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A SHOPPING METHOD AND SYSTEMField of the Invention

This invention relates to a shopping method and system for providing shopping inducements to shoppers.

Background of the Invention

It is common to find promotional offers provided by marketers to shoppers in a mass or targeted manner. Often, the promotional offers are not taken up by the shoppers. One of the key problems is the timing of the offers. It is difficult even in targeted offers (to the right purchasers) to get the promotional timing right; as the offers may not be in-sync with purchase needs. For example, if a consumer has bought a product last week, she is unlikely to take up the promotional offer if the product usage cycle is say, two months. Hence, most promotional offers are sub-optimal leading to inefficiency in promotional planning, product ordering and inventory management. For a marketer, it would be an opportunity cost in terms of associated promotional cost such as advertising cost, material cost and promotional inventory cost. For a retailer, a more optimum promotion could lead to better sales returns. As for the shopper, promotional benefits cannot be realised. Besides promotional timing issues, a shopper does not buy just a single product but a basket of goods. Ideally, the basket should be best value. The lack of understanding purchase relationship in a basket of goods lead to shoppers not getting the best out of promotional offers, leading to sub-optimal value and dissatisfaction.

Another consequence of the above is an approach by marketers and retailers to bombard shoppers with a massive list of promotional offers leading to more

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inefficiency, as wastage is very high. As a result, the shoppers' basket is seldom a good buy; under-purchased, under-valued and shoppers may buy elsewhere, resulting in overall system inefficiency.

One known method is to target shoppers using past purchase history to minimise the waste, i.e. offer to those that have made purchases before. However, timing is still at best guess work. Similarly, getting the optimal basket value is not possible. Hence, shoppers have no motive to buy more.

Another known method is to provide loyalty points that could be converted to vouchers for purchase redemption. The idea is to provide freedom for shoppers to reduce the value of their purchase from redemption of vouchers/points. However, it does not work together with marketers to provide best value as the shoppers purchases may not coincide with the marketers' objectives. Total basket value may still be much lower as purchase patterns and habits may not be considered in such a generic method of providing value.

Summary of the Invention

The object of the invention is to provide a method and system which addresses the above problems and provides inducements which are more likely to be taken up by the shopper to thereby increase the value and/or size of a shopping basket on a single shopping trip.

The invention provides a shopping method to provide inducements to shoppers, comprising:

- collecting data relating to products purchased by individual shoppers;

- determining core product categories from the collected data, and establishing related product

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categories which relate to the core product categories;
creating promotional offer lists relating to
core products and related products; and
offering inducements to shoppers to purchase
products from the list.

By determining core products and then establishing related product categories, relevance of items to a shopper's needs is more appropriately determined and therefore offers can be made based on the likelihood that a person will accept an inducement to purchase a number of products from the core product categories and related product categories. This in turn increases the value and/or size of the shopper's shopping basket in a single shopping trip. From a shopper's point of view, this is beneficial because the shopper obtains better value for products purchased because of the inducements which are offers and from a marketer's point of view, more product is sold, thereby increasing the return to the marketer. This in turn improves likely consumer satisfaction and marketers pay only for what shoppers take up, hence reducing discounts due to forward inventory purchases in general mass promotions.

Preferably the method further comprises determining purchase frequencies of shoppers in the core related products and product categories and categorising those purchases into promotional cycle frequencies and recency of purchase grouping, and creating promotional offers lists and offering inducements based on the cycle frequencies and recency of purchase groupings.

Preferably the method further comprises determining product size, quantities and values purchased for each core product category.

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Preferably the method further comprises collecting data relating to shoppers which comprises past purchase data, consumer profile data including geo-demographic data, socio-economic data and information.

Preferably the shopper data is acquired at least partly by soliciting said data and information from a shopper when a shopper joins a loyalty program.

Preferably the inducements comprise one or more of vouchers, leaflets, coupons, promotional samples, points, sweepstake tickets and gifts.

The invention also provides a shopping system to provide inducements to shoppers, comprising:

- a processor for analysing data relating to products purchased by individual shoppers and for determining core product categories from the data in the database, and determining related product categories which relates to the core product categories;

- the processor also being for creating a promotional offer list relating to core products and related products for offer to consumers; and

- an output for providing an inducement to shoppers to purchase the related products.

