Quantifying the Costs and Benefits of RSS in Perishables

Developed For:

Uniform Code Council,Inc.

By

Perishables Group, Inc.

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Introduction

The UCC has developed RSS labels for random weight items that will help:

- increase transaction efficiencies.
- ensure price integrity.
- reduce shrink.
- allow for more detailed accounting of sales, e.g., manufacturer and brand information.

The UCC, in partnership with Dorothy Lane Markets (DLM) and technology suppliers (e.g., NCR, Hobart, B.A.S.S.), conducted an in-store evaluation of the RSS label.

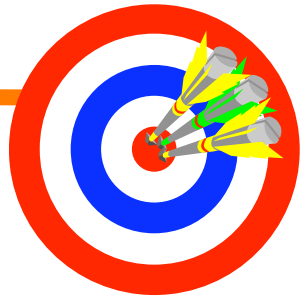
Introduction

The Perishables Group (PG) worked with:

- Willard Bishop Consulting (WBC), the supply chain experts, to identify and quantify the benefits of the RSS symbol throughout the produce and fresh meats supply chains.
- NCR to integrate data from the DLM test.
- various industry professionals to document the applications for category management, business-to-business and e-commerce programs.

This presentation contains the results of the RSS supply chain study.

Goals and Objectives



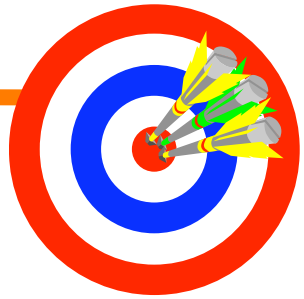
The primary goals of this initiative were to:

- validate, highlight and quantify the benefits of RSS.
- understand the costs and implications for produce and meats.
- highlight applications for category management and other processes for all perishables.

Specifically, we want to:

- capture qualitative reaction of retailers and suppliers to:
  - understand the implications for the supply chain.
  - direct the quantitative analysis.
- identify any process changes due to RSS utilization.
- quantify the cost impact of RSS on produce and fresh meats, including projected capital/materials costs of upgrading or replacing equipment.

Goals and Objectives

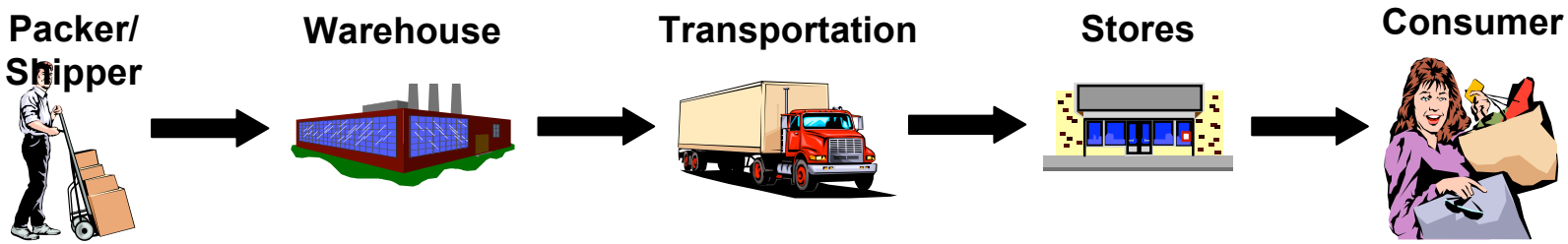


Specifically, we want to:

- document the potential benefits of RSS, e.g.:
  - sales/performance accuracy.
  - shipment tracking and shrink reduction.
  - supplier/brand sales data collection and identification.
  - category management program applications.
  - business-to-business (e-commerce) uses.
  - shipping and receiving facilitation efficiency.

Approach

Conduct a qualitative and quantitative analysis of the RSS impact on the produce and fresh meats supply chains…



...by identifying the key impact points and studying them in detail.

Approach

To achieve our objectives, we executed a nine-phased approach (phases 1-8 are complete).

Phase 1

Analyze Front-End Study Results

Goal: Use the front-end study to calculate the labor impact and utilize it in this cost-benefit study.

Phase 2

Develop Tools and Parameters

Goal: Determine the scope, scale, study requirements and parameters.

Phase 3

Capture Qualitative Reaction

Goal: Conduct a qualitative analysis of the RSS impact in 3 retailers and key vendors

Phase 4

Quantify the RSS Impact on Suppliers

Goal: Document the produce and fresh meats RSS supply chain impact on 7 suppliers.

Phase 5

Quantify the RSS Impact on Retailers

Goal: Document the RSS impact on supply chain costs in DLM

Phase 6

Quantify the Performance Impact

Goal: Document the RSS label impact on labor, sales and shrink.

Phase 7

Identify Additional Benefits

Goal: Document the potential RSS applications including, category management and e-commerce.

Phase 8

Deliver the Key Findings

Goal: Deliver a findings-based report that captures the key learnings.

Phase 9

Create Implementation Plans and Selling Tools

Goal: Help develop a tool that showcases RSS and the implementation plan for industry adoption.

Participants

This study required the recruitment and cooperation of numerous companies.

