

A Guide to KPI Development within the Grocery Industry

AUSTRALASIA

ECR Australasia — Working together for total customer satisfaction

Efficient Consumer Response or ECR is a business concept aimed at delivering superior business results in a competitive environment by reducing costs at all stages throughout the supply chain to achieve efficiency and streamlining of processes. ECR is also aimed at delivering improved range, price, service and convenience to satisfy the needs of the consumer.

ECR Australasia reflects a renewed commitment to take costs out of the grocery supply chain and better satisfy consumer demands through the adoption of world's best practice. In an increasingly global food and grocery industry and retail environment subject to rapid change, the future for Australian and New Zealand suppliers, retailers and wholesalers depends on increased efficiencies, reduced costs and added value for consumers. Influences such as global sourcing, new retail formats and channels, international retailers, competing products and services, technological innovation and the spread of e-commerce, have all contributed to the pressure for change.

ECR Australasia is an initiative of manufacturers and retailers with the Australian and New Zealand food and grocery industry and its national associations, Australian Food and Grocery Council, Australian Supermarket Institute, New Zealand Grocery Marketers' Association, Inc and New Zealand Retail and Wholesale Merchants Association. Launched in November 1999 and directed by a Board of nine industry chief executives, ECR Australasia seeks to build on earlier collaborative work in the industry in Australia and New Zealand, particularly by the Grocery Industry Supply Chain Committee, and to access the outcomes of ECR related activities in more than 40 countries and globally through the Global Commerce Initiative. As elsewhere, the ambitious work program set by ECR Australasia is undertaken by project teams drawn from manufacturers and retailers with valuable support from consultants committed to the food and grocery industry.

The potential benefits for trading partners are substantial. In a landmark 1999 study for the Australian grocery industry, PricewaterhouseCoopers identified possible cost savings in excess of \$A1 billion and inventory savings of \$A750 million.

Consistent with its objective of delivering benefits to grocery industry trading partners through the establishment of standard industry practices, the ECR Australasia Board identified agreed Key Performance Indicators (KPI) as an important element of the collaborative business environment on which ECR depends.

Efforts have been made internationally to identify and define common KPIs and create industry scorecards. Typically, these scorecards are complex, detailed and somewhat prescriptive in their approach. Of necessity, they embody a degree of aggregation and commonality of language to provide for their use within individual companies, between trading partners and across geographic regions. While supporting that work, ECR Australasia set out to define KPIs, and common methods of measuring them, which are capable of use by companies in assessing their own and their trading partners' performance at an operational level.

Acknowledgements

The achievement of an agreed set of KPIs which are harmonised through common definitions and common methods of measurement and which are consistent with ECR objectives of removing costs from transactions within the industry provides the basis for meaningful, consistent and reliable benchmarking by trading partners. This achievement, within six months, is a tribute to the dedication of the Project Team and the time and effort freely provided by the consultants, Colin Powell and Graham Correy from PricewaterhouseCoopers who have continued the long standing commitment of their company to progressing improvements in the food and grocery industry.

ECR Australasia thanks the following for their contribution:

<i>Project team</i>	Matthew Foster (Team leader)	Procter & Gamble Australia Pty Ltd
	Cameron Hall	Goodman Fielder Ltd
	Matthew Bennett	S C Johnson & Son Pty Ltd
	Justin Golding	S C Johnson & Son Pty Ltd
	Howard Evans	Unilever Foods
	Daniel Kochanowicz	Woolworths Ltd
<i>Consultants</i>	Colin Powell	PricewaterhouseCoopers
	Graham Correy	PricewaterhouseCoopers
<i>Secretariat</i>	Paul Middleton	Australian Food and Grocery Council

ECR Australasia also thanks the companies which provided feedback and guidance on the construction and definition of the KPIs, so valuable in ensuring their industry-wide applicability.

1	The need for KPI development	5
2	How the KPIs were developed	9
3	KPIs recommended for immediate implementation	13
4	KPIs for the future	19
5	Getting started	23
6	A way forward for the industry	27
	Appendices	
	A Case study: Joint KPI development	29
	B KPI definitions and formula	35
	C KPI dictionary glossary	41



1

The need for KPI development

Underpinning the successful implementation of ECR is the need for a consistent and common scorecard which can be used to drive and monitor desired behaviour

Introduction

The Grocery Industry Supply Chain Committee's (GISCC) 1999 Tracking Study highlighted the general poor understanding, agreement and use of ECR-related Key Performance Indicators (KPIs) and scorecards at two levels:

- within individual companies
- between trading partners.

A scorecard is the identification, definition and quantification of a set of KPIs that focus and drive desired behaviour to accord with what is being consistently measured both within and between trading partners.

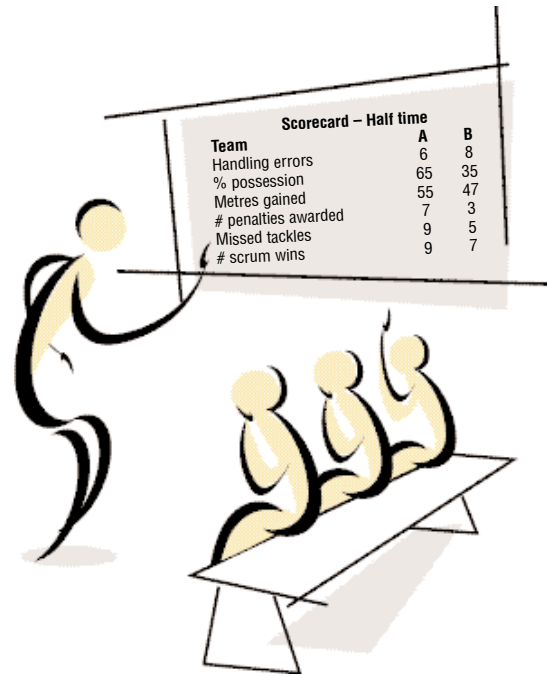
The key issues were assessed to be the:

- inability to agree upon KPIs to be used, consistent and common definitions and frequency of measurement
- changing/redefining of performance measures tended to lag the development and implementation of key initiatives; this has often resulted in the existence of long standing, entrenched KPIs that incentivise behaviour inconsistent with new business and trading arrangements
- inability to routinely measure the important data elements that make up the KPIs; typically, transaction systems such as warehouse management, order processing and so forth have not been able to provide the routine data set measurements required to efficiently quantify the performance measures
- general lack of preparedness, with some notable exceptions, for trading partners to share information with respect to the performance measures with the view to seeking joint performance improvements.