The output device may comprise a card reader and printer located at a position where core products are offered for sale so the device can be activated to produce an inducement to the shopper to purchase the related products.

In an alternative embodiment the output device may comprise only a printer.

In a still further embodiment the output may be provided

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by a person handing out a list to shoppers who purchase products from the core product category and thereby provide an inducement to purchase the related products.

Preferably the processor collects data relating to shoppers which comprises past purchase data, consumer profile data including geo-demographic data, socio-economic data and information.

Preferably the shopper data is acquired at least partly by soliciting said data and information from a shopper when a shopper joins a loyalty program.

Preferably the inducements comprise one or more of vouchers, leaflets, coupons, promotional samples, points, sweepstake tickets and gifts.

Preferably the processor is also for determining purchase frequencies of shoppers in the core related products and related product categories and categorising those purchases into promotional cycle frequencies and recency of purchase grouping, and creating promotional offers lists and offering inducements based on the cycle frequencies and recency of purchase groupings.

Preferably the processor also determines product size, quantities and values purchased for each core product category.

The invention still further provides a shopping method to provide inducements to shoppers, comprising:

- determining core products and related products which are related to the core products by analysing purchases made by individual shoppers;

- creating promotional offer lists relating to a core product and its related products based on the

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frequency of purchase of core products by shoppers; and outputting the list to a shopper providing an inducement to a shopper who purchases a core product if the shopper also purchases related products to that core product.

Preferably the method further comprises analysing the data relating to products purchased by individual shoppers to determine correlations, and removing categories of related products below a predetermined correlation point from the defined core products and related products.

Preferably the method further comprises determining a cycle length for a promotion based on the purchase cycle of core products by shoppers.

Preferably the method still further comprises determining recency of purchase with cycle criteria and determining a potential size or grouping of shoppers likely to purchase a core product within a predetermined time period, and developing a promotional offer list based on the potential size or group of shoppers expected to purchase a hub product.

Preferably the method further comprises collecting data relating to shoppers which comprises past purchase data, consumer profile data including geo-demographic data, socio-economic data and information.

Preferably the shopper data is acquired at least partly by soliciting said data and information from a shopper when a shopper joins a loyalty program.

Preferably the inducements comprise one or more of vouchers, leaflets, coupons, promotional samples,

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points, sweepstake tickets and gifts.

The invention still further provides a shopping system for providing inducements to shoppers, comprising:

a processor for determining core products and related products which are related to the core products by analysing purchases made by individual shoppers;

the processor also being for creating promotional offer lists relating to a core product and its related products based on the frequency of purchase of core products by shoppers; and

an output for supplying the list to a shopper providing an inducement to a shopper who purchases a core product if the shopper also purchases related products to that core product.

Preferably the processor analyses the data relating to products purchased by individual shoppers to determine correlations, and removing categories of related products below a predetermined correlation point from the defined core products and related products.

Preferably the processor determines a cycle length for a promotion based on the purchase cycle of hub products by shoppers.

Preferably the processor determines recency of purchase with cycle criteria and determining a potential size or grouping of shoppers likely to purchase a core product within a predetermined time period, and developing a promotional offer list based on the potential size or group of shoppers expected to purchase a hub product.

Brief Description of the Drawings

Preferred embodiments of the invention will be described, by way of example, with reference to the

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accompanying drawings in which:

Figure 1 is a schematic diagram illustrating the concept of the present invention;

Figure 2 is a block diagram of a system embodying the present invention; and

Figure 3 is a flowchart explaining the method of the preferred embodiment of the present invention.

Detailed Description of the Preferred Embodiment

With reference to Figure 1, the concept of the preferred embodiment of the invention is schematically illustrated. The essence of the preferred embodiment of the invention resides in determining core product categories which, for the purpose of the following description are referred to as the hub category, and related product categories which will be referred to as spoke categories.

With reference to Figure 1, data relating to products purchased by individual shoppers is collected and analysed. The data may be collected by a checkout terminal which scans or otherwise collects data relating to products purchased by individual shoppers and in which all of the products purchased by a shopper can be related to the particular shopper.

