

Thermal Re-Write

Loyalty Systems Solution

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1.0 How the Loyalty System Solution (LSS) works

The e-Secure Technologies TRW Loyalty System Solution (LSS) is a set of comprehensive specialized services including customized software development, implementation and ongoing operations support of a customer relationship management (CRM) solution for the specialist retailer. The LSS offers a unique, "write many times" on the surface of the loyalty card which provides the retailer a series of features & functions not found in traditional plastic card loyalty programs.

In the course of operating this system, it allows the retailer to monitor and evaluate end-user customer purchase behaviors, and to quickly obtain a picture of targeted customer segments, their consumption patterns and most importantly, communicate directly with them whenever the TRW card is used during purchases. In essence, it is an interactive card based marketing system that provides instant communication with the end-user customers.

The LSS consists of three main components:

The Thermal Re-Writable (TRW) card
The ESL TRW Card Printer (ECP)
The internet CRM Database Engine

End-user Customers (and hence, loyalty members) are initially issued with the TRW card at the point-of-sale, with immediate personalization of each loyalty member's personal details printed on the TRW card itself. The loyalty member from this point onwards will continue to use the same TRW card on an ongoing basis.

Immediate advantage – it only takes several seconds for the POS operator to enter the required personal information (such as name & contact number) of the loyalty member and a new TRW card can be printed from the ECP with the personalized details of the loyalty member and immediately issued for use.

This greatly simplifies the registration and card issuing process, offering un-paralleled efficiency in terms of membership registration and membership processing up to the point of issuing the loyalty membership card to the end-user customer.

The loyalty member can later log onto the internet and access the CRM Database Engine to enter any other relevant information (such as address, age-group, preferences etc.) to complete his/her membership registration without the need for the retailer to incur significant costs & time in processing every new loyalty membership details.

The retailer can also provide the loyalty member individual personal services at a service counter to complete the membership registration process for those members that do not have access to the internet or are unable to do so.

Each time the loyalty member uses the card, their purchase behavior (such as amount purchased) is printed on the card and recorded in the card itself. The software program(s) running on host the computer (such as a Point-of-Sale computer) which the ESL TRW card printer is connected to also records each TRW card transaction details.

At the same time, whenever a TRW loyalty membership card is inserted and read by the ESL TRW card printer (ECP), the host computer will recognize the individual member and the appropriate (pre-determined) advertising or promotional message targeted at the exact individual

can be printed on the TRW loyalty card itself. This provides 100% accuracy in target marketing since specific promotional messages can be printed to address specific loyalty members depending on who they are.

The loyalty member's purchase amount, no. of points earned, the total no. of points accumulated, can be printed on the card surface itself immediately at the point-of-sale, providing the important latest points earned during purchase and the total points available for the loyalty member at all times.

The advantage is that the loyalty member does not have to wait for any form of statement sent to him/her at a later date to know how many points he/she has exactly. The benefit to the retailer or issuer of the loyalty cards is that significant savings in time & costs are achieved since no printed statements to be sent to the loyalty members are necessary.

Transaction data accumulated at the host POS computer can be transmitted to the Retailer's head-office CRM Database Engine on a daily (nightly) basis for information processing, data consolidation and ongoing activity reporting purposes.

If the loyalty membership card is implemented using secure contactless chip cards, typically the most recent purchase amount, the member's accumulated total amount, the number of loyalty points earned by the member & the member's identification is recorded on the card itself.

If the loyalty membership card is implemented using smart chip cards, additional security is added since smart cards cannot be easily read by un-authorized means. In addition of the usual data (like in the case of contactless cards) that can be recorded in the smart card, the member's purchase history can also be recorded into the smart chip itself.

1.1 Key Benefits

The LSS offers a number of unique benefits not found in other traditional plastic card loyalty membership systems such as -

- a very high degree of personalization at the POS or point of transaction, allowing the retailer to have one-to-one direct marketing communication to the card holder.

- reinforcement of critical POP (Purchase-On-Purchase) advertising programs over and over again without the need to replace or renew the membership cards since visual presentations on the card surface can be erased and changed up to 500 times without loss of quality.