Teams need to know more than the score

A scorecard is more than traditional financial and sales indicators. It needs to include the underlying KPIs that cause (or drive) outcomes and that favourably impact 'the bottom-line'. In the same way, a good football coach needs to know more than the game score at half-time if he wants to help the team win the game. At half-time, the coach focuses the team on the key indicators impacting the games outcome, such as missed tackles, % time in possession and handling errors. These causation indicators form the basis for analysis and performance improvement to both win the current game and overall premiership.

In the football analogy, each coach and team wish to use the information to outperform and defeat the other. In our industry, we can use the consistent, common language provided by the scorecards to **jointly** drive closer collaboration to improve collective performance.



The benefits of scorecarding

The 1999 GISCC tracking study identified potential operating cost reductions of \$1024 million and potential inventory reductions of \$753 million available to the Australian grocery industry

The benefits of improved scorecarding are substantial with the potential to achieve the ECR objectives of increased sales, reduced operating costs and working capital investment while improving customer service and consumer value (eg, reduced out-of-stocks). These benefits are possible due to:

- improved visibility of, and focus on, the key factors to achieve desired objectives; this will enable the accelerated development of improvement initiatives by providing a consistent and common focus upon what is important
- the role KPIs play in encouraging closer working relationships, collaboration and arrangements both within organisations and between them; this can result in the formation of joint, cross-discipline working parties that focus upon the desired KPIs and related objectives
- the ability to conduct reasoned discussions which are fact-based rather than being predicated on emotion or unproven long held beliefs
- the development of a more constructive environment where people understand what is important and are incentivised to work towards achieving a common objective.

Furthermore, the potential ramifications of not implementing ECR-aligned scorecards need to be understood. Those organisations that do not embrace the agreed scorecards may be placed at a potential disadvantage as their competitors and/or customers implement the recommended KPIs and move forward, together in a common direction.

The focus of the KPI development project team has been on developing a scorecard and defining KPIs to be used to enable ECR aligned outcomes between trading partners

Scope of KPI development project

Because of the close links between KPIs and business/ECR strategies, it is recognised that many companies see the development of KPIs, and the resultant performance, as a source of potential competitive advantage. However, it is believed that ECR Australasia can play a valuable facilitator role to all companies, regardless of their current performance and maturity, while leaving further developments between individual trading partners to be progressed as desired.

It was agreed with ECR Australasia that the KPI development project team should develop **scorecards to be used between individual trading partners** with the outcomes not being publicly shared, at this point, across the industry. However, it should be noted that during the course of the project, interest was expressed by most participating companies that supported providing disclosure and visibility of performance outcomes at an industry level.

Additionally, KPIs to be used within individual companies to drive internal performance were outside the scope of this project team.

The purpose of this guide book

This document is intended to be a guide book that ECR Australasia can circulate across the industry. The guide book provides:

- coverage of the potential benefits of improved scorecarding together with the relevant background and issues
- a standardised scorecard to be used between individual trading partners, including definitions, desired measurement frequency and units of measure
- an outline of the steps that companies should follow to establish relevant and effective KPIs between trading partners
- the key success factors for the successful implementation of effective scorecards
- recommended next steps for KPI measurement and scorecards both at the trading partner and industry levels.



2

How the KPIs were developed

The KPIs have been developed in consultation with a wide range of industry stakeholders

Our approach used for developing KPIs

The following steps have been taken to ensure that the KPIs identified in this document meet the needs of a broad variety of stakeholders:

Consultation by project team members within their own organisations

The project team included representatives from Woolworths, Procter & Gamble Australia Pty Ltd, S C Johnson & Son Pty Ltd, Unilever Foods, Goodman Fielder Ltd and the Australian Food and Grocery Council (AFGC). Each representative was responsible for being an 'internal champion' and to obtain feedback from their own organisation.

Open industry disclosure

As part of our consultation process, the draft KPIs were emailed to each member organisation of the AFGC seeking feedback. Feedback was followed up, where appropriate, and incorporated in the next version of the KPIs.

New Zealand Grocery Marketers' Association, Inc (NZGMA)

The draft KPIs were distributed to member companies of the NZGMA and feedback incorporated.

Linkages to Global ECR scorecards

A key requirement in developing the Australasian scorecard was to ensure that it was aligned with global ECR scorecard developments. Therefore, as part of the process, the team reviewed KPIs used in Europe, Canada, Asia and in previous ECR studies in Australia. In addition, we have liaised with representatives from the Global ECR Scorecarding Team to ensure that our KPIs are aligned.

Individual meetings with industry representatives

In addition to all of the above, we have conducted meetings with representatives from Franklins, Coles and Dairy Farmers to ensure that the KPIs are robust enough to fit alternative trading and supply chain arrangements for (eg, Direct Store Delivery).

The KPI framework

The KPI framework revolves around operational measures which can be used to monitor and drive decisions on a regular basis between trading partners

The framework that we used for developing the KPIs evolved over the project. We initially considered both strategic (eg, consumer value as used in Europe) and operational KPIs. However, during the course of the project, it became clear that it is appropriate for the Australasian industry to currently focus on operational measures related to the following three domains:

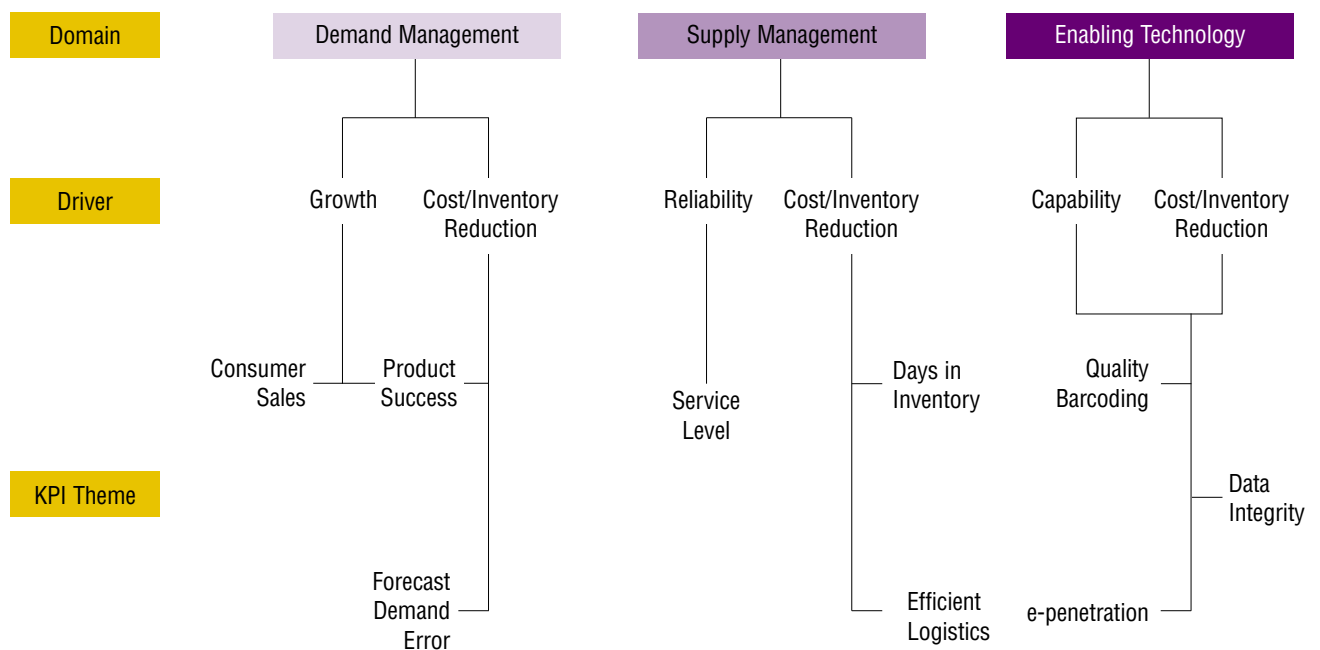
- demand management
- supply management
- enabling technologies.

