FROM SELL-IN TO SELL-OUT

Miguel Abuhab
NeoGrid Founder and CEO
September 7-8, 2017

PRESENT: BUILDING ON SUCCESS 2017
BREATHROUGH RESULTS FOR GOVERNMENT AND BUSINESS
Orthodoxy

• Orthodoxy is everything we do, we don’t know why we do, but we keep doing it

• Orthodoxies are related to technology constraints

*Most of the current business rules were created under a technology constraint*

*Once the constraint was removed, the business rules remained the same*
Orthodoxy

CHECK-IN
12H

Hotel

CHECK-OUT
12H
Simple System or Complex System

Which is the most complex system?

System A
COMPLEX

System B
SIMPLE

Degrees of freedom
Conflict in the Supply Chain
Conflict in the Supply Chain

A. Maximize profitability of all links in the supply chain

B. Maximize individual short-term profitability

C. Protect (or maximize) longer-term sales

D. Focus on impact to all links

D. Focus on impact to my link

CONFLICT

Power Play
Sell-in

Sell-in
Win Win
Sell-out
Until the end-consumer buys, nobody sold
Quantity Sold X SKUs

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity Sold - %</th>
<th>SKU - %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Movers</td>
<td>70%</td>
<td>3%</td>
</tr>
<tr>
<td>Slow Movers</td>
<td>20%</td>
<td>7%</td>
</tr>
<tr>
<td>Ultra Slow Movers</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Non Movers</td>
<td>0%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Quantity Sold X SKUs
## Case Study - Activity Level

**5 Stores - Period: 01/01/2017 to 04/30/2017**

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>%SKUs</th>
<th>SKUs Qty.</th>
<th>Sales ($)</th>
<th>Inventory ($)</th>
<th>Inventory Turns</th>
<th>Margin ($)</th>
<th>Return on Inventory</th>
<th>Out-of-stock</th>
<th>On Shelf Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Movers</td>
<td>3%</td>
<td>1.427</td>
<td>38,581,484</td>
<td>9,490,213</td>
<td>39</td>
<td>7,512,223</td>
<td>79%</td>
<td>3,38%</td>
<td>93,97%</td>
</tr>
<tr>
<td>Slow Movers</td>
<td>7%</td>
<td>3.928</td>
<td>20,580,704</td>
<td>10,311,874</td>
<td>15</td>
<td>7,335,075</td>
<td>71%</td>
<td>5,88%</td>
<td>93,67%</td>
</tr>
<tr>
<td>Ultra Slow Movers</td>
<td>70%</td>
<td>36.947</td>
<td>29,775,852</td>
<td>39,390,484</td>
<td>6</td>
<td>10,174,844</td>
<td>26%</td>
<td>9,96%</td>
<td>94,27%</td>
</tr>
<tr>
<td>Non Movers</td>
<td>20%</td>
<td>10.680</td>
<td>0</td>
<td>18,052,874</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100%</td>
<td>52.982</td>
<td>88,938,039</td>
<td>77,245,445</td>
<td>10</td>
<td>25,022,142</td>
<td>32%</td>
<td>9,36%</td>
<td>94,20%</td>
</tr>
</tbody>
</table>
Direction for eliminating the conflict:
Focus on the impact to next link
- Which, when the whole chain is synchronized to actual end consumer demand, is the same as focusing on both individual and all links
- Today, we can accomplish this with technology

Maximize profitability of all links in the supply chain

Maximize individual short-term profitability

Focus on impact to my link

Focus on impact to all links

Protect (or maximize) longer-term sales

CONFLICT

Power Play
Sell-in

CONFLICT

Win Win
Sell-out

Sell-in
Concept

**Push**

**Pull**
**Focus on impact to my link**

**Information to guide right actions**

- **Profits and Cash Reduced By**
  - **Excess Inventory**
    - Lost Sales
    - Reduced Revenues
    - Increased Costs
  - **Inventory Shortages**

- **Days to Sell Excess Inventory**
- **Inventory Value by Day**

- **Days of Stock Out**
- **Daily Sales (Throughput)**

**IVD**

**TVD**

*Integrated Measurements With No Conflicts*
Focus on impact in all links

Information to guide right actions

Buyer
Production Manager
Logistics Manager
Sales Manager
TVD / IVD
Buyer
Logistics Manager
Store Manager
Consumer

Sell-in
Sell-out

Integrated Measurements With No Conflicts

Focus on impact in all links

Information to guide right actions

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Sell-in
Sell-out

Integrated Measurements With No Conflicts
Breaking the Orthodoxies
Changing Company Rules

Focus on impact in all links

Share Sell-Out Data
Orthodoxy

- Orthodoxy is everything we do, we don’t know why we do, but we keep doing it
- Orthodoxies are related to technology constraints

Most of the current business rules were created under a technology constraint

Once the constraint was removed, the business rules remained the same
Inventory Location

**Sell-In**

**Orthodoxy**
- Hold as much as possible at the stores (points of sales)
- Warehouses used as cross-docking locations rather than stocking locations