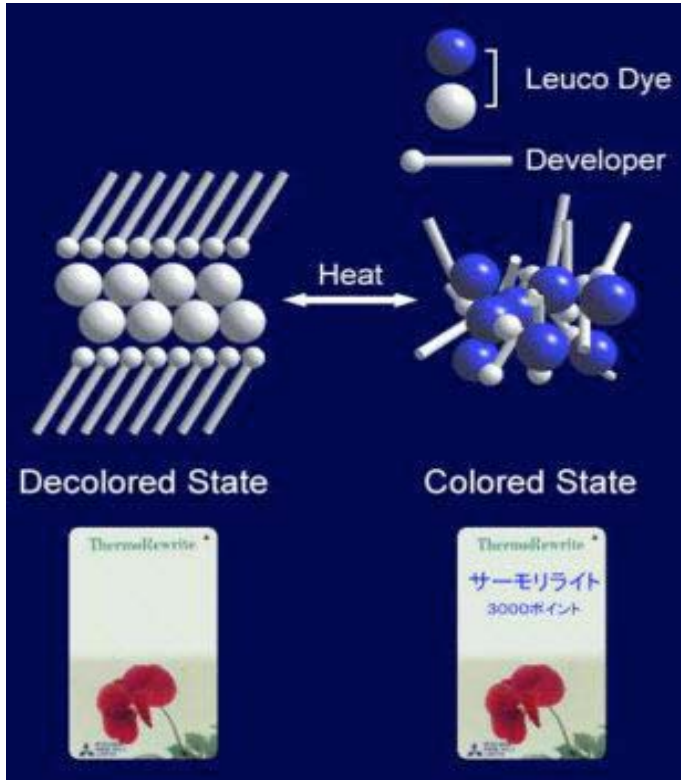
- provide "instant satisfaction" to customers via changeable gaming and instant reward functions, such as a simple "jack-pot" prize at point of transaction.

- provides the retailer the flexibility to create location specific or regional specific advertising or promotional programs concurrently.

- allows the retailer a selection of choices to execute multiple loyalty programs through a single hardware platform (ESL TRW card printer).

2.0 The Thermal Re-Write (TRW) Card

Using the e-Secure Technologies TRW Loyalty System Solution, the thermal read-write card print and display personalized information to the card member every time the card member makes use of the card. Subsequently, when the next time the card member makes their next purchase and



use the card, the existing information printed on the TRW card is completely erased, and new information appears.

With the unique Thermal Re-Write technology, the TRW card shows loyalty program information including loyalty program information including loyalty or bonus points total, instant prize related graphics, special offers and specific targeted messages each time the loyalty member uses the card.

Information currently displayed on the card is erased and new information is printed on the same card face when the card is inserted into the ESL TRW card printer. At the same time, the ESL TRW card printer also reads & encodes updated information into the contactless chip or the smart chip on the card itself.

Since critical information is also summarized and permanently stored to the card itself, this enables the retailer to have a meaningful, ongoing interaction with customers or loyalty members over a period of time.

The ongoing "changing" nature of the information displayed presents the card as an instant reference point, it provides a readable human interface – an ideal opportunity to communicate important information to the card user, and more significantly – prompting action and response from the card user on the spot.

2.1 TRW Card as a multi-purpose loyalty program & marketing tool

In most TRW loyalty programs, the design of the TRW card face can be in any format, this depends on the preferences of the individual retailer or card issuer and the specific loyalty program application that is to be used.

In general, the TRW card face is divided into four logical sections as follows –

Retailer Permanent Branding
Membership Information
Gaming or Instant win games
Advertising Media

Section 1 - Retailer Permanent branding

This section is usually pre-printed during the card manufacturing stage and it shows the permanent branding of the retailer or card issuer as well as the specific loyalty program.

Section 2 - Membership Information

This section usually prints the loyalty member's name, card number, the loyalty points earned during the most recent purchase, and the accumulated total points and can be updated during every transaction to reflect the latest information awarded to the card holder.

Section 3 - Gaming or instant win games

This section can contain special gaming visual graphics, such as printing a slice of pizza every time the card member makes a minimum amount of purchase and after a number of times, the slices of pizza printed will increase and eventually completes to a full shape of a round pizza ... earning the card holder a free pizza for example.

For instant win games, a "mini-jackpot" concept is used such that a series of visual graphics is printed every time the card holder makes a purchase, these visual graphics are randomly generated by the software each time a card is inserted for transaction update, so when a series of similar visual graphics is presented (just like in real life jackpot game machines) the retailer can offer instant win special prizes or extra points. This encourages more usage of the cards by the loyalty members.

Section 4 - Advertising Media

This section often is used as a form of advertising space in that the retailer's business partners such as their suppliers could offer special promotions of certain products, or where the retailer could announce special events and using this medium to communicate important messages to the card holder.

2.2 Benefits of using the TRW loyalty card

The key benefits of the TRW card together with the e-Secure Technologies LSS loyalty program for both the card issuer (retailer) as well as the card user (loyalty members) are as follows:-

Instant Enrollment

The written on the TRW card as well as the digital information stored in the TRW card itself provides the retailer the ability to execute instant enrollment and card issuing to the end-user customer (loyalty member) at every site – totally eliminating the need for a long wait to receive a personalized loyalty card.