In addition, we have also recommended KPIs that should be established in the next 3–5 years as the industry matures.

The following diagram provides an overview of the recommended KPIs within each of the above domains. The measures have then been further categorised into those aimed at:

- increasing service reliability
- reducing costs
- growing the business
- increasing e-business capabilities.

Each of the KPIs is outlined in more detail in the following section of this report.





3

KPIs recommended for immediate implementation

The demand management
KPIs will assist in
growing the business
and reducing costs

The recommended KPI for new product success rate aligns with the ECR Europe study which defines a successful product as one with more than 50% distribution after 12 months; this allows for a minimum of 2 product review cycles for Australian retailers.

A detailed 'guide book' on demand forecasting is also available from ECR Australasia. This document provides the tools and techniques, including a detailed discussion on KPIs to assist organisations improve their demand planning and communication capability.

Demand management KPIs

The following demand management KPIs are recommended for immediate implementation between trading partners:

- consumer sales growth (overall and by category)
- new product success rate (overall and by category)
- forecast demand error.

By focusing on the following KPIs, trading partners will be able to monitor performance and to develop strategies to generate and manage consumer demand.

Detailed definitions and the basis of calculation for all of the recommended KPIs are provided in Appendix B.

Consumer sales growth measures the movement in consumer scan sales overall and by pre-defined product categories.

Consumer sales growth, rather than ex-factory sales, has been selected because it is the ultimate measure of consumer satisfaction and negates distortions caused by stock movements in the supply chain. The definition of the product categories will need to be jointly agreed. Measurement frequency is defined as on a monthly basis. Retailers and wholesalers should be responsible for data collection as they have more timely and comprehensive visibility than manufacturers of total consumer demand.

New product success rate measures the percentage of new products (both overall and by category) introduced in the last 12 months that are still ranged in more than 50% of the jointly agreed target stores. Packaging changes are not considered to be 'new products'.

This measure has been chosen because of the high failure rates currently being experienced and the resultant waste that occurs throughout the supply chain. The data should be compiled and jointly monitored by the trading partners on a monthly basis. Retailers and wholesalers should be responsible for data collection due to the accessibility to the data.

Forecast demand error measures the difference between actual and forecast demand at an individual Stock Keeping Unit level (SKU). We recommend using the Weighted Absolute Performance Error (WAPE) formula which is outlined in Appendix B.

The potential benefits of improved demand forecasting are substantial and include:

- increased sales resulting from improved availability of products on retail shelves
- lower levels of inventory required by retailers and wholesalers to reliably satisfy consumer demand
- lower levels of inventory required by manufacturers to reliably satisfy retailer and wholesaler demand
- reduced effort associated with unnecessary additional production and distribution investment.

We recommend that forecast demand error be measured on 2 levels, depending on the company's supply chain and capability.

The first level is on a monthly basis, three months in advance to fit with the typical cycle for promotion planning, and to cater for import as well as local production. The data should be aggregated and reported on a monthly basis with retailers, wholesalers and manufacturers responsible for measurement.

For organisations which are more advanced with respect to supply chain planning and where operational flexibility is critical (eg, perishable products), forecast demand errors should be calculated on a weekly basis, one month in advance and jointly reported on a monthly basis.

Supply management KPIs

The supply management KPIs will assist in increasing service reliability and reducing inventory and operating costs

The following supply management KPIs are recommended for immediate implementation between trading partners:

- case fill service levels (vendor to DC, DC to store and vendor to store where applicable)
- inventory holdings (overall and by category) at the retail store, DC and at the vendor
- full trucks
- full pallets
- scheduled load/unload adherence.

By focusing on the supply management KPIs, trading partners will be able to monitor performance and to develop approaches to increase service reliability and reduce both operating costs and inventory.

Case fill service levels measure the number of cases that were delivered in full and on time as a percentage of all cases that were initially ordered. While it may be appropriate to measure order and line fill service levels, or the ex factory value of cases ordered, number of cases has been chosen as it allows more reasonable benchmarking across companies in the grocery sector. Case fill should be measured at each of the relevant stock transfer points in the supply chain, that is:

- vendor to retailer/wholesaler DC
- retailer/wholesaler DC to retail store
- vendor to retail store.

Service levels provide a reading of the health of one key element of the trading relationship. When service levels deteriorate, they provide an early indication of underlying problems that need to be resolved. When used in combination with other measures such as inventory levels, they can allow management to develop 'balanced' strategies (eg, reducing inventory without damaging service levels).

The 1997 Canadian ECR Report identified case fill as the most important measure of customer service and the foundation of all customer service initiatives. It recommended 97% case fill for vendors to DC as a minimum acceptable level.

Inventory reduction is a major opportunity for the Australian grocery industry. The 1999 GISCC Tracking Study identified potential reductions of \$753 million in inventory holdings through the implementation of ECR.

Case fill data should be compiled and jointly monitored, on a monthly or weekly basis (depending on current and required performance levels and ordering frequency). Retailers and wholesalers should be responsible for data collection from vendor to DC and DC to store, while vendors should be responsible for data collection from vendor to store.

Inventory holdings measure the average value of inventory held, divided by the average value of product sold per day. This should be measured overall and by category to facilitate reasonable benchmarking across the different companies in the grocery sector. Inventory holdings should be measured:

- at the retail store
- at the retailer/wholesaler's DC
- at the vendor's factory, DC and overflow facilities.

Holding inventory has a range of costs associated with it, including the cost of capital, warehouse infrastructure and overheads and as such is a key indicator to reduce cost structures.

Inventory data should be compiled and jointly monitored on a monthly or weekly basis (depending on current and required performance levels). Retailers and wholesalers should be responsible for data collection at their DC and stores (except in arrangements such as Vendor Managed Inventory), while vendors should be responsible for data collection in their facilities.

