

Total Cost of Ownership Study

Increase Profitability by Lowering Your Total Cost of Ownership with the Autonomous Retail Merchandiser



Total Cost of Ownership (TCO) Defined

In 2006 NAFEM'S Life Cycle Steering Committee aimed to accomplish this task by developing an Equipment Life Cycle Cost formula and make the results available to those in the industry most affected by TCO.

The association defines TCO, or life cycle cost analysis, as "a method of calculating the cost of ownership of a piece of equipment over its entire useful lifespan."

These costs include the following operating costs and life cycle elements.

OPERATING COSTS

- Education & Training
- Preventative Maintenance
- Cost of Procurement & Disposal of Consumables
- Food product loss
- Incremental labor to refill due to product loss
- Fees (Food Tech)

LIFE CYCLE ELEMENTS

- Equipment Costs
- Purchase Price
- Freight
- Installation & Startup
- Energy Consumption
- Parts & Labor for Repairs

In Tests Conducted with The Competition, Structural Concepts Outperformed All Models in Key Areas



ENERGY
40% Lower



FEES
54% Lower



LABOR COSTS
85% Lower



CAPACITY
23% Higher



PROFITABILITY
30% Higher

Study Models



Structural Concepts
DELIVERING FRESH. ALWAYS.™



FoodSpot



get**VICKI**



hubz
SMARTSTORES



Byte
Technology

Structural Concepts Makes Automation Smart, Efficient, and Profitable

For the Operator

- Location flexibility; Seamlessly expand footprint throughout food deserts
- Manage and track inventory more accurately; Real-time insights
- Sell more - waste less
- Reduce labor - redirect tasks
- Enhanced security - reduce theft

For the End-User

- Convenient shopper experience; Available 24/7
- Simplified user interface
- Fully secured, accurate transactions
- Ensures greater food safety
- Easy to use; Creates familiarity

Types of Autonomous Retail Merchandisers

LOAD CELL / WEIGHT BASES

Manufacturers: Structural Concepts, getVICKI, Hubz



PROS

- Lowest shrinkage (SCC 0.1%)
- Most convenient to change planograms
- Most operator friendly to restock
- Highest inventory accuracy
- Possibility to stack products
- Lowest operating costs

CONS

- More hardware resulting in higher acquisition price
- Cells are usually fixed due to hardware

RFID

Manufacturers: Byte, FoodSpot



PROS

- Lowest acquisition price.

CONS

- Shrinkage between 10 - 15%.
- No or low amount of stacking of products possible.
- Slow to change planograms due to having to wait for RFID labels.
 - Labels need to be programmed and ordered ahead of time.
 - Most operators rely on manufacturer to program and ship labels.
- Highest operating cost. Each product requires an RFID label (labor and material cost).
- Usually less merchandising capacity.
- Inventory accuracy has been proven to be off more often resulting in unreliable data for the operator.
- RFID tags can become damaged resulting in transaction issues.

CAMERA / COMPUTER VISION

Manufacturers: Mostly startups due to ease of entry.



PROS

- Existing coolers could be reworked more easily
- Lower acquisition price vs load cell technology

CONS

- Shrinkage between 5 - 10%
- Relies on a level of uniformity for accuracy, creating challenges for fresh food items.
- System can struggle to identify products if they are not put back into the same exact place.
- Inventory accuracy more likely to be off.
- Transaction issues.
- Cabinets usually manufactured by 3rd parties in Mexico or Asia
- Lack of hardware tech support