Shoppers can register to participate in the inducement program and will be provided with some manner of identifying the shopper, so that when the consumer does go shopping and pays for goods, the shopper can be identified. This can be by way of a card containing an identifying code which is read by the checkout terminal or by any other data associated with the shopper. In alternative embodiments, data relating to existing loyalty programs can also be used to provide consumer

information such as shopper demographic data, shopping habit data, lifestyle data, and other data relating to shoppers which can be used as a basis to determine products which are likely to be of interest to a shopper. Such a program is disclosed in our International Patent Application Nos. PCT/SG2005/000185 and PCT/SG2005/000224. The contents of these two International applications is incorporated into this specification by this reference.

Hub products and spoke products are determined based on what shoppers actually purchase. The content of shopping baskets for individual shoppers is analysed and the sum of all shopper's baskets will be analysed to determine hub products, and products in high correlation categories which will form the spoke categories. The data is captured by the retailer's electronic point-of-sale system 14 (Figure 2) in the retailer's database, as will be described in more detail with reference to Figure 2. This in turn is transferred via electronic data transfer to a central authority where the data is analysed in a processor 30 (Figure 2) to determine the hub and spoke categories, purchase frequencies/cycles, recency of purchases, values, volumes, number of items purchased per basket, and each product/category. Separately, a shopper's profile database 120 (Figure 3) is established when shoppers sign up for a loyalty/reward card which contains the personal data relating to the shoppers and other socio-economic information. Thus, the data contained in this personal database 120 will comprise shopper identifiers, geo-demographic and other socio-economic data which can be merged with the purchase data from the electronic point-of-sale system relating to the same shopper. Hence, the data which is used to determine hub and spoke categories is data relating to actual purchases made by shoppers.

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For example, a hub category may be baby diapers. The hub category of products will have associated with it a number of spoke categories which are purchased by people who also purchase baby diapers. In the embodiment illustrated in Figure 1, the spoke categories comprise infant milk, baby food, baby wash, cereals, coffee, confectionery and chilled meat. In another example, not shown, a hub category may be a herbal product such as herbal tea and a number of spoke categories will be associated with that hub category such as facial wash, sugar, cereals and natural products. Spoke products may also be included, even if they do not have a strong correlation to hub products in an actual shopping basket. For example, a new product such as a new baby wipe which is to be introduced to the market may form a spoke product, even though people have not purchased the product before because it is a new product. However, most of the spoke products will have a strong correlation to the hub product.

Figure 2 is a schematic block diagram of a system for performing the method of the preferred embodiment.

With reference to Figure 2, a block diagram of a system embodying the invention is shown. An output printer and card reader 10 is shown in proximity to shelving 12 which contains hub products such as diapers. A checkout terminal 14 is provided where shoppers pay for products. Typically, when shoppers purchase products, they will present at the checkout terminal 14 and their products will be scanned and the products purchased can therefore be identified. A particular shopper can also be identified by an input code which may be supplied by way of a card read by a card reader 15 at the terminal 14 or credit card or the like at a retail outlet 70. However,

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the specific identification of a shopper is not essential to the embodiment of the invention and the embodiment can be practiced without a particular identification of the shopper. What is required is that the nature of the products purchased by a particular shopper is collected by the terminal 14 at a retail outlet 70 and supplied to a retailer data warehouse processor system 60 at a remote retailer central location or back end office 80. A single back end office 80 may be associated with a number of different stores in a chain of department stores, or the like.

The data relating to purchases made by shoppers is collected at the terminal 14 and supplied by a communication link 28 which may be a LAN or the like to a store processor 51 and retailer store server 50 maintained at the retail outlet 70. The data is then supplied from the server 50 to the retailer central location database and processor system 60 which comprises a database 62 and processor 64. The retailer central location 80 also contains a retail server and database system 90 which includes a database 120 and server 140. The system 90 stores data relating to shoppers for operating general royalty reward systems and promotions, and that data can be merged with the shopping purchase data collected by the system 60 and supplied to a remote operator central location 100 via a communication link 85 which again may be a wide area network, internet communication link, or any other suitable link.