Full trucks and pallets performance indicators have been chosen to support efficient transportation and product handling.

Full trucks measure the number of trucks making deliveries which are full (as defined and agreed between trading partners) as a percentage of total trucks used to make deliveries. Utilisation on departure (ie, from the point of origin) rather than at the receiving DC is recommended as it focuses on the efficient use of transport, rather than just 'full truck orders', which are relevant to only a limited number of suppliers. This, therefore, takes into account companies using a 'milk run strategy' to drop off multiple orders.

Full pallets is defined as the number of full pallets delivered as a percentage of total pallets delivered. It is proposed the definition of what is a full pallet be defined by the supplier with the supplier being responsible for agreeing with the retailer/wholesaler the layer configuration that constitutes a full pallet.

This measure has been chosen to encourage suppliers, particularly those with lower volume products, to examine the existing pallet configuration definition in relation to customer order patterns with the view towards reducing handling costs.

The data should be aggregated and monitored on a monthly or weekly basis (depending on current and required performance levels and delivery frequency) with retailers, wholesalers and manufacturers responsible for measurement.

Scheduled load/unload adherence measures the number of trucks arriving to be loaded/unloaded within 15 minutes either before or after the agreed booking slot as a percentage of total trucks loaded/unloaded.

Experience indicates that truck turnaround time is sensitive to the timeliness of truck arrivals for loading/unloading. The most efficient time to load/unload trucks is in accordance with the agreed booking slot. This reduces the potential for additional transport costs and demurrage. The intent of this measure is to provide focus on the causal factors that create poor schedule adherence.

The data should be aggregated and monitored on a monthly or weekly basis (depending on current and required performance levels and delivery frequency) with retailers, wholesalers and manufacturers responsible for measurement.

Enabling technology KPIs

The enabling technology KPIs will assist in reducing operating costs and inventory while increasing service reliability and e-business capabilities

The following enabling technology KPIs are recommended for immediate implementation between trading partners:

- quality barcoding (cases and pallets)
- data integrity rates
- e-penetration index.

Quality barcoding measures the number of cases and pallets exchanged and accurately scanned using the appropriate industry standard (EAN14 for cases and EAN128 for pallets) as a percentage of total cases and pallets exchanged.

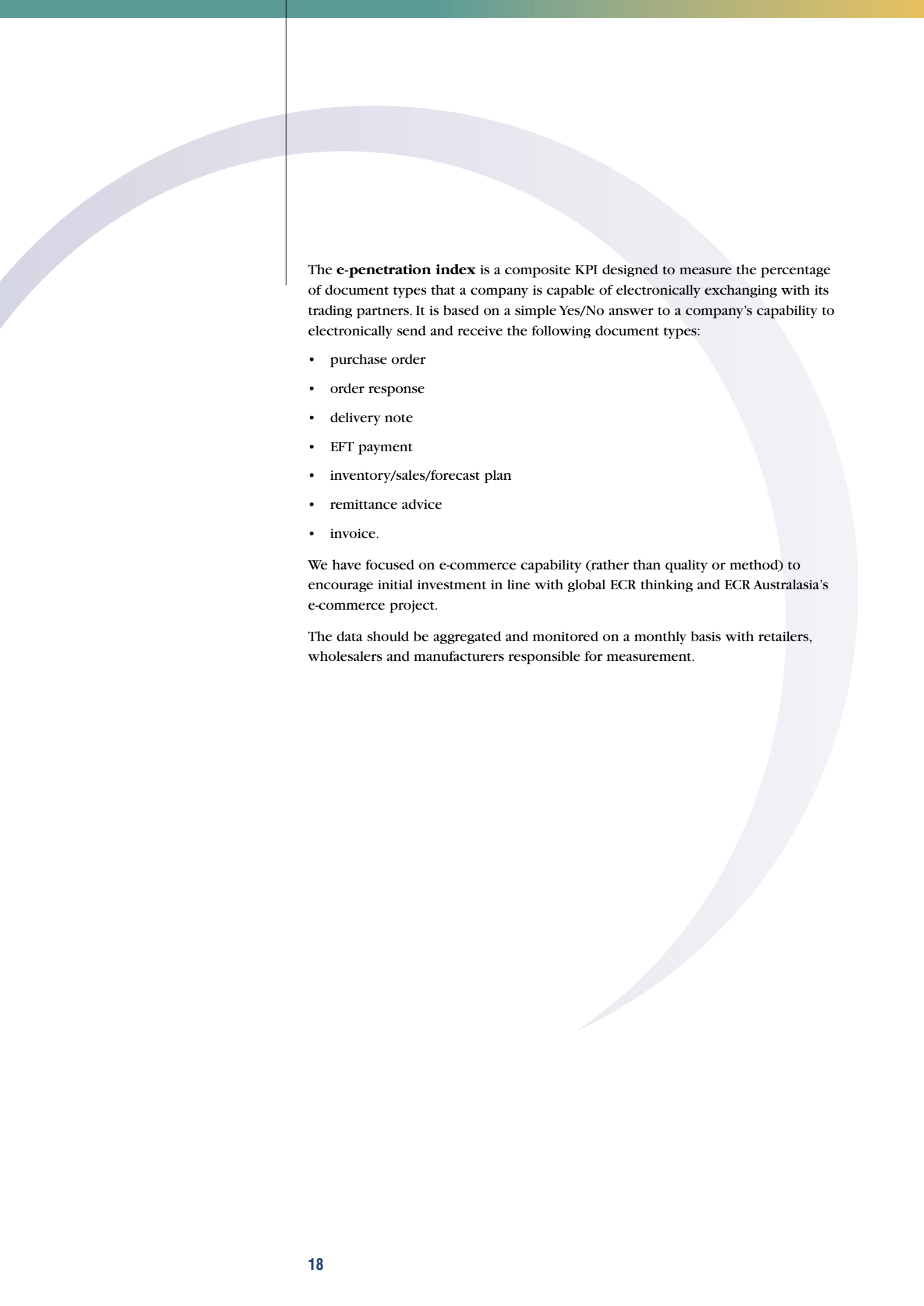
Accurate scanning reduces rework, manual intervention and subsequent claims. Cases have been selected as the basis of the measure rather than product lines due to the closer correlation with cost impacts.

The data should be compiled and jointly monitored by trading partners on a monthly basis. Retailers and wholesalers should be responsible for data collection.

The **data integrity rate** measures the number of orders where there are no accuracy issues (such as price, quantity, EAN, pallet configuration, address) as a percentage of all orders.

It has been defined that the data integrity measure be based on the customer purchase order as the order is the starting point of the downstream transaction quality between trading partners.

The data should be compiled and jointly monitored by the trading partners on a monthly basis. Manufacturers are in the best position to assume responsibility for data collection.