**Sell-Out**

**Leveraging Technology**
- Hold only enough at the store to sell during the short replenishment time from the closest warehouse
- Warehouses used as aggregation points for fast, flexible replenishment

**Orthodoxy fueled by**
- Inventory measures (balance sheet)
- Who “owns” the inventory?
Orders/Replenishment

**Sell-In**

**Orthodoxy**
- Large orders placed relatively infrequently
- Quantity discounts and due dates per order
- Shipments according to order due dates
- Invoices & payments per shipment

**Orthodoxy fueled by**
- Purchasing measures
- Purchase price variance
- “Economic Order Quantities”
- Sales measures
- Structures for commissions & bonuses

**Sell-Out**

**Leveraging Technology**
- Contracts based on unit prices
- Discounts based on aggregated (estimated) volumes
- Automated replenishment triggered by actual consumption
- Payment terms according to average inventory
Selling

**Sell-In**

Orthodoxy
- Push for more big orders
- Price discounts based on large volume orders

Orthodoxy fueled by
- Sales measures
  - Structures for commissions and bonuses

**Sell-Out**

Leveraging Technology
- Share sell-out data
- Offer to take back non-movers and slow movers, and replace with fast movers
- Discounts based on aggregated (estimated) volumes
Sharing Sell-Out Data

*Gives the Seller a Competitive Advantage*

**EXPLOITING SHELF SPACE**

- Improving replenishment frequency
- Reduce inventories and out of stock
- Replacing slow movers SKUs by fast movers SKUs
**Production**

### Sell-In

**Orthodoxy**
- Large batches, produced relatively infrequently
- Demand periodically aggregated into fewer orders
- “Economic production order quantities”
- Strive for “as long lead time as we can get”

**Orthodoxy fueled by**
- Production measures
  - Efficiency and utilization
  - Product cost assumptions

### Sell-Out

**Leveraging Technology**
- Produce only what was consumed
  - Orders created daily according to what was consumed day before
  - Produce frequently, aggregating orders according to agreed aggregation guidelines
- Strive for short(er and shorter) lead times
“Tell me how you measure me and I’ll tell you how I’ll behave”

Eliyahu Goldratt
<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Manufacturers</th>
<th>SKU</th>
<th>%SKUs</th>
<th>SKUs Qty</th>
<th>Sales (R$)</th>
<th>Inventory (R$)</th>
<th>Turns</th>
<th>Margin (R$)</th>
<th>Margin/Average Inventory</th>
<th>Out-of-stock</th>
<th>OSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Movers</td>
<td>Manufacturer A</td>
<td>10</td>
<td>8,20%</td>
<td>10</td>
<td>363.678</td>
<td>141.796</td>
<td>31</td>
<td>47.436</td>
<td>33,4%</td>
<td>12,6%</td>
<td>90,2%</td>
</tr>
<tr>
<td></td>
<td>Manufacturer B</td>
<td>11</td>
<td>9,02%</td>
<td>11</td>
<td>258.727</td>
<td>114.750</td>
<td>27</td>
<td>33.747</td>
<td>29,4%</td>
<td>5,5%</td>
<td>91,2%</td>
</tr>
<tr>
<td></td>
<td>Manufacturer C</td>
<td>11</td>
<td>9,02%</td>
<td>11</td>
<td>384.961</td>
<td>228.224</td>
<td>20</td>
<td>50.212</td>
<td>22,0%</td>
<td>0,5%</td>
<td>95,2%</td>
</tr>
<tr>
<td><strong>Total Fast Movers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>32</td>
<td>26,23%</td>
<td>1.007.367</td>
<td>484.771</td>
<td></td>
<td>25</td>
<td>131.395</td>
<td>27,1%</td>
<td>6,0%</td>
<td>92,3%</td>
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<tr>
<td>Slow Movers</td>
<td></td>
<td>35</td>
<td>28,69%</td>
<td>32</td>
<td>294.316</td>
<td>249.321</td>
<td>14</td>
<td>38.389</td>
<td>15,4%</td>
<td>11,8%</td>
<td>92,1%</td>
</tr>
<tr>
<td>Ultra Slow Movers</td>
<td></td>
<td>47</td>
<td>38,52%</td>
<td>47</td>
<td>164.483</td>
<td>311.610</td>
<td>6</td>
<td>21.454</td>
<td>6,8%</td>
<td>15,4%</td>
<td>96,3%</td>
</tr>
<tr>
<td>Non Movers</td>
<td></td>
<td>8</td>
<td>6,56%</td>
<td>-</td>
<td>-</td>
<td>130.117</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>122</td>
<td>100%</td>
<td>1.466.167</td>
<td>1.175.820</td>
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<td>17</td>
<td>191.239</td>
<td>18,29%</td>
<td>12,0%</td>
<td>92,6%</td>
</tr>
</tbody>
</table>