Retailers 

- Dorothy Lane Markets (DLM)
- The Great Atlantic and Pacific Tea Company
- Giant Landover

Suppliers 

(representing 12 key categories)

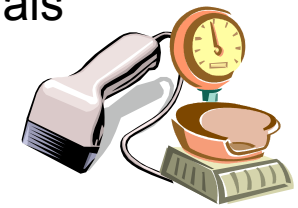
- DNE (Oranges and Grapefruit)
- Green Giant (Potatoes and Onions)
- Hormel (Ham and Pork)
- IBP (Beef)
- L&M (Apples and Pears)
- Produce Exchange (Peppers and Tomatoes)
- Tyson (Poultry)

To protect the confidentiality of these companies, no specific number or comment is attributed to a specific company (except DLM which agreed to share their test information).

Participants

This study required the recruitment and cooperation of numerous companies.

Equipment and Materials



- BASS
- Hobart Scales
- Mail-Well Labels
- NCR Corporation
- Packaging Systems
- PSC Scanning, Inc.
- Sinclair Systems International
- Superior Tape and Label, Inc.

Other

- Agribuys
- Ellevon, Inc.
- ITN TradeLink

To protect the confidentiality of these companies, no specific number or comment is attributed to a specific company (except DLM which agreed to share their test information).

Summary of Key Findings

1. ***Utilizing RSS labels generates an annual operating savings at retail of over $2.32 million in produce and $2.33 million in meats for an average 100-store chain.***

2. ***The capital cost for retailers to upgrade equipment and software to accommodate RSS is about $2,600 per store, while the cost to purchase new equipment and software is about $62,000 per store.***

3. ***Retail chains that only require an equipment upgrade will begin to experience returns on their investment during the first year while it will take the average 100-store chain about 17 months to breakeven on investing in new equipment.***

4. ***RSS' accuracy generates an annual reduction in shrink dollars of over $7.3 million for an average 100-store chain.***

5. ***The preliminary study indicated a .7¢ (seven tenths of a cent)more per produce transaction and a .2¢ (two tenth of a cent) more per meat transaction to input an item with an RSS label, which can be reduced through cashier training and label quality.***

6. ***RSS may cost produce suppliers about 2.3¢ per box/case and meat suppliers about 5¢ per box/case more from incremental equipment/materials costs.***

7. ***RSS facilitates more effective category management and e-commerce programs that drive incremental sales and profits.***

8. ***RSS will facilitate Food Safety/Traceability for beef, poultry, pork, lamb, etc. at item level.***

Key Findings

#1

Utilizing RSS labels generates an annual operating savings at retail of over $2.32 million in produce and $2.33 million in meats for an average 100-store chain.

The supply chain benefits from RSS, including reductions in shrink and labor, as well as better inventory control, outweigh the additional RSS costs associated with other labor and material costs.

RSS Annual Savings at Retail		
	Produce	**Meats**
Per Unit/LB		
Per store	**$0.014**	**$0.051**
Total Per Store*	**$23,227**	**$23,302**
Total for 100 stores	**$2,322,700**	**$2,330,200**

**Source: Three-chain study composite with average annual volume per store of 1.6 million in produce and about 460,000 in meats.*

Consequently, a 100-store chain can save over $4.6 million total. In addition, these results do not include the benefits from category manage-ment applications (finding #7) which would increase the savings. However, the capital costs for equipment and software are addressed separately, in finding #2.

Key Findings

(cont'd)

#1

While the amount of operating savings is relative to the size of the chain, even a smaller chain with 50 stores will save $2.3 million from RSS.

RSS Annual Savings at Retail			
	Produce	Meats	Totals
Per Unit/LB Per store	$0.014	$0.051	na
Total Per Store*	$23,227	$23,302	$46,529
Total for 50 stores	$1,161,350	$1,165,100	$2,326,450
Total for 100 stores	$2,322,700	$2,330,200	$4,652,900
Total for 150 stores	$3,484,050	$3,495,300	$6,979,350
Total for 200 stores	$4,645,400	$4,660,400	$9,305,800
Total for 250 stores	$5,806,750	$5,825,500	$11,632,250
Total for 500 stores	$11,613,500	$11,651,000	$23,264,500
Total for 1000 stores	$23,227,000	$23,302,000	$46,529,000
Total for 1500 stores	$34,840,500	$34,953,000	$69,793,500