The **e-penetration index** is a composite KPI designed to measure the percentage of document types that a company is capable of electronically exchanging with its trading partners. It is based on a simple Yes/No answer to a company's capability to electronically send and receive the following document types:

- purchase order
- order response
- delivery note
- EFT payment
- inventory/sales/forecast plan
- remittance advice
- invoice.

We have focused on e-commerce capability (rather than quality or method) to encourage initial investment in line with global ECR thinking and ECR Australasia's e-commerce project.

The data should be aggregated and monitored on a monthly basis with retailers, wholesalers and manufacturers responsible for measurement.



4

KPIs for the future

The KPIs for the future are for trading partners that are advanced in ECR practices and seek to differentiate themselves from their competitors

When building any kind of structure — a house, a business or a collaborative trading relationship — it is important that the foundations are secure before the upper levels are added. In this instance, the foundations are the KPIs that we have recommended in the previous section. They will provide the consistent, common language to assess current trading partner relationships and to develop consistent plans for improvement.

As individual trading partners progress past the early stages of integrating their processes to provide a seamless flow of information and products, they will require new KPIs to drive their businesses forward. In this section, we recommend KPIs for the future — suited for trading partners that seek to use ECR to differentiate themselves from their competitors.

Trading partners suited to implement the KPIs for the future will exhibit the following characteristics. They:

- are working at the strategic level to integrate business processes within their collaborative trading relationships
- are leaders in ECR
- base their competitive strategy partly on the relative profitability of their trading partner relationships.

The following KPIs are recommended to be implemented in the future as trading partner relationships and business capabilities develop:

- consumer/shopper satisfaction
- forecast demand error (calculated for 1 week, 3 months forward)
- retail out of stocks
- vendor and customer profitability.

Consumer/shopper satisfaction measures the consumers'/shoppers' evaluation of how well a product/channel fulfils their needs in functional terms within areas such as performance, quality, price competitiveness and customer service.

This measure is designed to assess the impact of all ECR initiatives in terms of improving consumer/shopper satisfaction. To ensure that this data can be used on an ongoing basis it will be necessary for both trading partners to jointly agree the scope and methodology for the survey process. We recommend that the data be aggregated and monitored on an annual basis, with an independent research company responsible for measurement.

Forecast demand error was also recommended as a KPI for immediate implementation. However, in the future, we recommend that forecast demand error also be calculated at an individual SKU level for 1 week, 3 months in advance.

While this is extremely demanding on an organisation's forecasting capability, if accurate, it will allow both trading partners to better plan their future operational requirements.

The data should be aggregated and monitored on a monthly basis with retailers, wholesalers and manufacturers responsible for measurement.

Retail out of stocks measures the average number of SKUs experiencing a stock out on the shelf as a percentage of the total range.

This measure is seen by many in the industry as the ultimate indicator of customer service. While some companies currently measure out-of-stocks, the lack of perpetual inventory systems (on shelf) necessitates a sampling methodology. While this methodology has limitations, it is certainly seen as better than no measure at all.

The information should be aggregated on a quarterly basis with retailers responsible for data collection.

Vendor and customer profitability measures the profitability of dealing with individual trading partners.

Vendor profitability measures the profitability of dealing with individual suppliers. It is calculated by deducting the directly attributed cost of doing business with suppliers (including the cost of associated infrastructure and space) from the retailer's/distributor's gross margin.

Customer profitability measures the profitability of dealing with individual retailers/distributors. It is calculated by deducting the directly attributed cost of servicing an account from the vendor's gross margin.

We recommend that the data be calculated by the relevant trading partner and jointly reviewed on a semi-annual basis.



5

Getting started

Senior management need to be made aware of the proposed KPIs and understand the implications and benefits of joint scorecarding

Establishing trading partner scorecards

This section outlines the steps that companies should follow to establish relevant and effective scorecards between trading partners. These steps indicate the types of activities that companies should undertake in order to progress scorecarding, but stops short of providing a detailed road map due to the:

- steps at the detailed level are dependant upon the level of acceptance and maturity of KPI development and implementation within each company
- opportunity for companies to gain competitive advantage in how they work together in developing trading partner scorecards.

A key action that needs to be fulfilled prior to the following steps is that ECR Australasia has to widely promulgate and educate the industry of the KPI Development team's recommendations. We have assumed, based on industry consultation and support that these recommendations will be widely endorsed by industry participants.

Step 1 Understand and accept the implications and benefits of the KPI dictionary to your organisation

The first step in establishing trading partner scorecards is for senior management to understand and to strategically accept the benefits and implications of the ECR Australasia endorsed KPI dictionary to their organisation.

As part of this step, the normal principles in any change project will need to be addressed. A cross-functional project team will need to be set up, with appropriate sponsorship, resources and milestones. Additionally, in going forward, organisations will need to assess how the scorecard relates to current KPIs that may exist within the business and take appropriate actions.

A plan will need to be developed taking into account:

- who should you establish collaborative relationships with?
- which categories?
- how will you establish trust and share information with your trading partner(s)?

Step 2 Understand the data sets required to complete the KPI calculation

The key issues that need to be addressed in this step include:

- understanding the data sets required to quantify the KPI
- assessing where the required data resides
- defining how the data can be most efficiently sourced and managed
- identify data gaps

At the completion of Step 2, an organisation should be aware of the data gaps and issues involved in supporting the ongoing calculation of the agreed KPIs.

Step 3 Identify how to manage potential data gaps

Almost undoubtedly, there will be very few organisations that are capable of easily accessing the required data sets on an ongoing basis. Decisions will need to be made as to the relative costs and benefits of accessing the required data. Timings may need to be agreed based on practicalities in progressively collecting and monitoring performance on each of the KPIs.

Trading partner discussions will be required at this stage to confirm participation in joint scorecarding, possible minor adjustments to the KPI dictionary and responsibilities for measurement.

Step 4 Jointly implement initial scorecard

Once the scorecard has been agreed, each trading partner is then responsible for collecting specific pieces of data. This is typically compiled via a manual process with data sourced from various systems and points across an organisation. It may be appropriate for the trading partners to agree the measurement tools (eg, Excel, etc) to be used to ensure consistent tools are used. At the end of the first reporting period, both trading partners should meet to compare and contrast their information. More insights and issues will be highlighted for refinement in the next period.

It is recommended that jointly agreed goals and targets be established for each KPI between trading partners to gain clarity of purpose and to drive performance.

Step 5 Automate the process (if appropriate)

After a period of review, there should be a general level of comfort in the validity and benefits of the KPIs from both partners. It is at this stage, that, if appropriate, effort can be expanded into broader applications (eg, other categories) and trading partners. In addition, further effort should be made at reviewing the costs and benefits of automating the collection and management of data and in compiling and presenting the scorecard via enabling tools such as data warehousing and business intelligence systems.

