.com
Chinas Expansion into Worldwide Economy

Fortune Global 500 Companies: 1996-2018

[Line graph showing the growth of Fortune Global 500 companies from 1996 to 2018 for the U.S. and China.]
$70B in investor funds set up to develop Chinese IC market

- **Jun '14**: PDSTI, a Shanghai government investment group privatized Montage Tech, a fabless analog chip maker
  - **Deal size**: $693
  - **Key Institutions**: Shanghai Gov., CEC

- **Aug '14**: Omnivision, a leading CMOS imaging provider, was acquired by Chinese government-backed Hua Capital and CITIC Capital
  - **Deal size**: $1,900
  - **Key Institutions**: Beijing Gov., CITIC Capital

- **Dec '14**: JCET, SMIC, and National IC Fund formed an investment consortium (JCET $260 mm, SMIC $100 mm, National IC Fund $300 mm, Bank of China loan $120 mm) to acquire STATS chipPAC
  - **Deal size**: $780
  - **Key Institutions**: CICF

- **Jan '15**: A Chinese investment consortium led by SummitView Capital and Hua Capital acquired ISSI, a memory fabless
  - **Deal size**: $640
  - **Key Institutions**: SummitView Capital, Hua Capital

- **Jun '15**: JAC Capital, a subsidiary of China Jianyin Investment (a large financial SOE), acquired the RF Power BU of NXP
  - **Deal size**: $1,800
  - **Key Institutions**: JAC Capital

- **Feb '17**: JAC Capital acquired NXP standard product BU for $2.8 bn
  - **Deal size**: $2,800
  - **Key Institutions**: JAC Capital

- **Apr '17**: Shanghai Capital acquired Analogix Semiconductor to accelerate growth in E2E interface connectivity solutions. China IC Industry Investment Fund as one of the limited partners for Shanghai Capital
  - **Deal size**: $500
  - **Key Institutions**: Shanghai capital, China IC Industry Investment Fund
Technical Trends – Online Search

<table>
<thead>
<tr>
<th>20,000+ MCU Part #'s</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SILICON LABS</td>
<td>1,000+</td>
</tr>
<tr>
<td>NXP</td>
<td>2,000+</td>
</tr>
<tr>
<td>STI</td>
<td>3,000+</td>
</tr>
<tr>
<td>Texas Instruments</td>
<td>3,000+</td>
</tr>
<tr>
<td>Renesas</td>
<td>3,000+</td>
</tr>
<tr>
<td>Microchip</td>
<td>8,000+</td>
</tr>
</tbody>
</table>

Artificial Intelligence enabling online technical support

- AI (Watson) adding contextual search to engineering whitepapers/application notes
- More companies investing in live online support
- Parametric search becoming easier and more comprehensive
- Communities becoming more robust answering engineering questions
Technical Trends – Online Communities
Technical Trends – Outsourcing of Design

- IDHs becoming more utilized as electronic design becomes more complex (Wireless, application processor etc)
- CMs/ Distributors taking a more active role in electronics design
Market Trends

**BUSINESS TRENDS**

- Margin pressure
- Salesforce dilution
- China companies exporting overseas
- Emergence of China IC market
- Fulfillment & design services becoming main function of traditional distributors
- Emergence of APAC distributors WW
- Growth of non-traditional online silicon sales channels

**TECHNICAL TRENDS**

- Online search
- Online communities
- More outsourcing of design
- Online technical support becoming more feasible customer support solution
- Lower # of designs needing support via distribution due to design outsourcing
- Less field-facing resources needed
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<th>Distributors</th>
<th>Description</th>
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<tr>
<td><strong>Worldwide Distributors (&gt;$10B)</strong></td>
<td>Field support becomes more diluted due to negative margin pressure. Move towards fulfillment models.</td>
</tr>
<tr>
<td><strong>APAC Distributors (&gt;$1B)</strong></td>
<td>Gain traction in WW market due to Chinese customer WW adoption. APAC margin levels able to absorb fulfillment models.</td>
</tr>
<tr>
<td><strong>China Distributors (&lt;$1B)</strong></td>
<td>Business gets consumed by APAC/WW distributors. Business model change to design house.</td>
</tr>
<tr>
<td><strong>Global Online Distributors</strong></td>
<td>Continue to be popular with large OEMs. Challenges maintaining continued momentum with mass market.</td>
</tr>
<tr>
<td><strong>APAC Online Distributors</strong></td>
<td>Challenges to create large scale business due to infrastructure needed for economies of scale.</td>
</tr>
<tr>
<td><strong>Other (TaoBao, Alibaba etc)</strong></td>
<td>Mass adoption by mass market.</td>
</tr>
<tr>
<td><strong>Global distributors move toward design services &amp; fulfillment model</strong></td>
<td><strong>APAC distributors win the global fulfillment battle</strong></td>
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<tr>
<td>Reduced margin and online technical resources reducing field effectiveness</td>
<td>Expansion of Chinese customers</td>
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<tr>
<td>Focus demand creation value on design services model</td>
<td>Flexible financial terms</td>
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Thank You.

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