Thus, the purchase data and other data relating to shoppers which is stored in the system 60 is supplied to a database 32 at the central location 100 operated by a program provider.

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A processor 30 at the central location analyses the data in the database 32. Thus, the database 32 is a working database used by the processor 30 during analysis of the purchase data. When the data is received by the database 32, the data is analysed by the processor so that all products purchased by shoppers in a single basket transaction are put through a correlation analysis. The products are ranked in order of frequency of purchase and hub categories are therefore determined from this data. Each hub category is usually the most frequently purchased product or has a high consumer penetration depending on the pre-determined marketing intention. Each hub product is then correlated with other categories and the initial outcome is a list of correlation scores from the strongest to the weakest. The weakest correlations can be cut off and disregarded. The weakest correlations are determined by reference to a predetermined correlation point or value so any correlation below that point or value are deemed weak correlations. Thus, the total purchase made by a shopper is interrogated by the processor 30 so that a correlation can be made between the products purchased by shoppers to determine the hub products and their associated spoke products. This enables hub products which continually show a strong correlation with their spoke products to be maintained, and for weak correlations to be removed.

The processor 30 can then create favourite lists of hub products and related products and can determine shopper's groupings within cycles based on the purchased made by particular shoppers. The determination can then be made of purchase cycles relating to particular hub products and from this, a determination of a length for a particular promotion can be made.

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The processor 30 also determines the recency of purchases made and compare this with cycle criteria. For example, if purchase cycles for diapers is usually about two weeks for individual shoppers, the timing of a promotion can be equated with the purchase cycle and the length of time for the promotion can also be determined. For example, for products which are purchased on a two-weekly basis, the promotion may be provided for two weeks.

For each hub category of products, a determination is made as to the potential size of the group of purchasers who are likely to purchase the hub product within the next predetermined period, such as two weeks. If the potential size of the group of shoppers is sufficiently great, a promotion can be developed for people who purchase the hub product also receiving some inducement for purchasing the related spoke products. The processor 30 therefore can produce a promotional offer for the hub and spoke products and produce the favourite list promotional offers for each hub and spoke category based on the offers which marketers are prepared to make. As mentioned above, these inducement offers may be a discount in price, the provision of extra products at no extra charge, or other inducements such as giveaways, samples, sweepstake tickets, bonus points for later shopping, or the like. The favourite lists are forwarded to retailer servers 50 by processor 30 via communication link 36.

Alternatively, the lists can be forwarded by the processor 30 via the communication link 85 back to the retailer central location 80 so that the EPOS data processor and database system 60 can forward the lists via the communication link 35 to the retail store server 50.

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The store processor 51 then loads the lists into the reader printer 10 and the EPOS check out terminal 14.

The favourite lists can be loaded into the printer 10 from the processor 51 by a communication link 38 or manually by a flashcard storage device which is generated and then manually loaded into the printer 10.

Thus, when a purchaser presents at the shelving 12 to purchase diapers, the purchaser has the option of activating the printer 10 to receive the favourite list relating to that hub category of products. The favourite list may indicate that if the purchaser purchases all the additional products shown in Figure 1, that certain inducements will be provided. Different inducements can be provided if only some of the spoke products are purchased. In alternative embodiments, rather than providing a printer 10 to produce the favourite list, the favourite list may simply be handed over by a person stationed at the shelving 12 to any person who purchases diapers.

Thus, when the shopper presents at the checkout terminal 14, the products purchased by the shopper can be determined and compared with the inducement which is provided by the output device 10 so that the shopper receives that inducement based on what the shopper actually purchases.

The shopper database 120 and server 140 may also be provided for inputting data relating to individual shoppers, such as geo-demographic data, socio-economic data, shopper profile information, past purchase history data, and the like. That data can be supplied to the processor 30 for use in favourite lists and promotional

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offer lists to better direct the promotions to various classes of shoppers based on their own likes or dislikes, demographic data, etc., together with what hub products they actually purchase. The data may be collected by questionnaires to people who apply to participate in a loyalty program to be offered as part of the shopping system or other types of loyalty programs.