Step 6 Conduct an industry post-audit review

After a suitable period of measurement, we recommend that an ECR Australasia group conduct a post-audit review of the process, results and learnings gained by organisations in implementing the recommended trading partner scorecard. These results could be presented at Highlands 2001 and form the basis for further enhancements or performance improvements.

Key success factors for implementation

The following factors have been identified as being critical in successfully implementing effective scorecards between trading partners:

- communication is required across all stakeholders
- consensus needs to be gained as to the benefits of scorecarding
- there is a need for consistent, common language in measurement across trading partners
- definitions, formula and time periods need to be specific and relevant to each trading partner
- a balanced scorecard, covering supply, demand and enabling technology, is most appropriate
- the KPIs should be measurable and actionable
- the continued focus on KPIs should drive improvements for both trading partners.



6

A way forward for the industry

ECR Australasia needs to ensure senior management within the industry are aware of the agreed ECR KPI dictionary

An industry scorecard could provide information to support industry analysis and strategies and assist in company benchmarking

Communication and education

An essential first step in any industry initiative is communication and education. Senior management within manufacturers, retailers and wholesalers need to be made aware of the agreed ECR scorecard and the potential benefits for their organisation.

Establishing an industry scorecard

A recommended next step for the industry is to establish an ongoing industry scorecard. While the details of the industry scorecard will need to be clarified, we envisage the following:

- the KPI dictionary would be largely based on the KPIs outlined for the trading partners
- the reporting frequency would be monthly or quarterly depending on the KPI
- individual organisations would be responsible for submitting data on a regular basis
- an independent organisation would need to be authorised under the direction of ECR Australasia to manage the development of any supporting tools, administer the process of data collection, analysis and reporting and to ensure the integrity of the data
- the monthly/quarterly reports will be designed to ensure that confidentiality is observed to the satisfaction of all stakeholders.

We believe that an industry scorecard is a logical extension from trading partner scorecards. The benefits of an industry scorecard are similar to those outlined in the beginning of this report for trading partner scorecards, that being:

- improved visibility and focus upon the key factors driving the 'health' of the industry
- providing a consistent, common language for collaboration across the industry
- potential access to benchmarking information.



Appendix A
Case study: Joint KPI development

Background

Procter & Gamble (P&G) is a multinational packaged consumer goods company which competes in a diverse range of categories ranging from Snack Foods to Feminine Protection. During 1999, P&G Australia embarked on an aggressive programme of new brand launches and product upgrades. An important consideration in planning and scheduling the programme was the capacity of the business, particularly the sales force, to meet these challenges while ensuring continued sales growth of existing brands. To free available resources, P&G commenced an initiative to eliminate non-value added work and reduce rework from business processes and systems.

Coinciding with this initiative, Woolworths Supermarkets (Woolworths) provided P&G with the opportunity to participate in a joint initiative that had the objectives of establishing consistent, commonly defined KPIs with the purpose of benchmarking comparative results and developing action plans to achieve jointly agreed targets.

As the internal P&G programme and joint Woolworths/P&G KPI work progressed, the high level of overlap between both initiatives became apparent. The key objectives of both were to reduce costs by eliminating/reducing inadequate work practices and to provide an environment that supported sales growth. To enable focused use of project resources, P&G aligned the effort into the joint KPI initiative.

Joint KPI initiative

Woolworths and P&G developed a set of jointly agreed KPIs that were based upon three essential elements

- common and consistently applied definitions and basis of calculation
- consistent unit and frequency of measurement
- agreed measurement review timetable and process that focused upon joint problem resolution.

The joint KPI initiative focused on a number of key measures. In this case study, two of the KPIs have been selected for presentation — data integrity and quality barcoding.

Data integrity — Customer purchase orders

Situation

Prior to the introduction of the purchase order data integrity KPI, there was no measure of data accuracy between P&G and Woolworths. Data integrity errors were an accepted part of business practices with the detection and elimination of errors occurring on an ad hoc basis. Further, there was an accepted level of error with the work processes of account managers, customer service representatives and finance staff routinely involving correction of order details, processing of data adjustment documentation and subsequent claims management. It was identified early in the joint programme that the rework problem was being viewed within silos, with each internal function reworking errors while assessment of process impacts within each and across both organisations were not being considered.

What did measurement unveil?

Upon commencement of consistent measurement using a common language, the magnitude of data integrity errors became apparent. Initially, purchase order data integrity averaged less than 50%. During the first two months of measurement, on average, over half of the orders had incorrect product or pricing details.

It was common for the orders with errors to be manually re-keyed by P&G customer service representatives or to be rejected on receipt, requiring Woolworths to resubmit the order. This practice was resulting in poor service levels as shipment of product was delayed. P&G's account managers, Woolworths category managers and the finance departments of both organisations spent considerable effort in determining where the errors were occurring and managing subsequent claims.

Actions

A joint target of 98% purchase order data integrity was established. With consistent measurement underway, the joint team undertook causation analysis to define the key error types. In summary, these were identified as:

- physical data integrity
- product pricing integrity
- process/system capability.

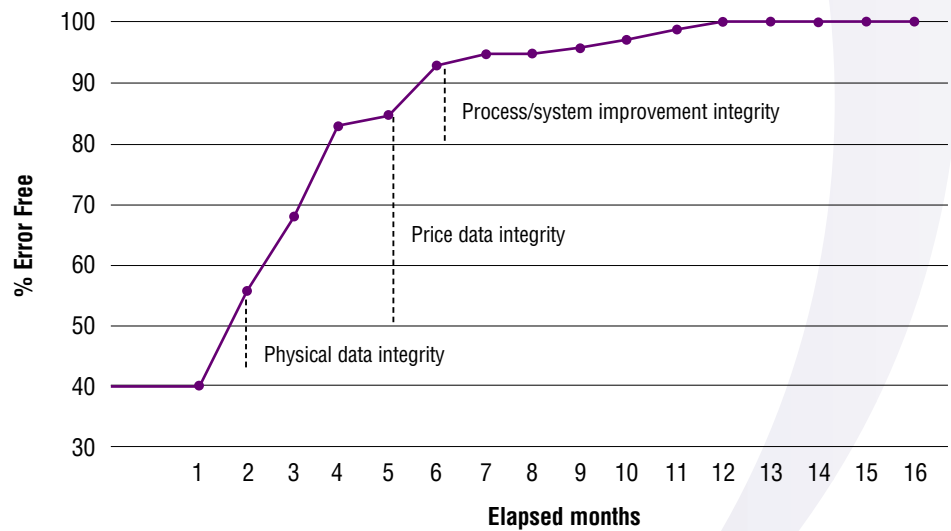
A jointly agreed action plan was determined and agreed that prioritised the areas of focus and opportunity. Three sequential problem solving phases were put in place:

- physical product specifications were audited within both P&G and Woolworths systems
- the commonality of price data was reviewed within both P&G and Woolworths systems

- the physical processes and systems that created the data errors were reviewed; an example of one area addressed in this phase was the methods by which promotional discounts were managed and transacted.

