PREPARED BY IBM FOR THE GROCERY MANUFACTURERS ASSOCIATION

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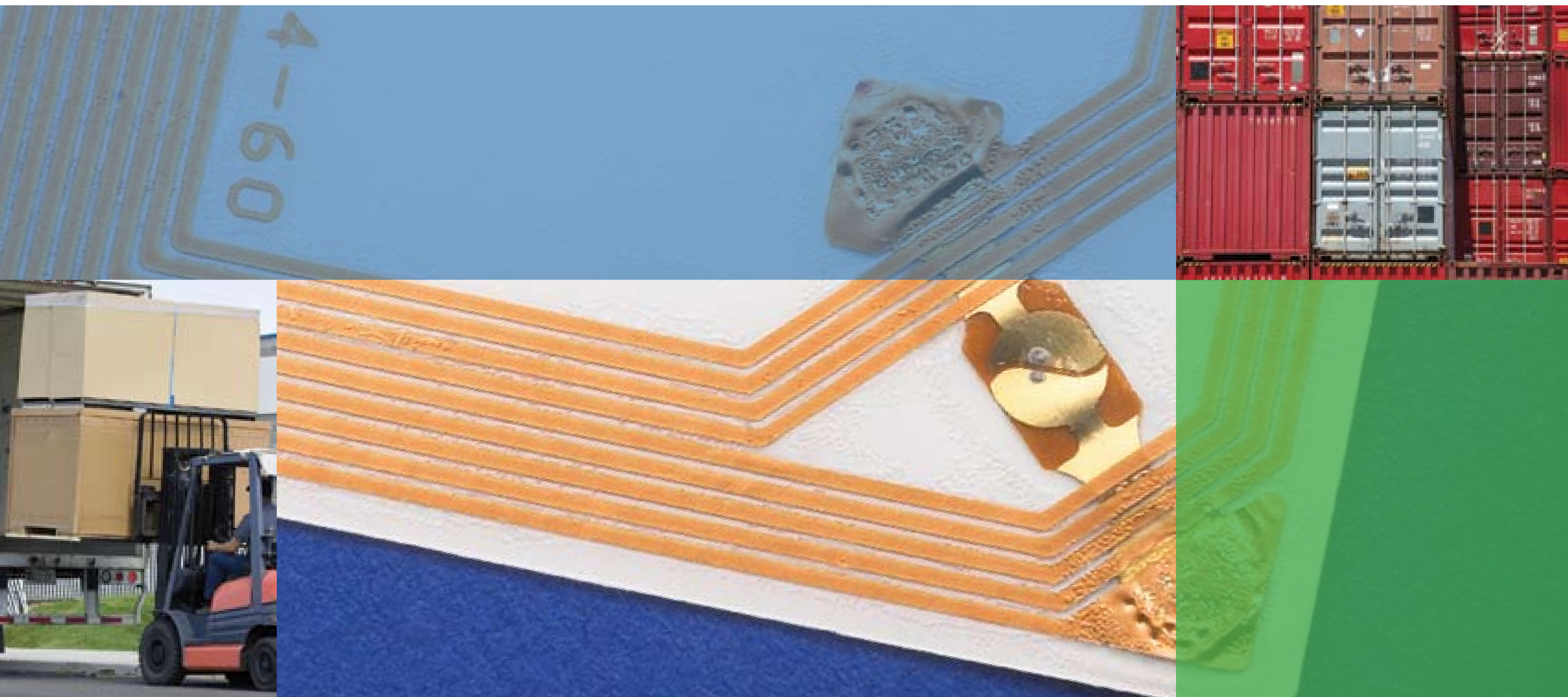
Appendix

EPC/RFID: Proposed Industry Adoption Framework

Manufacturer Survey and Pilot Learnings to Date



The Association of Food, Beverage and Consumer Products Companies

Note: Every question was not answered by every respondent, resulting in differing response totals for some questions

1. What are your company's annual revenues?

	Raw Score	As a % of Question Total
< $5 B	14	45%
$5 B to < $10 B	7	23%
$10 B to < $15 B	3	10%
> $15 B	7	23%