The architecture shown in Figure 2 is exemplary only. Obviously, if the system is offered through a number of different retail outlets, a single central processor 30 and database 32 may be provided which communicates with printers or output devices 10 at each store location. Furtherstill, a number of such printers 10 can be provided in each store location. Still further, the processor 30 may be formed by a central processor which in turn communicates with store base processors.

Whilst the embodiment of Figure 2 relates to an actual store, the store may be a virtual store, such as a store which is accessed via the internet or other remote accessing device, malls, food outlets, and the like. Still further, the nature of the store may be a lifestyle enterprise rather than a place where specific products are purchased, for example, one which offers services such as gymnasiums, entertainment or the like.

The method of the preferred embodiment of the invention will be more fully described with reference to the flowchart of Figure 3.

Referring to Figure 3, at step 301 the basket composition of a shopper is determined by processor 30 in the manner referred to above to identify the products which are being purchased by the shopper. At step 301

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the processor 30 determines whether there is a strong correlation amongst the hub category and the spoke categories. Using the example referred to above, the analysis of a large number of shopping baskets from different shoppers may show that a certain number of people do purchase baby diapers and of those people, a number of other products are also purchased. The hub product may therefore be baby diapers and the spoke categories may be products which are purchased by a number of people who also purchase baby diapers.

The processor 30 puts the products purchased by shoppers in each single transaction through a correlation analysis. Other analysis tools may be used if desired. However, in the preferred embodiment the products are ranked in order of frequency of purchase and categories are determined. Each hub category is usually the most frequently purchased or has high consumer penetration depending on predetermined marketing intentions. Each hub is then correlated with other categories. The initial outcome is a list of correlation scores from the strongest to the weakest. A correlation point somewhere between the strongest and weakest is decided and is used to determine a cut-off of strong correlation from weak correlation.

Several methods could be used to determine the hub and spoke categories including:

(a) A simple correlation with the highest penetration or frequently purchased category. This enables shopping baskets which show a significant correlation between the purchase of various products to be included and those with a weak correlation can be excluded, as per step 304; and

(b) Other statistical and analytical tools could be used together with correlation analysis.

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The manner in which the hub and spoke categories are determined depends on the end result required by the marketers. For example, it may only be necessary to provide a simple understanding of hub and spoke categories, or additionally it may be desired to know how many optimum hub categories there should be to operate the method and system of the preferred embodiment most efficiently.

For example, hub categories could be those that are:

- (a) frequently purchased;
- (b) staples or basic items;
- (c) high shoppers penetration;
- (d) thematic - driven or special interest, e.g. baby - hence, baby diapers as a hub, health-food, etc.;
- (e) destination category.

All other categories will be ranked ordered based on the strengths of the correlation. For example, if the hub category is baby diapers, the marketing intention is to increase the basket size of shoppers (mothers) who buy diapers as this could be an underperforming segment of shoppers. The correlation point or value shows a strong relationship when a spoke product is purchased with a hub product. Thus, the spoke categories could be those categories which are above predetermined percentage correlation with the purchase of the hub category baby diapers, for example:

- (a) infant milk;
- (b) baby food;
- (c) cereal;
- (d) coffee;
- (e) chilled meats/breakfast ham;
- (f) confectionery - e.g. biscuit;

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- (g) baby powder;
- (h) salt.

The results of the analysis at step 301 is considered at step 302. In the case of strong correlation, the process can then move to step 303. If the correlation is weak, the process moves to step 304 and the relatively weak correlations or instances of no relationship at all are disregarded and effectively removed from the system.

At step 303 a decision as to hub and spoke categories for a promotional offer is considered. Consideration is now taken of recent promotions and hence, if baby powder was the subject of a recent promotion, this product may be removed from the proposed promotion during analysis of the hub categories and spoke categories at step 303.

At step 303, the analysis can determine hub categories as frequently purchased product categories or products which have a high consumer penetration. For example, many shoppers have tried or bought these product categories. Generally, the hub products will be the staple items of each shopper's basket which, over a period of time, say a year, represent the top items purchased by all shoppers. However, particular variations can also be determined, such as further segmentation into a woman's basket which relate specifically to women's needs, a lifestyle basket which relates to lifestyle products, for example cooking or dining where sauces, meats or wines could be hubs.