Personalized Communication Details

Critical card holder's details are displayed on the card, this provides a personalized service experience at the point of transaction. Loyalty point(s) balances are specifically printed on the spot for the card holder and specific messages may be customized to individual customer segments based on each customer's profile.

Instant Satisfaction and Recognition of Loyal Customers

The gaming concept and application of the TRW loyalty card offers loyalty members the opportunity to win a prize every time they make a purchase. Prize wins are communicated immediately to the card holder via printing on the TRW loyalty card itself and a special prize given out immediately or a prize voucher ticket may be printed at the host POS computer for prize claim by the loyalty member at a later time. Prizes may be issued on the basis of frequency, amount purchased spend, or other loyalty indicators; encouraging repeat purchase behavior and encouraging long-term relationships with the end-user customer.

Multiple Marketing and Loyalty Schemes on a Single Card

The TRW card has the ability to store information and print (display) information about both a loyalty points program and gift voucher card, or stored value debit program on a single card and most important of all, the ability to communicate specific messages to customers at point of sale. This gives the retailer all kinds of opportunities to participate in different marketing initiatives and promotional programs.

Reinforcement of POP (Purchase-on-Purchase) Advertising

With the ability to change messages displayed, coupled with coupon functions, the TRW card can be used to reinforce critical POP advertising and prompt impulse purchases by the customer. (e.g. buy item A and customer is entitled to buy item B at very special prize).

Revenue Generation Opportunities

On the TRW card, within the logical section 4 of the card face, which is the media space card area, this "media space" can be sold to 3rd party suppliers as advertising space to generate revenue and / or to reduce the costs of reward acquisition by the retailer. This is like selling advertising space over and over again without any cost to the retailer since the same TRW card can be written, erased and re-written over and over again!

Additional Applications

In addition to being a loyalty tool designed to track current customer purchasing behavior and influence future purchasing patterns, the TRW card has many potential applications:

A Debit/Gift Card

- Storing value and deducting subsequent transactional amounts, while the usage and / or remaining value is always updated and printed on the card face.

An Event Pass/ Ticket

- Recording relevant details with the option to re-use for related events such as conferences, seasonal passes etc.

A Warranty Card

- Outlining and updating service history details of a particular product. Such as a vehicle servicing schedule or the recommended next maintenance date.

A Lay-by Record

- Detailing structure and terms as well as incorporating a payment schedule and having those information updated every time a scheduled payment is being made by the card holder.

3.0 The ESL TRW card printer (ECP)

The ESL TRW card printer, is a 2-in-1 function device that basically does 2 functions concurrently – printing, erasing & re-printing a TRW card face, as well as reading & encoding electronic data onto the TRW card, whether it's a contactless card or a smart chip card.

An important element of the ECP is that it provides a "human readable" interface where electronic data stored onto the card can be printed on the card face so that it becomes human readable. The ECP in effect also serves as an interface between the Head-Office or Database Engine and the TRW card and it is usually connected to a host computer such as a POS system operated by the retailer. It is also used to communicate reward and prize wins to customers via an optional voucher printer connected the ECP unit via a serial communications port.

The ECP updates information stored and displayed on the card each time a valid TRW card is used. The updated information is then accumulated in the host computer and these data can be transferred to the retailer's Database Engine via a nightly modem dial up process or via the retailer's existing computer network.

In summary, the key functions of the ECP may be described as:

- Recording loyalty transaction details;
- Erasing and printing new, personalized information to the TRW loyalty membership card.
- Issuing prizes to customers; and
- Printing personalized reward vouchers on demand.



3.1 Benefits of using the ESL TRW card printer (ECP)

The key benefits that the ECP provides are as follows:-

- a) Flexible Programming to POS or Customer Service station -

Individual departments are able to operate their own promotional programs. This flexibility also allows for region specific promotions to be performed if required.

- b) The Ability to Operate Several marketing programs Simultaneously –

A single ECP is capable of administering several different promotional or loyalty programs at any one time since multiple software programs may be executed on the host computer depending on the nature of the purchase or the type of loyalty card being presented.

4.0 The CRM Database Engine

The core of the entire e-Secure Technologies LSS Loyalty System Solution lies in the heart of the CRM Database Engine. This is where all loyalty program transactions and results are accumulated and stored and where loyalty points are consolidated and points redemption or prize awards are determined. The specifications for all software programs for running the various loyalty programs, as well as the promotional advertising graphics printing are updated periodically and where these updated information are disseminated to the individual POS host computers throughout the retailer's computer network across all locations.