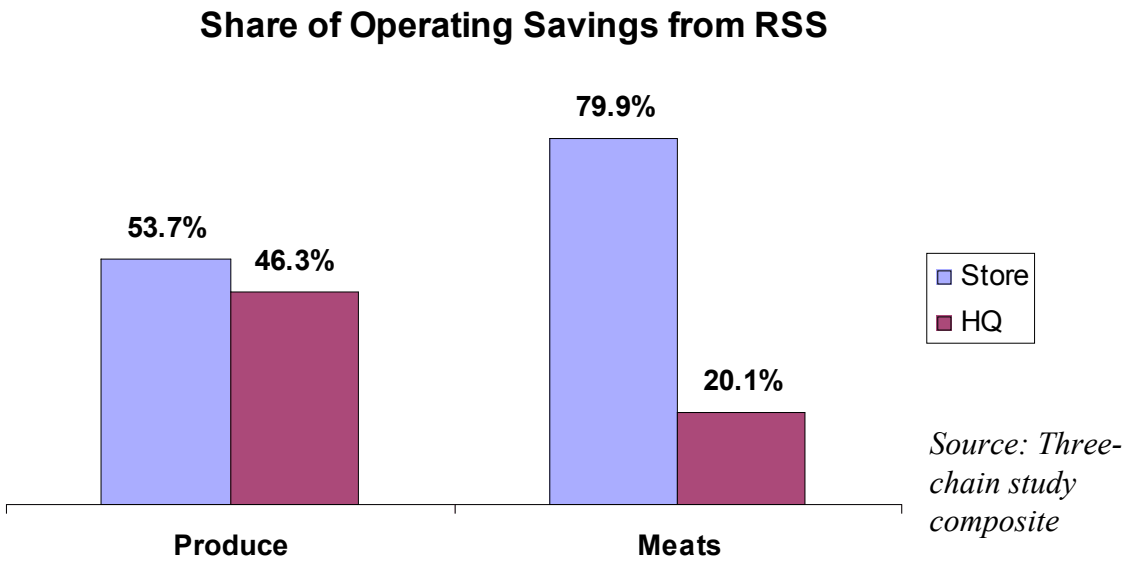
Source: Three-chain study composite extrapolated for various sizes of chains.

In any chain, the majority of the RSS savings will most likely be generated from a reduction in shrink.

Key Findings

#1 (cont'd)

In both departments, the majority of the savings from RSS is generated by store activities.



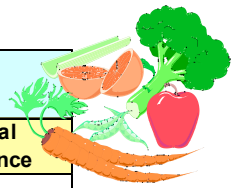
Source: Three-chain study composite

There is no impact expected at the warehouse.

Key Findings

#1 (cont'd)

In produce, RSS will help retailers better control product shrink from store inventories and pricing. At headquarters, managers will have more information, e.g., product quality, yield, so they will spend less time analyzing information, processing/ ordering and managing suppliers while generating better results.

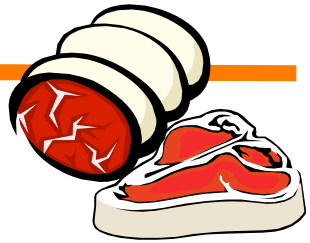


Activity/Area Studied	Produce Composite Avg Per Store		
	Annual Current Cost	Annual New Cost	Annual Difference
Store			
Shrink - Inventory Control	$20,259	$10,838	**-$9,421**
Shrink - Front-end Pricing	$24,849	$13,574	**-$11,274**
Labor for Added Cashier Time	$0	$10,763	**$10,763**
Labor for Inventory & Order Writing	$1,196	$0	**-$1,196**
Labor for Store Receiving	$175	$0	**-$175**
Labor for Rotation/Stocking	$1,448	$0	**-$1,448**
Labor for Price Maintenance	$2,166	$2,448	**$282**
Headquarters			
Shrink minus labor, buyer control - product	$17,881	$6,974	**-$10,907**
Labor to Maintain UPC Bar Codes	$0	$95	**$95**
Labor to Maintain PLU Codes	$0	$55	**$55**
Warehouse			
No change in operations	$0	$0	**$0**
TOTAL	$67,974	$44,747	**-$23,227**

Source: Three-chain study composite

Some of those savings are offset by increased cashier labor and labor for file/code maintenance.

Key Findings



#1

(cont'd)

In meats, RSS has a similar impact on shrink and labor, e.g., fewer front-end pricing errors, questions, and lookups, as well as headquarter manager activities.

Activity/Area Studied	Meats Composite Avg Per Store		
	Annual Current Cost	Annual New Cost	Annual Difference
Store			
Shrink - Inventory Control	$26,503	$8,057	**-$18,446**
Shrink - Front-end Pricing	$2,817	$286	**-$2,531**
Labor for Added Cashier Time	$0	$914	**$914**
Labor to Maintain Wrapper/Labeler	$0	$400	**$400**
Labor to Load Labeler	$0	$43	**$43**
Label Material Cost	$0	$466	**$466**
Labor for Price Maintenance	$149	$550	**$401**
Headquarters			
Buyer control - product	$11,417	$6,595	**-$4,822**
Labor to Maintain UPC Bar Codes	$0	$59	**$59**
Labor to Maintain PLU Codes	$0	$55	**$55**
Warehouse			
No change in operations	$0	$0	$0
TOTAL	$40,886	$17,425	**-$23,461**

Source: Three-chain study composite

Still, activities around meats labeling/pricing in the store, reduce the overall savings.

Key Findings

#1 (cont'd)

Retailers believe that the key RSS advantages that drive savings include the following.

- More dollars at check-out from reduced checker errors.
- Fewer front-end pricing errors where a cashier charges a lower price rather than researching the price.
- Improved product assortment from better vendor information at buyer headquarters level.
- Less shrink through preparation, ordering and production control, i.e., optimal shelf inventory.
- Reduced shrink and less analytical time for buyer yield analysis for different vendors of the same item.
- Improved stocking/rotating/culling.

Source: Three chain study participants

Key Findings

#1 (cont'd)

Some of the savings are offset, however, by incremental costs from RSS, according to the participating retailers, including the following.

- Price maintenance file labor.
- Incremental labor to keep UPC files up to date.
- Incremental labor cost per label due to fewer labels on each roll (meats).
- Incremental labor for additional maintenance required for graphics and/or data calibration (meats).