2. In which general categories does your company sell products?

	Raw Score	As a % of Question Total
Grocery – Dry Goods Foods	23	37%
Grocery – Dry Goods General Merchandise	4	6%
Grocery – Dry Goods Household Cleaning Products	5	8%
Grocery – Frozen, Refrigerated	11	17%
Direct Store Delivery – Soft Drinks, Snacks	7	11%
Direct Store Delivery – Fresh Foods	1	2%
Health and Beauty Care	8	13%
Over-The-Counter Medication	3	5%
Other	1	2%

3. How important of a role do you think EPC/RFID will play in the future of the CPG industry?

	Raw Score	As a % of Question Total
Unimportant	1	3%
Not very important	1	3%
Somewhat important	12	39%
Very important	17	55%
Extremely important	0	0%

		Raw Score	As a % of Question Total
4. How would you classify your company's view of the value potential of EPC/RFID?	See no real short- or long-term value	1	3%
	Believe in some long-term value, but see little or no value in near term	14	45%
	Believe in long-term value, see some value in near term for specific product categories/applications	14	45%
	Believe in long-term value, see significant short-term value potential for specific product categories/applications	2	6%
	Strong advocate of both long- and short-term value of the technology across all product categories/applications	0	0%
5. What is your company's aggregate investment to date in EPC/RFID initiatives?	$0	0	0%
	< $500k	10	32%
	$500-1MM	6	19%
	$1MM-2MM	9	29%
	$2MM-5MM	4	13%
	> $5MM	2	6%
6. Are you involved in any EPC/RFID pilots?	Yes	27	87%
	No	4	13%
7. If yes, with whom?	Internal	10	26%
	Retailers	25	64%
	Upstream Suppliers	4	10%

Question	Response	Raw Score	As a % of Question Total
8. If no, why not?	Open-ended	*See page xiv for responses*	
9. How many retail trading partners are you piloting with today?	None	3	11%
	1	4	14%
	2	8	29%
	3	12	43%
	4 or more	1	4%
10. Based on your pilot experiences to date, are you more optimistic or less optimistic about benefit potential of EPC/RFID?	More optimistic	6	22%
	Less optimistic	5	19%
	Same/No change	16	59%
11. Based on your pilot experiences to date, is initial tag readability within your operations (e.g., DC, manufacturing line) getting better or worse?	Significantly better	5	19%
	Little better	11	42%
	Same	10	38%
	Little worse	0	0%
	A lot worse	0	0%

12. Based on your pilot experience to date, is tag readability within your retail and trading partners' environments (e.g., DC, store) getting better or worse?

	Raw Score	As a % of Question Total
Significantly better	1	4%
Little better	11	42%
Same	11	42%
Little worse	3	12%
A lot worse	0	0%

13. What is the current readability rate of EPC tags/labels that you are applying?

	Average	High	Low
At encoding	95%	100%	90%
At validation	93%	100%	48%

14. What readability rate would you consistently need to attain in order to consider significant implementation expansion?

	Average	High	Low
Open-ended	96.3%	100%	50%

		Raw Score	As a % of Question Total
15. Have you seen a decline in the purchase price of EPC/RFID tags over the last 12 months?	No Change	4	15%
	Yes: 0 – 10%	3	12%
	Yes: 10 – 20%	5	19%
	Yes: 20 – 30%	4	15%
	Yes: 30 – 50%	6	23%
	Yes: › 50%	4	15%

		% of manufacturers who **are** applying in-line	% of manufacturers who **are not** applying in-line	Average for those who **are** applying in-line
16. As a percentage of your total tagging volume, what percentage are you applying in-line (i.e., on the manufacturing line)?	Open-ended	26%	74%	91.5%

17. For your in-line tagging operations, at what speed are you currently applying the tags?	‹ 20 cases/min	1	11%
	20-40 cases/min	3	33%
	40-60 cases/min	3	33%
	› 60 cases/min	2	22%

		Raw Score	As a % of Question Total
18. Is the availability of a robust data exchange (e.g., EPCglobal Network) a prerequisite to your company's widespread deployment of EPC/RFID?	Yes	18	67%
	No	9	33%
19. How much progress has been made in the development of standards related to the sharing of EPC/RFID data among trading partners (i.e., across company boundaries)?	No progress	3	12%
	Little progress	8	31%
	Some progress	12	46%
	Significant progress	3	12%
	Extremely significant progress	0	0%