At step 305 an initial favourite list is compiled based on the analysis in step 303. A potential size of qualifying shoppers is determined. For example, issues such as, is the list that potential marketers could be

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recruited to join the particular promotion? Do the retailers agree to the marketers that have been short-listed to participate in the promotion? What promotion tactics could be employed?

Concurrently with steps 307 to 309, a determination is made at step 306 as to the shopper's grouping with cycles.

From the group of hub and spoke categories, the system now identifies the number of shoppers (and identifies them if necessary - if a card reader is used to identify people at shelf 12). At step 307 an analysis of the purchase cycle of the shoppers is performed, and hence the system is able to determine the cycle length for the promotion, as per step 308. If the hub category baby diapers is purchased by a shopper every two weeks, and assuming no shoppers bought yesterday, the cycle length of the promotion should be two weeks also. At step 306 it is also decided if all spoke categories fall within that two week cycle so that if salt is purchased every eight weeks, this spoke category would be dropped.

Thus, at step 305 an initial favourites list is compiled based on the data collected at step 301. The initial favourite list is an initial view of appropriate hub and spoke categories. The most important aspect of this step is to determine qualifying shoppers for each of the categories and count them to evaluate the size of a particular group.

At step 306 the group of shoppers is reduced to those shoppers who would buy in an average purchase cycle and shoppers outside that cycle are eliminated in order to determine the opportunity for particular promotions and the likely value of offering those promotions.

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Concurrently at step 307, purchase patterns for each of the categories are analysed to determine the average purchase cycle, usually expressed in weeks. Individual shoppers themselves need not be identified, but shoppers of the specified category would be analysed for their purchase cycle pattern.

At step 308 a determination is made as to the cycle length for a particular promotion. The cycle length may be the same as the purchase cycle length for a product. For instance, if the promotion is to relate to baby diapers usually purchased on a two week cycle, then the cycle length of the promotion may be two weeks. The cycle length of promotions at step 308 depends primarily on two factors - recency of purchase for each category of shoppers, and affordability of running a particular promotion. Ideally, if affordability is not a constraint and the purchase cycle is two weeks, then the cycle length is two weeks. This covers all shoppers who bought yesterday who would likely return to buy in the next two weeks. Therefore, recency of purchase is needed to decide the cut-off point in which the promotional cycle would cover the bulk of shoppers.

At step 309, a determination is made as to the recency of a purchaser purchasing the particular hub product. Thus, from the data collected, there may be a determination that the shopper purchased the hub product only a few days ago, and therefore it may well be unlikely that the shopper will wish to purchase all of the spoke category products. However, if the purchase was less recent, such as a week ago, it is likely that the purchaser will also wish to purchase the other products identified in Figure 1. However, budgetary constraints of marketers is also considered. If budgetary constraints result in marketers wishing to

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only offer a program for seven days, then shoppers who bought a week ago are unlikely to buy within the 7-day promotion program cycle. Hence, the potential size or group of shoppers targeted by the promotion is determined to estimate potential business opportunities for the promotion.

In the preferred embodiment of the invention it is not necessary to identify particular shoppers in order to determine recency of purchase. All shoppers of the particular category are considered and a determination of the spread within the purchase cycle and how many bought recently is determined to decide whether the promotional cycle can afford to cover these shoppers who bought recently or to miss them. Hence, the initial group of shoppers of each hub and spoke will be reduced when checked and screened against purchase cycles, recency of purchase and promotion cycle.

Thus, at step 310 a determination is made as to the potential size or group of shoppers who are likely to be attracted by a particular promotion so that consideration can be made as to whether it is worthwhile offering a promotion or whether the size of the group is so small that such a promotional offer is unlikely to gain any benefit. If it is determined at step 310 that the size of the potential pool of shoppers who are likely to be attracted by a particular promotion is sufficient, a promotional offer list for each hub product and spoke product is established at step 311. The promotional offer list is a working list for marketers and retailers to determine an appropriate strategy for each hub or spoke category. This list is jointly agreed with marketers and approved by the retailer for activation.