Source: Three chain study participants

Key Findings

#2

The capital cost for retailers to upgrade equipment and software to accommodate RSS is about $2,600 per store while the cost to purchase new equipment and software is about $49,000 per store.

Scan, scale and software equipment two years old or less can be upgraded to read/record RSS. The cost to upgrade equipment, while varying somewhat by the size of the retail chain, is $2,565, including labor for scan installations.

	Total cost per store (based on 11 lanes and 7 scales per store)		
	Cost	Plus Labor	Total
Total Upgrade	$2,125	$440	$2,565
All New	$48,000	$550	$48,550

If a retailer needs to purchase all new equipment, it would cost about $48,550 for a store with 11 checkout lanes and 7 meat/seafood scales. In some cases, retailers also have self service product scales (usually an average of 3 per store). With a cost per produce scale of $4,500, their total cost to purchase new equipment and software would be about $62,500 per store. Detailed costs by equipment type follow.

Sources: The average number of checkout lanes is from Supermarket Business, April 15, 2001; The average number of scales and all costs are from vendor participants.

Key Findings

#2 (cont'd)

Scan Equipment

	Scan cost per store (based on 11 lanes per store)		
	Cost	Plus Labor	Total
Upgrade Scan Equipment	$1,925	$440	$2,365
New Scan Equipment	$16,500	$550	$17,050

The cost to upgrade retail scan equipment in order to read the RSS label has some considerations.

- Upgrade costs range from $50 to $300 per lane where the cost varies by the size of the retailer.
- Scan equipment no older than two years can be upgraded.
- It takes about 15 minutes (per lane) to install the upgrade.

Retailers who have older equipment will be required to buy new equipment that can accommodate RSS. However, they can buy it on their existing equipment replacement cycle when they would have bought new equipment anyway.

Source: Vendor participants

Key Findings

#2 (cont'd)

Scale Equipment

	Scale cost per store (based on 7 meat/seafood scales per store)		
	Cost	Plus Labor	Total
Upgrade Scales (costs are included in maintenance)	$0	$0	$0
New Scales	$31,500	$0	$31,500

Most scale equipment can be upgraded. Other considerations include the following.

- The cost to upgrade equipment is usually included in the retailer's maintenance contract so there is no charge for an upgrade.
- It takes 15-30 minutes (per machine) to install the upgrade. In most cases, the retailer can do it themselves.
- Some chains also have self service scales in produce.

A new scale for any perishables department costs approximately $4,500 including the communications package and installation.

Source: Vendor participants

Key Findings

#2 (cont'd)

Software

	Software cost per store		
	Cost	Plus Labor	Total
Upgrade POS Software	$200	$0	$200
New POS Software	na	na	na

The cost to upgrade software averages about $200 per store for the POS (front-end) and backend. Other considerations include the following.

- Equipment that is more than two years old would probably need hardware upgrades, e.g., more memory, CPU.
- Most retailers will complete their own installations.

Capital cost estimates for actual chains can be found in the appendix.

Source: Vendor participants

Key Findings

#3

Retail chains that only require an equipment upgrade will begin to experience returns on their investment during the first year while it will take the average 100-store chain about 13 months to breakeven on investing in new equipment.

For a retail chain that can upgrade their equipment and software to accommodate the RSS label, they will see a return on their investment within the first year that they upgrade their systems.

RSS ROI - Upgrading	
Per Store	
Annual Operating Savings - Produce	$23,227
Annual Operating Savings - Meats	$23,032
- Capital Costs	-$2,565
- Training*	-$1,500
Totals	$42,194
100-Store Chain	
Annual Operating Savings - Produce	$2,322,700
Annual Operating Savings - Meats	$2,303,200
- Capital Costs	-$256,500
- Training*	-$150,000
Totals	$4,219,400

Source: Three-chain study composite. Based on 11 checkouts and 7 meat/seafood scales (including cutting room) per store. Training costs are based on 20 cashiers per store at $75 each - including training and wages.

A 100-store chain that upgrades to RSS will gain over $4.2 million in savings during the first year.

Key Findings

#3 (cont'd)

For retail chains needing to purchase new equipment and software to accommodate RSS, they will recoup their investment in about 13 months. After the first year, they have $352,100 to cover. At a savings of $385,000 per month, they need an additional month to recoup the capital costs.

RSS ROI - Buying New	
Per Store	
Annual Operating Savings - Produce	$23,227
Annual Operating Savings - Meats	$23,032
- Capital Costs	-$48,550
- Training*	-$1,500
Totals	-$3,521
100-Store Chain	
Annual Operating Savings - Produce	$2,322,700
Annual Operating Savings - Meats	$2,303,200
- Capital Costs	-$4,855,000
- Training*	-$150,000
Totals	-$352,100

Source: Three-chain study composite. Based on 11 checkouts and 7 meat/seafood scales (including cutting room) per store. Training costs are based on 20 cashiers per store at $75 each - including training and wages.

Those with produce scales will take a little longer. Retailers can shorten the time it takes to cover their investment by training cashiers and reducing the incremental wage rate costs associated with scanning RSS.

Key Findings

#4

RSS' accuracy generates an annual reduction in shrink dollars of over $7.3 million for an average 100-store chain.