Results

The results achieved by jointly measuring and managing the purchase order data integrity KPI are identified in the chart below. Each phase of the action plan provided increased data integrity within and between both trading partners. This has resulted in achievement of increased service levels and improved product and information flow with reduced administration costs. Internal and joint work processes within P&G and Woolworths have been streamlined.



Quality Barcoding

Situation

Quality barcoding was a measure introduced as part of the joint KPI initiative. Measurement revealed that no P&G product complied to the standard expected by Woolworths' new fast flow warehousing facility. Early measurement identified that P&G's carton design processes had not changed to reflect Woolworths' move to increasingly advanced distribution methods. Inadequate barcode quality (TUN) was leading to carton rejection by Woolworths resulting in additional handling costs and delays in product availability to store.

Actions

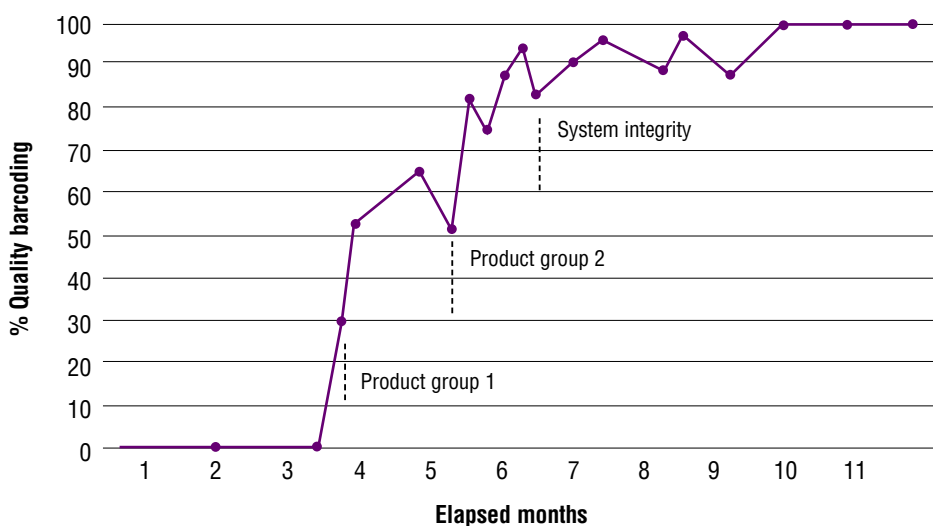
Using the KPI results, analysis was undertaken to quantify the impact of the barcoding problems on P&G and Woolworths joint businesses. The analysis supported the need to deploy joint resources to target a quality barcoding accuracy of 100%.

A plan to achieve the KPI target was developed. The measurement data was used to divide products into two key groups differentiated by carton type and volume. Resources were assigned to identify and resolve issues using the information now made available through consistent, common measurement.

A review process was established to manage performance towards the target level and investigate variations that arose.

Results

The results achieved by jointly managing the quality barcoding measure are identified in the chart overleaf. Incremental improvements were achieved during the review process with the target being met after 40 weeks. Major improvements in product flow have been experienced resulting in reduced warehouse handling costs, increased service levels and product availability to stores and reduced inventory in the supply chain.





Conclusion

The benefits outlined above have come about due to the joint focus on consistent, common KPIs, developed jointly between Woolworths and P&G. Reduced administrative effort, improved information and product flow, reduced warehouse handling costs, increased service levels and reduced inventory have resulted. The reduction in administrative effort enables the ability to provide further focus on business growth.

Communication both internally and between Woolworths and P&G has also improved with alignment of common objectives to KPI targets which support them. Discussions focus on management of KPIs and how better business solutions can be found.



Appendix B: KPI definitions and formula

Measure	Definition	Calculation basis	Unit of measure	Measurement frequency	Measurement responsibility
KPIs to be implemented now					
Demand Management					
Consumer Sales Growth (overall and by category)	Year on year consumer scan sales growth overall and by category	$= \frac{(\text{Current year's sales} - \text{previous year's sales}) \times 100\%}{\text{Previous year's sales}}$ where sales is: scanned price at the POS x volume in consumer units	%	Monthly	R,W NOTE: R-Retailer W-W'saler M-Mfr
New Product Success Rate (overall and by category)	Percentage of new products introduced in the last 12 months still ranged in more than 50% of the target stores	$= \frac{\text{Number of new products launched in the last 12 months that are still ranged with more than 50% distribution of target stores}}{\text{Number of new products launched in the last 12 months}}$	%	Monthly	R,W
Forecast Demand Error (WAPE)	Absolute difference between actual and forecast demand at an individual SKU level, weighted according to sales, as a percentage of actual demand	$= \frac{(\text{Forecasted demand} - \text{actual demand}) \times \text{SKU sales weighting}}{\text{Actual demand calculated for one month, three months in advance}} \times 100\%$	%	Monthly	R,W,M
Forecast Demand Error (WAPE)	Absolute difference between actual and forecast demand at an individual SKU level, weighted according to sales, as a percentage of actual demand	$= \frac{(\text{Forecasted demand} - \text{actual demand}) \times \text{SKU sales weighting}}{\text{Actual demand calculated for one week, one month in advance}}$	%	Monthly	R,W,M
Supply Management					
Service Level: Vendor to DC	Percentage of original orders (in cases) fulfilled in full and on time from vendor to DC	$= \frac{\text{Number of cases delivered in full and on time to DC}}{\text{Number of cases originally ordered by DC}}$ NOTE: Back order deliveries are not considered to be on time	%	Monthly / Weekly	R,W