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At step 311 a promotional offer list based on the hub category (baby diapers and spoke categories (a)-(f) mentioned above) together with promotional tactics from marketers to increase shopping basket size of shoppers in this group is now in its final form for approval by the retailer. This is sent to the retailer for inclusion in their promotional list in the EPOS terminal 14 so that it can match the offer and the redemption can be identified at the terminal 14 when shoppers take up any of the inducements.

At step 312 the favourite list of offers for each hub and spoke category is generated for providing to shoppers when a hub product is purchased. The favourite list contains a list of offers, a set of vouchers or coupons or similar handouts informing shoppers of the spoke offers which are available, should they be purchased at the same time as a hub category product.

As shown at step 313, providing the list can be done by way of printout or manual supply of a list. The printer is located at a location where hub category products are offered for sale so that a shopper buying a hub category product can insert a card or the like identifying the shopper and obtain a printout of the inducements which are being offered for the purchase of spoke category products. For example, the inducement may be that if a person buys each of the spoke category products, the person will receive a discount of a certain percentage of the price of the products. Alternatively, the inducement can be that the person is given an additional product. Other inducements may be the issuance of sweepstake tickets, bonus points for other purchases, free gifts or other giveaways to thereby provide an inducement to the shopper to purchase those products which the shopper is likely to also desire.

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The outcome at step 314 is therefore that shoppers are likely to buy products from the related spoke categories because of the inducement offers which are being made and also by virtue of the fact that the shopper is very likely to require those products in any event. Thus, the increased basket size or total value for the shopping trip by a shopper on a particular day is likely to be increased. This is obviously a benefit to the marketer selling the spoke category products and a benefit to the shopper because the shopper receives an inducement for purchasing the additional products which the shopper is likely to require in any event. This in turn results in the shopper receiving best value from promotional offers which are taken up, thereby increasing consumer satisfaction. Thus, by relevance of timely and related offers to shoppers, the shopper is likely to purchase more products and get best value for the purchases because of the inducements which are offered. Step 314 also enables a measure of the success of the promotion to be determined by analysing products purchased by data collected at the terminal 14 to determine the amount of hub and spoke products which are actually purchased by shoppers during the course of a promotion.

Thus, it should be understood that the reference to products in this specification and claims should be understood to include the purchase of services such as gymnasium subscription, entertainment such as movies, sports events and the like.

Since modifications within the spirit and scope of the invention may readily be effected by persons skilled within the art, it is to be understood that this invention is not limited to the particular embodiment

described by way of example hereinabove.

In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word "comprise", or variations such as "comprises" or "comprising", is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

Claims

1. A shopping method to provide inducements to shoppers, comprising:

5 collecting data relating to products purchased by individual shoppers;

determining core product categories from the collected data, and establishing related product categories which relate to the core product categories;

10 the step of establishing related product categories comprising selecting a product from the core product categories, determining a correlation between that core product and other products purchased by a consumer which purchases that core product and determining a
15 correlation score, determining a correlation point between a strongest correlation score and a weakest correlation score to determine a cut-off of strong correlations from weak correlations, and assigning products which have a correlation score within a strong correlation score and
20 the correlation point to one of the related product categories related to that core product category;

creating promotional offer lists relating to core products and related products; and

25 offering inducements to shoppers to purchase products from the list.

2. The method of claim 1 wherein the method further comprises determining purchase frequencies of shoppers in the core related products and product categories and
30 categorising those purchases into promotional cycle frequencies and recency of purchase grouping, and creating promotional offers lists and offering inducements based on the cycle frequencies and recency of purchase groupings.

35 3. The method of claim 1 wherein the method further comprises determining product size, quantities and values purchased for each core product category.

4. The method of claim 1 wherein the method further comprises collecting data relating to shoppers which comprises past purchase data, consumer profile data
5 including geo-demographic data, socio-economic data and information.

5. The method of claim 4 wherein the shopper data is acquired at least partly by soliciting said data and
10 information from a shopper when a shopper joins a loyalty program.

6. The method of claim 1 wherein the inducements comprise one or more of vouchers, leaflets, coupons,
15 promotional samples, points, sweepstake tickets and gifts.