		Raw Score	As a % of Question Total
20. Based on your experience, please indicate the potential business value of implementing EPC/RFID in the following business process applications.	Store operations	3.7	5 = Most Valuable
	Store replenishment	3.7	
	Logistics asset control	3.0	4 = Very Valuable
	Total inventory management	3.1	
	Track & trace	3.5	3 = Somewhat Valuable
	Shelf replenishment / shelf availability	3.7	2 = Not Very Valuable
	Goods transfer / proof of delivery	3.3	
	Promotion / event execution	4.0	1 = Least Valuable
	Shrink management	2.6	
	Other – Upstream Raw Material Provider, DC Operations, Factory Operations	3.5	

		Raw Score	As a % of Question Total
21. Based on your experience, please indicate the overall difficulty of implementation for each business process application.	Store operations	3.6	5 = Most Difficult
	Store replenishment	3.3	
	Logistics asset control	2.7	4 = Very Difficult
	Total inventory management	4.2	
	Track & trace	3.2	3 = Somewhat Difficult
	Shelf replenishment / shelf availability	3.8	2 = Not Very Difficult
	Goods transfer / proof of delivery	3.1	
	Promotion / event execution	3.3	1 = Least Difficult
	Shrink management	3.4	
	Other - Upstream Raw Material Provider, DC Operations, Factory Operations	4.3	

		Raw Score	As a % of Question Total
22. What are the main reasons why you are piloting EPC/RFID?	Believe in long-term value and want to develop some learnings/experience	14	32%
	Heard of the potential and want to test it for ourselves	5	11%
	Trading partner asked us to pilot	24	55%
	Experienced success with previous pilot(s) and want to expand or continue program	1	2%
23. How many SKUs are currently in scope for your EPC/RFID pilots?	1 – 5	6	22%
	6 – 10	4	15%
	11 – 20	8	30%
	21 – 50	5	19%
	51 – 100	0	0%
	101+	4	15%
24. As a percentage of total shipment volume, what percentage are you tagging and shipping to retail trading partners? (Specify in terms of appropriate geography, (e.g., 1% of U.S. volume or 1% of North America volume)	Open-ended	*See page xiv for responses*	

	Raw Score	As a % of Question Total
25. Which of the following categories are/have been within scope for your EPC/RFID pilots?		
Grocery – Dry Goods Foods	17	46%
Grocery – Dry Goods General Merchandise	3	8%
Grocery – Dry Goods Household Cleaning Products	4	11%
Grocery – Frozen, Refrigerated	4	11%
Direct Store Delivery – Soft Drinks, Snacks	1	3%
Direct Store Delivery – Fresh Foods	0	0%
Health and Beauty Care	7	19%
Over-The-Counter Medication	1	3%
Other	0	0%
26. Based on your experience, do the benefits and challenges associated with EPC/RFID adoption vary by product category or by product within product categories?		
Yes	25	93%
No	1	4%
Don’t know	1	4%

Question	Item	Raw Score	As a % of Question Total
27. If yes to question #26, please indicate the importance of the following drivers to the variances in the potential benefits and challenges associated with EPC/RFID adoption across different CPG product categories or between products within product categories.	Readability	4.3	5 = Most Important
	Product margin	4.0	
	Benefit potential	4.6	4 = Very Important
	Shipment and handling configuration (e.g., full pallets vs. mixed pallets vs. innerpacks, etc.)	3.5	3 = Somewhat Important
	Route to market (e.g., DSD vs. warehouse distribution)	2.7	2 = Not Very Important
	Primary distribution channel (e.g., C-Store vs. Grocery)	3.1	
	Operational considerations (e.g., tag application method)	3.7	1 = Least Important
	Strategic considerations (e.g., need to protect or grow share)	3.4	
	Other – Legislation	5.0	
	Other – Broad Adoption	5.0	