Due to the scanning feature of the RSS label, retailers incur less shrink from mis-rings, pricing errors and inventory control. As a result, retailers can save $4.7 million in produce and $2.6 million in meats shrink per year.

	Annual $ Shrink Savings AVG Per Store	Annual $ Shrink Savings 100-Store Chain
Produce	$47,033	$4,703,293
Meats	$26,269	$2,626,854
Total	$73,301	$7,330,146

**Source: Three-chain study composite with average annual sales of $2.6 million in produce and $2.5 million in meats.*

Key Findings

#4 (cont'd)

Retailers expect to save 1.84% of annual produce sales and 1.04% of annual meats sales from shrink from the benefits of RSS.

	Shrink Savings from RSS	
Activity/Area Studied	**Produce Annual Avg**	**Meats Annual Avg**
Inventory Control	0.52%	0.67%
Front-end Pricing	0.96%	0.25%
Labor Buyer	0.37%	0.12%
Total	**1.84%**	**1.04%**

At these rates, effective shrink improvement rates from RSS are 10% for produce and 15% for meats.

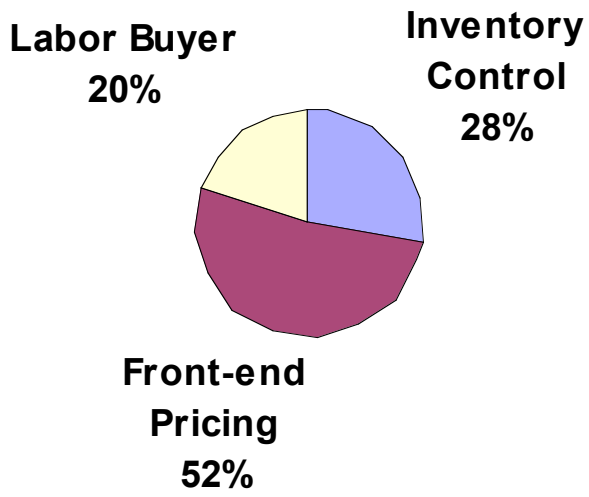
Source: Three-chain study composite

Key Findings

#4 (cont'd)

In produce, the majority of the savings is derived from more accurate scanning at the checkouts.

Share of Annual Shrink Savings from RSS - Produce



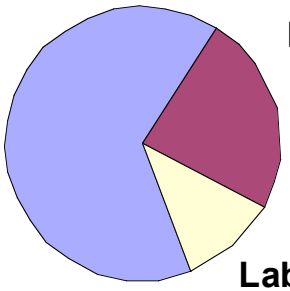
Source: Three-chain study composite

Key Findings

#4 (cont'd)

In meats, the majority of savings from RSS is due to better inventory control and production from understanding exact weight sales.

Share of Annual Shrink Savings from RSS - Meats



Source: Three-chain study composite

Key Findings

#5

It costs .07¢ more per produce and .02¢ more per meat item to input an item with an RSS label due to the incremental cashier labor cost, which may be minimized through proper cashier training and label quality.

The time it takes to input a produce item at the checkout is 1.9 seconds more with RSS than a PMA sticker. Therefore, the cost to process an item is more with RSS, since it requires more labor.

Time to Enter a Produce Item at Checkout

	Pre-RSS			Post-RSS		
	Sec./ Item	# of Items	%	Sec./ Item	# of Items	%
Memory (M)	6.1	584	53.0%	5.4	718	45.5%
Self Service Produce/Vendor UPC (S)	2.9	251	22.8%	2.6	432	27.4%
PMA Sticker (P)	7.9	205	18.6%	6.6	90	5.7%
Code Sheet (C)	12.4	56	5.1%	11.8	105	6.6%
RSS Sticker (R)				9.8	226	14.3%
Ask customer or cashier (T)	12.2	5	0.5%	7.7	8	0.5%
Overall	**3.3 sec.**	**1101 items**	**100.0%**	**5.7 sec**	**1579 items**	**100.0%**

Labor cost:

PMA Sticker = 2.8¢

RSS Label = 3.4¢

Source: NCR DLM Front-end Time-and-Motion Study 2001 utilizing baseline measures; Wage costs are based on average cashier wage rate of $12.50 per hour obtained from the three participating retail chains.

Key Findings

#5 (cont'd)

There is a slight increase of .5 seconds in the time it takes to enter a meat item at the checkout with RSS.

Time to Enter a Meat (beef, chicken, pork) Item at Checkout

(PM) In-house meat (beef, chicken, pork)	Pre-RSS			Post-RSS		
Entry Method	**Mean**	**N**	**%**	**Mean**	**N**	**%**
First Pass (FP)	2.1	157	88.7%	2.1	217	70.7%
Second Pass (SP)	3.0	15	8.5%	2.9	51	16.6%
Multiple Pass (MP)	5.3	3	1.7%	5.9	33	10.7%
No Scan (NS)	17.5	1	0.6%	19.5	4	1.3%
Not on File (NOF)				13.2	1	0.3%
Department Entry (DPT)	11.0	1	0.6%	4.2	1	0.3%
Scan Method	**Mean**	**N**	**%**	**Mean**	**N**	**%**
Pass Scan (A)	2.3	158	89.3%	2.7	251	81.8%
Flip Scan (F)	3.0	19	10.7%	3.9	56	18.2%
Overall	**2.4 sec.**	**177**	**100.0%**	**2.9 sec.**	**307**	**100.0%**

Labor cost:

Pre-RSS = .08¢

Post-RSS = .10¢

Source: NCR DLM Front-end Time-and-Motion Study 2001; Wage costs are based on average cashier wage rate of $12.50 per hour obtained from the three participating retail chains.