7. A shopping system for providing inducements to shoppers, comprising:
 a processor for analysing data relating to
20 products purchased by individual shoppers and for determining core product categories from the data in the database, and determining related product categories which relates to the core product categories;
 the step of establishing related product
25 categories comprising selecting a product from the core product categories, determining a correlation between that core product and other products purchased by a consumer which purchases that core product and determining a correlation score, determining a correlation point between
30 a strongest correlation score and a weakest correlation score to determine a cut-off of strong correlations from weak correlations, and assigning products which have a correlation score within a strong correlation score and the correlation point to one of the related product
35 categories related to that core product category;
 the processor also being for creating a promotional offer list relating to core products and

related products for offer to consumers; and
an output for providing an inducement to shoppers
to purchase the related products.

5 8. The system of claim 7 wherein the output device
may comprise a card reader and printer located at a
position where core products are offered for sale so the
device can be activated to produce an inducement to the
shopper to purchase the related products.

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9. The system of claim 7 wherein the output device
comprises a printer.

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10. The system of claim 7 wherein the processor is
also for determining purchase frequencies of shoppers in
the core related products and related product categories
and categorising those purchases into promotional cycle
frequencies and recency of purchase grouping, and creating
promotional offers lists and offering inducements based on
the cycle frequencies and recency of purchase groupings.

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11. The system of claim 8 wherein the processor also
determines product size, quantities and values purchased
for each core product category.

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12. The system according to claim 7 wherein the
processor is located at a provider central location and is
connected to a retail store server at a retail store by a
communication link, the processor also being connected to
a retailer central location by a communication link, the
central location having a database and processor system
connected to the retail store server by a communication
link for receiving the purchase data via an EPOS checkout
terminal and the store server and for providing the data
to the processor at the provider central location so the
processor can produce the list for supply to the retail
store server and for loading in the EPOS checkout

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terminal.

13. A shopping method to provide inducements to shoppers, comprising:

- 5 determining core products and related products which are related to the core products by analysing purchases made by individual shoppers;
- analysing the data relating to products purchased by individual shoppers to determine correlations, and
- 10 removing categories of related products below a predetermined correlation point from the defined core products and related products;
- determining a cycle length for a promotion based on the purchase cycle of core products by shoppers;
- 15 determining recency of purchase with cycle criteria and determining a potential size or grouping of shoppers likely to purchase a core product within a predetermined time period, and developing a promotional offer list based on the potential size or group of
- 20 shoppers expected to purchase a related product and on the frequency of purchase of core products by shoppers; and
- outputting the list to a shopper providing an inducement to a shopper who purchases a core product if the shopper also purchases related products to that core
- 25 product.

14. The method of claim 13 wherein the method further comprises collecting data relating to shoppers which comprises past purchase data, consumer profile data

30 including geo-demographic data, socio-economic data and information.

15. The method of claim 17 wherein the shopper data is acquired at least partly by soliciting said data and

35 information from a shopper when a shopper joins a loyalty program.

16. The method of claim 13 wherein the inducements comprise one or more of vouchers, leaflets, coupons, promotional samples, points, sweepstake tickets and gifts.

5 17. A shopping system for providing inducements to shoppers, comprising:

a processor for determining core products and related products which are related to the core products by analysing purchases made by individual shoppers;

10 the processor is also for analysing the data relating to products purchased by individual shoppers to determine correlations, and removing categories of related products below a predetermined correlation point from the defined core products and related products;

15 the processor is also for determining a cycle length for a promotion based on the purchase cycle of hub products by shoppers;

the processor is also for determining recency of purchase with cycle criteria and determining a potential
20 size or grouping of shoppers likely to purchase a core product within a predetermined time period, and developing a promotional offer list based on the potential size or group of shoppers expected to purchase a hub product, and on the frequency of purchase of core products by shoppers;
25 and

an output for supplying the list to a shopper providing an inducement to a shopper who purchases a core product if the shopper also purchases related products to that core product.

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18. The system according to claim 17 wherein the processor is located at a provider central location and is connected to a retail store server at a retail store by a communication link, the processor also being connected to
35 a retailer central location by a communication link, the central location having a database and processor system connected to the retail store server by a communication

link for receiving the purchase data via an EPOS checkout terminal and the store server and for providing the data to the processor at the provider central location so the processor can produce the list for supply to the retail
5 store server and for loading in the EPOS checkout terminal.