**Market Benchmark**

<table>
<thead>
<tr>
<th>Manufacturers</th>
<th>Turns</th>
<th>Out-of-stock</th>
<th>OSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer D</td>
<td>30</td>
<td>9,9%</td>
<td>93,7%</td>
</tr>
<tr>
<td>Manufacturer E</td>
<td>25</td>
<td>5,0%</td>
<td>92,6%</td>
</tr>
<tr>
<td>Manufacturer F</td>
<td>22</td>
<td>1,0%</td>
<td>83,2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>25</td>
<td>4,7%</td>
<td>91,7%</td>
</tr>
<tr>
<td>Activity Level</td>
<td>Retail</td>
<td>SKU</td>
<td>%SKUs</td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Fast Movers</strong></td>
<td>Retail 1</td>
<td>5,00%</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Retail 2</td>
<td>7,50%</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Fast Movers</strong></td>
<td></td>
<td>12,50%</td>
<td>5</td>
</tr>
<tr>
<td><strong>Slow Movers</strong></td>
<td></td>
<td>12,50%</td>
<td>5</td>
</tr>
<tr>
<td><strong>Ultra Slow Movers</strong></td>
<td></td>
<td>45,00%</td>
<td>18</td>
</tr>
<tr>
<td><strong>Non Movers</strong></td>
<td></td>
<td>30,00%</td>
<td>12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>100,00%</td>
<td>40</td>
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</table>

**Market Benchmark**

<table>
<thead>
<tr>
<th>Manufaturas</th>
<th>%SKUs</th>
<th>SKUs Qty</th>
<th>Sales (R$)</th>
<th>Inventory (R$)</th>
<th>Turns</th>
<th>Margin (R$)</th>
<th>Margin/Average Inventory</th>
<th>Out-of-stock</th>
<th>OSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Company</td>
<td>12,50%</td>
<td>5</td>
<td>551.569</td>
<td>520.897</td>
<td>13</td>
<td>33.695</td>
<td>6,4%</td>
<td>2,4%</td>
<td>86,5%</td>
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<tr>
<td>Competitor</td>
<td>21,15%</td>
<td>5</td>
<td>191.293</td>
<td>196.253</td>
<td>22</td>
<td>20.209</td>
<td>10%</td>
<td>2,7%</td>
<td>94,4%</td>
</tr>
</tbody>
</table>
Focus on impact in all links

Information to guide right actions

TVD / IVD

Buyer
Production Manager
Logistics Manager
Sales Manager

SELL-OUT

Buyer
Logistics Manager
Store Manager

Sell-in

Sell-out

Integrated Measurements With No Conflicts

Information to guide right actions

Focus on impact in all links

TVD / IVD

Buyer
Production Manager
Logistics Manager
Sales Manager

SELL-OUT

Buyer
Logistics Manager
Store Manager

Consumer
30% is the average excess inventory reduction and out-of-stock reduction for our customers, including:
# Case Study

<table>
<thead>
<tr>
<th>Supply According to Consumption</th>
<th>Retail Chain</th>
<th>Inventory on-hand</th>
<th>Annual Sales</th>
<th>Inventory Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>701</td>
<td>24.321</td>
<td>34.69</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>362</td>
<td>6.504</td>
<td>17.99</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>306</td>
<td>5.252</td>
<td>17.19</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>3.514</td>
<td>50.119</td>
<td>14.26</td>
<td></td>
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<tr>
<td>E</td>
<td>939</td>
<td>11.956</td>
<td>12.74</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>12.262</td>
<td>150.516</td>
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<tr>
<td>Total</td>
<td>18.083</td>
<td>248.668</td>
<td>13.75</td>
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*numbers are in thousands of dollars

<table>
<thead>
<tr>
<th>Push System</th>
<th>Retail Chain</th>
<th>Inventory on-hand</th>
<th>Annual Sales</th>
<th>Inventory Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>1.064</td>
<td>14.112</td>
<td>13.26</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>5.762</td>
<td>68.893</td>
<td>11.96</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>708</td>
<td>5.389</td>
<td>7.61</td>
<td></td>
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<tr>
<td>J</td>
<td>915</td>
<td>6.609</td>
<td>7.22</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>1.889</td>
<td>12.867</td>
<td>6.81</td>
<td></td>
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<tr>
<td>L</td>
<td>12.686</td>
<td>85.750</td>
<td>6.76</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>6.513</td>
<td>32.696</td>
<td>5.02</td>
<td></td>
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<tr>
<td>N</td>
<td>12.758</td>
<td>62.479</td>
<td>4.90</td>
<td></td>
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<tr>
<td>O</td>
<td>20.191</td>
<td>91.310</td>
<td>6.52</td>
<td></td>
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<tr>
<td>P</td>
<td>21.086</td>
<td>71.684</td>
<td>7.15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>83.572</td>
<td>451.789</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*numbers are in thousands of dollars
In conclusion...

“Releasing organizations from their ORTHODOXIES is the REAL challenge.”

Miguel Abuhab
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TO SELL-OUT

Thank You!

Miguel Abuhab
NeoGrid Founder and CEO