Key Findings

#5 (cont'd)

At the same time, cashier training and experience have a direct impact on the time required to input an item. The time required to input RSS decreases with the amount of experience a cashier has. The additional time requirement for RSS is 96% less for "Experienced" cashiers than "Below Average" and 42% less than cashiers with "Average" experience.

	Below Average Experience	Average Experience	Experienced
Cashier Input Time	**Sec./ Item**	**Sec./ Item**	**Sec./ Item**
Avg Input Time Before RSS	5.4	5.1	5.4
Avg Input Time After RSS	7.9	6.4	6.3
Difference with RSS	2.4	1.4	0.9

Consequently, cashier labor costs will decrease as cashiers gain training and experience.

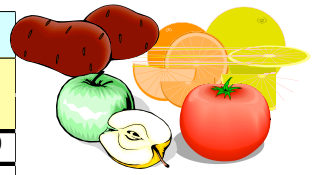
Source: NCR DLM Front-end Time-and-Motion Study 2001

Key Findings

#6

RSS may cost produce suppliers about 2.3¢ per box/case and meat suppliers about 5¢ per box/case more from incremental equipment/materials costs.

Suppliers expect to see an increase in their operating costs from utilizing the RSS label. The additional costs are expected to come from increased material and labor costs for activities such as ordering and maintenance.



	RSS Annual Avg Cost to Produce Suppliers		
Activity/Area Studied	**Annual Current Cost**	**Annual New Cost**	**Difference**
Label/Sticker	$147,612	$182,951	$35,339
Labor to Produce Labels	$5,172	$8,093	$2,921
Label to Order and Maintain Label Stock	$1,999	$2,685	$686
Label Waste/Shrink	$10,483	$14,027	$3,544
Depreciation for New Label Equipment	$0	$5,720	$5,720
Labor for QC Label Production	$1,193	$1,312	$119
Labor to Replenish Label Rolls on Machine	$676	$1,014	$338
Finished Goods Inventory Carrying Cost	$259	$285	$26
Finished Goods Handling and Rotating	$177	$195	$18
Labor to Maintain UPCs & PLUs in System	$261	$407	$146
Labor in Office to Print New RSS Promo Materials	$1,600	$2,400	$800
Cost per year	$169,432	$219,089	$49,657
Cost per LB	$0.0031	$0.0036	$0.0005
Cost per box/case	$0.1290	$0.1510	$0.0230

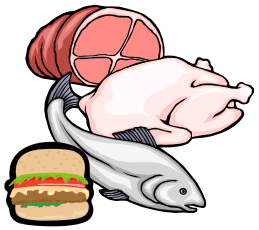
In produce, the average increase is slightly more than 2¢ per box/case.

Source: Supplier study participant composite

Key Findings

#6 (cont'd)

Meat suppliers expect to experience similar operating cost increases and they also expect to make additional capital investments.



	RSS Annual Avg Cost to Meat Suppliers		
Activity/Area Studied	**Annual Current Cost**	**Annual New Cost**	**Difference**
Label/Sticker	$128,267	$159,962	$31,695
Label Waste/Shrink	$693	$347	-$346
Depreciation for New Label Equipment	$18,333	$39,979	$21,646
Labor for QC Label Production	$2,367	$8,031	$5,664
Labor to Replenish Label Rolls on Machine	$1,333	$4,601	$3,268
Finished Goods Inventory Carrying Cost	$20,800	$18,720	-$2,080
Finished Goods Handling and Rotating	$8,693	$7,389	-$1,304
Labor to Maintain UPCs & PLUs in System	$11,463	$13,303	$1,840
Cost per year	$191,860	$256,775	$60,383
Cost per LB	$0.0123	$0.0164	$0.0040
Cost per box/case	$0.1481	$0.1973	$0.0489

Consequently, the average increase to meat suppliers is about 5¢ per box/case. Some of the costs, however, are offset by the inventory and production management benefits of RSS.

Source: Supplier study participant composite

Key Findings

#6 (cont'd)

Suppliers expect costs to come from the following considerations.

- RSS labels to cost about 20% - 25% more than the labels they currently purchase.
- More label shrink/waste (2% - 5%) since:
  - the labels are more expensive.
  - there are more labels.
  - labels are not as interchangeable.
- More labor (for ordering, production, quality control, file maintenance)
- New label equipment (for some suppliers)

Key Findings

#6 (cont'd)

Also, the cost of the labels could be even higher given:

- the extent of the cost increase is dependent on the exact details of the label, e.g., size, color and composition.
- label vendors will be required to change their own equipment, processes and labor. So, additional costs may be incorporated into the price of RSS labels, including:
  - investment for new presses, plates and tooling upgrades.
  - increase in production runs as well as changing the roll but machine productivity unchanged.
  - increase in personnel and labor costs.
  - increased complexity of production due to unique codes.