Measure	Definition	Calculation basis	Unit of measure	Measurement frequency	Measurement responsibility
Service Level: DC to Store	Percentage of original orders (in cases) fulfilled in full and on time from DC to store	$= \frac{\text{Number of cases delivered in full and on time to retail store}}{\text{Number of cases originally ordered by retail store}}$ <p>NOTE: Back order deliveries are not considered to be on time</p>	%	Monthly / Weekly	R,W
Service Level: Vendor to Store	Percentage of original orders (in cases) fulfilled in full and on time from vendor to store	$= \frac{\text{Number of cases delivered in full and on time to retail store}}{\text{Number of cases originally ordered by retail store}}$ <p>NOTE: Back order deliveries are not considered to be on time</p>	%	Monthly / Weekly	M
Inventory DOS-Retail store (overall and by category) NOTE: DOS = Days of Sales	Average number of units of inventory at stores measured in days of retail sales NOTE: 1 week = 7 days	$= \frac{\text{\$ value of stock in store}}{\text{Average \$ value sold to consumers per day}}$	DOS	Monthly / Weekly	R
Inventory DOS-DC (overall and by category)	Average number of units of inventory at DCs (including overflow) measured in days of retail sales NOTE: 1 week = 7 days	$= \frac{\text{\$ value of stock in DC}}{\text{Average \$ value sold to retail store per day}}$	DOS	Monthly / Weekly	R,W
Inventory DOS-Vendor (overall and by category)	Average number of units of finished goods inventory held by the manufacturer, including factory, DC and overflow, measured in days of ex-factory sales NOTE: 1 week = 7 days	$= \frac{\text{\$ value of stock in factory, vendor DC and overflow}}{\text{Average \$ value sold to customers per day}}$	DOS	Monthly / Weekly	M
Full trucks	The number of trucks ordered which are full trucks (as defined and agreed between trading partners) excluding out-of-stocks, as a percentage of total number of trucks used to make deliveries	$= \frac{\text{Number of full trucks} \times 100\%}{\text{Total number of trucks used to make deliveries}}$	%	Monthly / Weekly	R,W,M
Full pallets	Number of pallets ordered in full as a percentage of total pallets. The definition of full pallets is to be proposed by supplier and agreed with trading partners	$= \frac{\text{Number of full pallets delivered} \times 100\%}{\text{Total number of pallets delivered}}$	%	Monthly / Weekly	R,W,M
Scheduled Load/Unload Adherence	Number of trucks arriving to be loaded/unloaded, within 15 minutes before or after the agreed booking slot	$= \frac{\text{Number of trucks arriving to be loaded/unloaded, within 15 minutes before or after the agreed booking slot}}{\text{Total number of trucks loaded/unloaded}} \times 100\%$	%	Monthly / Weekly	R,W,M

Measure	Definition	Calculation basis	Unit of measure	Measurement frequency	Measurement responsibility
Enabling Technology					
Quality Bar-coding (case)	Cases with a 100% scan rate in accordance with industry standard as a percentage of all cases	= Number of cases exchanged and scanned with scannable EAN14 numbers x 100% Total number of cases exchanged	%	Monthly	R,W
Quality Bar-coding (pallet)	Pallets with a 100% scan rate and in accordance with industry standard as a percentage of all pallets	= Number of pallets exchanged and scanned with scannable EAN128 numbers x 100% Total number of pallets exchanged	%	Monthly	R,W
Data Integrity Rate (transmitted received)	Number of orders where there are no accuracy issues (i.e. price, quantity, EAN, pallet configuration, address) as a percentage of all orders	= Number of orders with no accuracy issues x 100% Total number of orders	%	Monthly	M
e Penetration (purchase order)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M
e Penetration (order response)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M
e Penetration (delivery note)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M
e Penetration (EFT payment)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M
e Penetration (inventory/sales/forecast plans)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M
e Penetration (remittance advices)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M
e Penetration (invoices)	Yes/No measurement of whether a company is capable of sending that document electronically	Are you capable of sending this type of document electronically? — Yes/No	Y/N	Monthly	R,W/M

Measure	Definition	Calculation basis	Unit of measure	Measurement frequency	Measurement responsibility
e Penetration (capability developments index)	Percentage of document types that a company is capable of sending electronically	$= \frac{\text{Sum of 'Yes' responses} \times 100\%}{7}$	%	Quarterly	R,W,M
KPIs to be implemented in the future					
Demand Management					
Consumer Satisfaction	Consumer's evaluation of how well a product/channel fulfils his/her needs in functional terms such as performance, quality or customer service	$= (\text{Expectation} - \text{performance for each attribute}) \times 100\%$ where each attribute is weighted by importance of service attribute	%	Annual	R,M
Forecast Demand Error (WAPE)	Absolute difference between actual and forecast demand at an individual SKU level, weighted according to sales, as a percentage of actual demand	$= \frac{(\text{Forecasted demand} - \text{actual demand}) \times \text{SKU sales weighting}}{\text{Actual demand calculated for one week, three months in advance} \times 100\%}$	%	Monthly	R,W,M
Supply Management					
Retail Out-of-Stocks	SKUs experiencing stock-out on any retail shelf as a percentage of total range	$= \frac{\text{Average number of SKUs out of stock per week} \times 100\%}{\text{Average total number of SKUs intended to be on shelf}}$	%	Quarterly	R
Enabling Technology					
Vendor Profitability	Determined by deducting the directly attributed cost of doing business with supplier, including cost associated with infrastructure and space, from retailer/distributor gross margin	$= \text{Retailer/distributor gross margin} - \text{directly attributed costs of doing business with that supplier}$	\$	Semi-annual	R,W
Customer Profitability	Determined by deducting the directly attributed cost of servicing an account from vendors gross margin	$= \text{Vendor gross margin} - \text{directly attributed costs of doing business with that account}$	\$	Semi-annual	M



**Appendix C:
KPI dictionary glossary**

Term

Definition

Absolute difference	The difference between 2 numbers, regardless of whether the difference is positive or negative
Booking slot	The scheduled arrival time to load/unload truck
Category	A combination of products that are aligned from the consumer's perspective (eg, fresh, personal care, beverages)
Channel	The source from which the consumer purchased or could purchase the product; typically this is from a retail store, however, it also includes non-traditional points-of-sale (eg, internet)
Electronically	Technology mediums that are used for exchanging trading data resulting in speed, accuracy and improved efficiency. They include EDI, Electronic Funds Transfer and the internet; it may also include Autofax and Direct Debit if agreed by trading partners
In full and on time	The original order, both with respect to product and number of cases, is dispatched to ship-to location in accordance with agreed delivery schedule
Inventory holding costs	Financing costs related to carrying finished goods inventory; comprises both inventory and warehouse capital infrastructure costs
Launched	The introduction of new products made available for consumer purchase
New products	Includes totally new product concepts, new brands, line extensions (eg, new variants) but excludes pack variations
POS	Point-of-Sale; the physical location at which the consumer purchases products
Ranged	Products stocked in retail stores for sale to consumers
Scan sales	Data captured at points-of-sale detailing sales of products to consumers
Target stores	Stores which have been identified for the distribution of specific products to consumers

For further information contact:

Efficient Consumer Response Australasia
c/o Australian Food and Grocery Council
Locked Bag 1
Kingston ACT 2604
Phone: (02) 6273 1466
Fax: (02) 6273 1477
www.ecraustralasia.org.au

ECR Australasia is the owner of the copyright in the contents of this publication.
All rights reserved. Publication of this document in any form is not authorised
without the express permission of ECR Australasia.

ISBN 1 876904 01 1