Question	Item	Raw Score	As a % of Question Total
28. Based on your experience, please rate how challenging the following aspects of EPC/RFID adoption are.	Effectiveness of EPC/RFID tag and reader technology	3.6	5 = Most Challenging
	Total cost of EPC/RFID deployment	4.5	4 = Very Challenging
	Lack of clear business benefit/justification	4.5	
	Distribution of short-term cost of deployment	3.5	3 = Somewhat Challenging
	Lack of clarity regarding process, culture and technology changes required to achieve potential benefit	3.6	2 = Not Very Challenging
	Other (Legislation)	4.0	1 = Least Challenging

		Raw Score	As a % of Question Total
29. Have your pilots demonstrated tangible business benefits?	Yes	7	27%
	No	19	73%
30. What criteria/measures do you currently use to monitor the overall success of your EPC/RFID activity?	Open-ended	*See page xv for responses*	
31. Do you intended to continue your EPC/RFID pilot programs?	Yes	27	100%
	No	0	0%
32. Do you intend to expand the scope (e.g., SKUs, geographies) of your current retail trading partner pilots in 2006?	Yes	15	58%
	No	11	42%
33. Do you intend to participate in any new retail trading partner pilots in 2006?	Yes	4	16%
	No	21	84%

34. How much does your company plan to invest in EPC/RFID initiatives in 2006?

	Raw Score	As a % of Question Total
< $250k	7	26%
$250k-500k	6	22%
$500k-1MM	7	26%
$1MM-2MM	4	15%
> $2MM	3	11%

35. When do you estimate that EPC/RFID will be widely deployed in your company?

	Raw Score	As a % of Question Total
12-24 months	0	0%
2-4 years	2	7%
4-6 years	10	37%
6-10 years	14	52%
Never	1	4%

36. When do you estimate that EPC/RFID will be widely deployed in your industry?

	Raw Score	As a % of Question Total
12-24 months	0	0%
2-4 years	1	4%
4-6 years	9	35%
6-10 years	16	62%
Never	0	0%

		Raw Score	As a % of Question Total
37. In which areas would you be interested in collaborating with other organizations? (e.g., trading partners, technology providers, trade organizations, etc.)	Tag and reader technology improvements	10	11%
	Tag and reader cost reduction	15	16%
	EPCglobal network data exchange	16	17%
	EPC/RFID middleware	6	7%
	Business intelligence software/applications	13	14%
	Business process transformation	15	16%
	Industry adoption roadmap	16	17%
	Other	1	1%

38. On what do you think EPCglobal should focus in 2006?	Open-ended	*See page xv for responses*

Question	Response	# of Responses
8. If you replied 'no' to question #6, why?	**Open-ended**	
	Currently striving to streamline check-in, improve accuracy, and update store level perpetual inventory	1
	Minimal value short-term; Working with parent company to evaluate long-term potential	1

Question	Response	# of Responses
24. As a percentage of total shipment volume, what percentage are you tagging and shipping to retail trading partners? (Specify in terms of appropriate geography, (e.g., 1% of U.S. volume or 1% of North America volume)	**Open-ended**	
	< 1% U.S. regional volume	1
	< 1% U.S. national volume	14
	1 – 2%	3
	< 5% total company volume	1
	3 – 5% U.S. national volume	3
	2 – 3% North American volume	1

30. What criteria/measures do you currently use to monitor the overall success of your EPC/RFID activity?

Open-ended (more than one response accepted)	# of Responses
Tag read rates through Supply Chain (e.g., manufacturing, distribution, and retail) and resulting visibility/product traceability	13
Value/ROI (e.g., cost of Operations/budget, ease of modification)	7
Continued partnership with customer	6
Benefit/business payout/sales performance	4
Compliance (e.g., display movement)	4
Improved in-stock conditions	4
Development of intellectual capital/learnings	2
Speed to market	1
Technology performance	1

38. On what do you think EPCglobal should focus in 2006?

Open-ended (more than one response accepted)	# of Responses
Clarify/improve standards	13
Process, benchmark, and business case creation and sharing	6
EPC Global Network	6
Improve technology (e.g., in-line application)	6
Lowering implementation costs	5
Focus on products which have higher ROI	3
Gen2 (e.g., test plans)	2
EPCglobal's strategic work plan appropriately reflects the priorities of the industry	2
Application of data	2
EPCIS	1
Legislation that could fragment how the technology will be deployed	1