Imported product will require basically the same resource changes and costs.

Key Findings

#6 (cont'd)

While it is difficult to quantify the benefits for suppliers, they would include the following areas.

- In today's, and certainly tomorrow's world, suppliers will be expected to provide category management services which will be a cost of doing business. RSS will reduce that cost through greater efficiencies, better data, etc. (see finding #7)
- Better sales accountability through RSS should provide suppliers with:
  - sustained distribution.
  - full-line assortments.
  - more space allocation with better position.
  - more promotions.
  - credit for sales results enhances retail partnerships.

Key Findings

#7

RSS facilitates more effective category management and e-commerce programs that drive incremental sales and profits.

The RSS label will enable retailer and supplier perishables category management programs to produce more efficient, accurate analysis, information as well as recommendations that will generate more sales and profits.

There are four primary benefit areas of RSS for category management programs.

- Data collection, cleaning, processing and analyzing
- Category review performance documentation
- Category plan development
- Food Safety/Product Traceability

The additional information provided by RSS also helps facilitate e-commerce or business-to-business program standardization and execution.

Key Findings

#7 *(cont'd)*

Data Processing

About 50% of the cost of category management programs results from cleaning and processing data, e.g., verifying and identifying products, understanding retailer assigned codes, matching shipment codes to scan codes.

Data Usage Time

With current product stickers

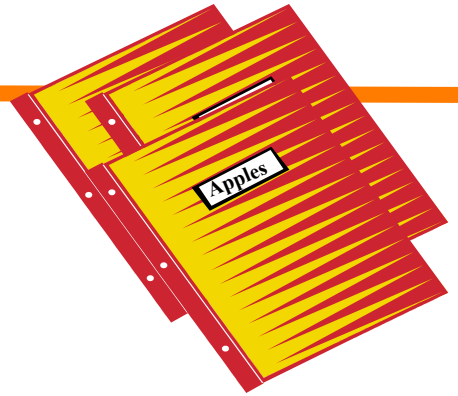
80% of time spent on data cleaning and processing	20% of time spent on data applications

With RSS stickers

20% of time spent on data cleaning/ processing	80% of time spent on data applications and implementation

Consequently, 80% of the time devoted to category management initiatives is often spent on data processing. With RSS, that time and resource requirement is greatly reduced.

Key Findings



#7 (cont'd)

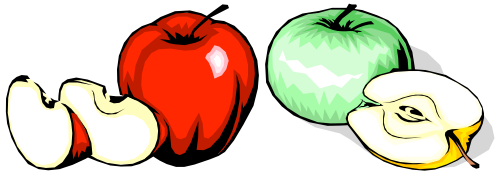
Category Reviews

Cleaner data will generate more accurate and attributable results that can be used to deliver improved category reviews that will help ensure:

- efficient, targeted distribution for the chain overall, as well as individual stores, that better meets consumer demand.
- more precise back-end shrink identification and management through stronger:
  - ordering that reflects actual sales results, especially in meats where the specific sales weight can be documented and understood.
  - assortment that's customized for each region, store, cluster, etc.
  - handling that rotates and prepares product for sale on a timely basis.
  - merchandising that allocates resources, e.g., space, appropriately.

Key Findings

#7 (cont'd)



Category Reviews - Real Examples - Apples

Proper assortment has a large impact on overall category sales. In one case study, we utilized data analysis and the category review to adjust item variety and space allocation to better reflect consumer purchase behavior. This included:

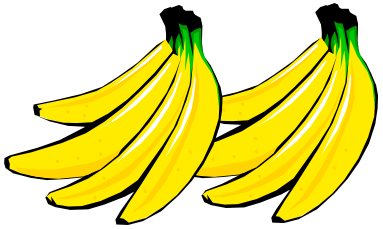
- eliminating under-performing items and increasing space for high volume varieties.
- introduced second size of bulk "mainline" apples and added two new high potential new varieties.

The result of the new assortment was an overall category sales increased by 20%. RSS will be instrumental in this type of analysis and sales improvement.

Source: Perishables Group database

Key Findings

#7 (cont'd)



Category Reviews - Real Examples - Bananas

Shrink can be comprised of a several factors, e.g., mis-rings, spoilage/unsalables or handling/merchandising practices. By pinpointing and quantifying specific shrink sources, we can implement steps to reduce shrink.

For example, we were able to make a significant impact on banana profits at a leading retailer by identifying and resolving shrink drivers. Consequently, we:

- reduced shrink by 60%.
- improved quality by 15%.
- increased accuracy of sales projecting.
- added $1 million in category performance.

RSS will help identify the sources of shrink so that corrective, targeted measures can be taken to reduce the costs and improve results.

Source: Perishables Group database

Key Findings

#7 (cont'd)

Category Reviews - Real Examples - Fresh Meats

In another example from a real case study, the performance of fresh meats was enhanced by modifying category assortment then redesigning the shelf layout and reallocating space allocation to reflect the new assortment's sales requirements. These changes:

- reduced shelf inventory 25%.
- reduced shrink by 30%.
- increased category contribution to the total department by 17%.

RSS will help retailers and suppliers make better, fact-based operational decisions that reduce costs and increase profits.