Total Cost of Ownership Study Data

| | Structural Concepts | | Vicki | | Byte | | Foodspot | | Hubz | |
|--|---------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------------|-------------------------------|---------------------|---------------------|
| | Unit Cost | Yearly Cost | Unit Cost | Yearly Cost | Unit Cost | Yearly Cost | Unit Cost | Yearly Cost | Unit Cost | Yearly Cost |
| Acquisition & Start up Cost | | | | | | | | | | |
| Acquisition \$ | \$19,900.00 | \$19,900.00 | \$10,350.00 | \$10,350.00 | \$5,500.00 | \$5,500.00 | \$11,000.00 | \$11,000.00 | \$8,650.00 | \$8,650.00 |
| Start up \$ | | | | | | | \$1,500.00 | | | |
| Energy | | | | | | | | | | |
| Energy Consumption (kWh/day) | \$2.95 | | 4.45 | | \$6.00 | | \$4.50 | | \$5.20 | |
| \$0.15/kWh | \$0.44 | \$160.60 | \$0.67 | \$244.55 | \$0.90 | \$328.50 | \$0.68 | \$248.20 | \$0.78 | \$284.70 |
| Capacity | | | | | | | | | | |
| | <u>Full Case with 1 Product</u> | <u>Case Loaded for Resale</u> | <u>Full Case with 1 Product</u> | <u>Case Loaded for Resale</u> | <u>Full Case with 1 Product</u> | <u>Case Loaded for Resale</u> | <u>Full Case with 1 Product</u> | <u>Case Loaded for Resale</u> | <u>1 Product</u> | <u>for Resale</u> |
| | 240 20oz Bottles | 96 20oz Bottles | 210 20oz Bottles | 84 20oz Bottles | 144 20oz Bottles | 72 20oz Bottles | 210 20oz Bottles | 112 20oz Bottles | 240 20oz Bottles | 96 20oz Bottles |
| | 160 Food Containers | 96 Food Containers | 120 Food Containers | 72 Food Containers | 56 Food Containers | 28 Food Containers | 100 Food Containers | 50 Food Containers | 180 Food Containers | 108 Food Containers |
| Shelf Dimensions | 29"W x 18.25"D | | 25.5"W x 17.625"D | | 19.5"W x 17.5"D | | 19"W x 22.5"D | | 24.75"W x 19.625"D | |
| Number of Shelves | 5 | | 5 | | 4 | | 5 | | 5 | |
| Cost of Goods Sold | | | | | | | | | | |
| Sandwich (\$3.00/sandwich) | \$135.00 | \$49,275.00 | \$135.00 | \$49,275.00 | \$135.00 | \$49,275.00 | \$135.00 | \$49,275.00 | \$135.00 | \$49,275.00 |
| 20 oz Bottle of Pop (\$0.90/bottle) | \$40.50 | \$14,782.50 | \$40.50 | \$14,782.50 | \$40.50 | \$14,782.50 | \$40.50 | \$14,782.50 | \$40.50 | \$14,782.50 |
| Total Cost of Goods Sold | \$175.50 | \$64,057.50 | \$175.50 | \$64,057.50 | \$175.50 | \$64,057.50 | \$175.50 | \$64,057.50 | \$175.50 | \$64,057.50 |
| Fees | | | | | | | | | | |
| Pay Terminal | | | | | | | | | | |
| Fee | \$15/month | \$180.00 | | | | UNKNOWN | | UNKNOWN | | UNKNOWN |
| Terminal | | - | | | | UNKNOWN | | UNKNOWN | | \$4,850.00 |
| Total Pay Terminal | | \$180.00 | | | | UNKNOWN | | UNKNOWN | | \$4,850.00 |
| RFID Tags | | | | | | | | | | |
| Yearly Tag Total | | | | | \$0.15/tag | \$4,927.50 | \$0.20/tag | \$6,570.00 | | |
| Labor | | \$305.00 | | \$608.33 | | \$3,954.17 | | \$3,345.83 | | \$305.00 |
| Transaction fees | 0.9% /transaction | \$1,182.60 | | UNKNOWN | 2.5% + \$0.20/transaction | \$6,570.00 | 4.5% + \$0.10/transaction | \$7,556.00 | 4%/transaction | \$5,256.00 |
| Dashboard License/month | | | \$9.99/month | \$119.88 | \$125.00 | \$1,200.00 | \$199.00 | \$2,388.00 | \$250.00 | \$3,000.00 |
| Revenue | | | | | | | | | | |
| Sandwich (\$6.50/sandwich) | \$292.50 | \$106,762.50 | \$292.50 | \$106,762.50 | \$292.50 | \$106,762.50 | \$292.50 | \$106,762.50 | \$292.50 | \$106,762.50 |
| 20 oz Bottle of Pop (\$1.50/bottle) | \$67.50 | \$24,637.50 | \$67.50 | \$24,637.50 | \$67.50 | \$24,637.50 | \$67.50 | \$24,637.50 | \$67.50 | \$24,637.50 |
| Total Revenue | \$360.00 | \$131,400.00 | \$360.00 | \$131,400.00 | \$360.00 | \$131,400.00 | \$360.00 | \$131,400.00 | \$360.00 | \$131,400.00 |
| Revenue Share | \$0.00 | \$0.00 | \$0.04 | \$5,256.00 | \$0.00 | \$0.00 | \$0.06 | \$7,227.00 | \$0.04 | \$5,256.00 |
| Merchant Processing (Cost of using the credit card) | \$0.03 | \$3,942.00 | \$0.05 | \$6,570.00 | | \$3,285.00 | \$0.03 | \$3,942.00 | \$0.05 | \$6,570.00 |
| Cellular | \$10/month | \$120.00 | \$10/month | \$120.00 | \$25/month | \$300.00 | Included in the Dashboard License Fee | | \$20/month | \$240.00 |
| Total Fees | | \$10,985.60 | | \$12,674.21 | | \$20,236.67 | | \$31,028.83 | | \$25,477.00 |
| Investment | | \$19,900.00 | | \$10,350.00 | | \$5,500.00 | | \$12,500.00 | | \$8,650.00 |
| Fixed costs (0 sales) | | \$460.60 | | \$484.43 | | \$1,828.50 | | \$2,636.20 | | \$8,374.70 |
| Operating Profit (45 transactions per day) | | \$56,196.30 | | \$54,423.74 | | \$46,777.33 | | \$36,065.47 | | \$41,580.80 |

Information based on best understanding of market knowledge and subject to change.



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