Source: Perishables Group database

Key Findings

#7 (cont'd)

Category Plans

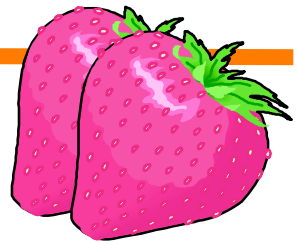
Once the category performance is clearly documented with RSS, retailers and suppliers can develop more detailed, specific, and factual category development plans that really drive sales through, e.g.:

- better defined, segmented pricing strategies.
- efficient promotions that utilize the products and tools that optimize results.
- targeted consumer/store clustering by performance
- optimized assortment planning that reflect consumer purchase behavior.
- effective space allocation that provides ample space where needed and minimizes labor and out-of-stocks.
- effective application of co-marketing programs.

Key Findings

(cont'd)

#7



Category Plans - Real Examples - Berries

Leveraging a comprehensive category review, we helped a supplier develop an extensive category plan to optimize variety for a retailer by identifying and supporting specific strategies for each sub-category (in this case, package type). Then, we supported the strategy with a tactical plan, e.g. targeted promotional events. As a result, we:

- saved one item with negative net margin from deletion by identifying it as a traffic-building loss leader and targeting it as an "in-and-out" for key promotions.
- increased the assortment to a full-line of strawberries, attracting more consumers to the category.
- grew category sales by 24%.

RSS will help retailers and supplier develop better strategies and tactics that improve results.

Source: Perishables Group database

Key Findings

#7 (cont'd)

Food Safety/Product Traceability

The cost of product recalls is staggering. Some examples include the following.

- "The [product] recall hit Sara Lee hard. The direct cost of recalling the meats was $76 million -- but that did not include the resulting loss of sales. Meat sales dropped about $200 million in the six months after the recall." *Listeria outbreak in '98 haunts company's image, Detroit Free Press, October 29, 1999.*

Key Findings

#7 (cont'd)

Food Safety/Product Traceability

The cost of product recalls is staggering. Some examples include the following.

- "Atlanta-based Coca-Cola Enterprises Inc. has assessed the costs associated with the June 1999 product recall in certain parts of Europe at about $103 million in the second quarter of 1999 alone." *Cost Estimates Recall at $103 million, Atlanta Business Chronicle, July 16, 1999.*

These costs don't even include one of the biggest and most costly challenges resulting from a product recall. When the recall is over, the main task is for the company to win back its market share, rebuild its reputation, as well as the loyalty to the retail chain and the brand. RSS can help minimize these costs and impacts from product recalls.

Key Findings

#7 (cont'd)

Food Safety/Product Traceability

Since RSS labels carry additional information, including manufacturer or supplier, products will be easier to trace throughout the supply chain. This feature helps ensure food safety in three ways. RSS will:

- help retailers and suppliers narrow-down the search in produce and pinpoint the right product in meats when food safety is a concern.
- identify the amount of (meat) product that needs to be inspected or recalled, thereby reducing costs due to unnecessary recall.
- facilitate a quicker response time, since product will be identified more accurately and quickly. Consequently, retailers and suppliers can react faster, minimizing the negative outcome.

As the technology matures, all of these applications and uses can be extended to produce once item and case coding is utilized.

Key Findings

#7 (cont'd)

E-Commerce

According to the industry experts we interviewed, RSS has immediate and long-term applications for facilitating e-commerce programs.

With the additional information in the RSS code now,:

- *"RSS is the foundation for e-commerce".*
- *"The benefits of RSS are the same as they are at retail because the retail and e-commerce systems must match, e.g., in terms of standards, criteria, performance measures, etc."*
- *"RSS numbering and attributes will speed industry standardization process."*

Source: Vendor interview participants

Key Findings

#7 (cont'd)

E-Commerce

With the additional information in the RSS code now:

- RSS will help e-commerce programs *"pay more attention to specific attribute characteristics and variety within a category."*
- *"Consumer preferences and purchasing behavior can be tracked and relayed back through the supply chain to production, resulting in increased consumer satisfaction by helping predict demand."*
- *RSS enables "real-time replenishment based on actual data".*

According to one industry expert, these uses and benefits *"make RSS a tool in the effort to increase consumption".*

Source: Vendor interview participants

Key Findings

#7 (cont'd)

E-Commerce

Long term, as the technology matures and additional features are available, e.g., produce case coding and item-level detail, RSS provides more benefits.

- Improved, automated packing processes that represent the optimum variety needed.
- Better ordering and inventory management.
- Greater food safety from complete product tracking throughout the supply chain.

Source: Vendor interview participants

Recommended Next Steps

This study, including the front-end analysis, provides some initial learnings about the impact of RSS. However, this information is more directional in nature due to the small scale and scope of the pilot as well as the data availability.

Therefore, we recommend additional testing and pilots that will deliver better, more comprehensive learnings that will facilitate and expedite adoption in the industry.

- Execute an RSS test at 3-4 suppliers where the RSS label costs, benefits, impact and implementation considerations can be documented in a real-world environment. Include both produce and meat suppliers.
- Conduct an RSS pilot in at least one large retailer with multiple store tests in order to document the actual costs, sales impact and savings (shrink and labor) during live RSS utilization.
- Initiate some research into the application and impact of RSS in other perishable department, i.e., deli and bakery.