At the CRM Database Engine, which is typically implemented at the retailer's corporate head office data centre, all information relating to loyalty transactions from the front end is accumulated, stored, processed and managed in a central location.

Full analysis of the collected loyalty member(s) transaction in the CRM database is then conducted by the CRM Database Engine and reported to the retailer as required.

4.1 The key features offered by the CRM Database Engine includes:

database hosting and maintenance.
data mining and segmentation of member's purchasing or consumption patterns.
software programs downloads into POS host computers or customer service stations.
specific loyalty program performance analysis.
time-based performance analysis.
customer profile segmentation
loyalty points awards and redemption calculations

4.2 Benefits of the CRM Database Engine

The key benefits that the CRM Database Engine provides to our retail clients are:

- a) simple & light network implementation infrastructure
The ECP are typically connected as a slave device to the retailer's existing host computer such as a POS system and in such case, no additional networking infrastructure is necessary since POS transaction data are likely to be uploaded to the retailer's head-office systems for sales processing. In the case where the retailer's existing POS computers are operated off-line, a regular modem can be installed for nightly dial-ups to the CRM Database engine to enable loyalty member transactions extraction and such dial-up lines need not be dedicated at all, such as a normal telephone or fax line.
- b) Centralized depository of all loyalty data
The CRM Database Engine operates as a centralized depository of all relevant loyalty transaction data and as such, the retailer retains complete ownership of all information captured from the front end. This ensures completeness of data as well as preserving full confidentiality of customer information – as apposed to a 3rd party marketing company running the loyalty program for the retailer as in some cases.

5.0 Sample Case Studies

a) Caltex Oil - Singapore



Caltex is one of the world's major oil Corporations and among the 5 big players in the small but highly competitive retail petroleum industry in Singapore. As with other major oil companies, Caltex was using the traditional plastic card loyalty program prior to implementing a TRW card loyalty program in late 1999.

Based on market studies at that time, Caltex knew that their existing loyalty program was performing below expectations. This was when the new Caltex "Thanks!" program based on the TRW technology was implemented by Caltex Oil Singapore.

Using the thermal re-write capabilities of the new TRW loyalty cards, points earned for fuel and convenient store purchases at Caltex petrol stations could be accumulated and redeemed for rewards presented in a catalogue, and "Instant Prizes"- where customers were given the opportunity to win random prizes with every transaction.

The TRW technology was fully exploited to ensure that the program would bring the "excitement", as well as the element of "surprise", and enhanced "human interface" to the card, resulting in a totally "fresh" approach to loyalty program to reverse the lackluster performance of the old traditional plastic card loyalty program.

Achieving results surpassing expectations:

the average monthly spending of card members increased by more than 70% over the previous loyalty program.

the new Thanks! Loyalty program surpassed the total number of members in the previous program within 4 months of operation and eventually exceeded its membership target.

the Caltex convenient store sales at its petrol stations exceeded its sales targets after the first month of executing the new loyalty program.

loyalty transactions accounted for about 75% of the transactions by value within all the Caltex service stations throughout the country.

b) Ton-Kichi Restaurants - Singapore

The Ton-Kichi loyalty card program was launched in early 2001, this program was initially designed to operate solely as a Loyalty Card program and later expanded to include a Gift Card program.

As a loyalty card, customer enjoys discounts at these restaurants and also loyalty points which could be exchanged for free food depending on the promotional scheme involved and the number of points needed to qualify for such awards.

As a Gift Card, during the initial purchase of the Gift Card, the card is programmed and loaded with a specific purchased dollar value (such as buy 100 dollars Gift Card and receive 130 dollars worth of spending in the restaurants. After the Gift Card purchase, subsequently, Gift card holders simply present the card to the cashier and the amount of their restaurant spending is automatically deducted. The remaining value appears on the card and it can then be applied to the card holder's next visit.

Positive results have been achieved:

loyalty member's spending have increased 26% within 6 months of operation.

73% redemption rate of loyalty points.

an overall positive improvement in business with a positive effect on cash flow.

c) FANCL - Hong Kong

FANCL (Fantastic Cosmetics Limited) in Hong Kong is a major chain store retailer in cosmetics that caters to a very wide variety of customer segments throughout the Hong Kong Special Administrative Region with over 30 store locations.

In early 2002, FANCL's top management was looking for a creative way to launch their customer loyalty program and was convinced that the TRW card technology will be able to provide new and innovative ways for the company to not only offer customer loyalty programs but to provide other value added features and services for communicating and promoting to their loyalty customers special marketing promotional programs as well as advertising up-coming events and new product announcements to their loyalty members.

Being the first mass market retailer in the highly competitive cosmetics industry to launch this kind of TRW membership cards, coupled with aggressive multi-media advertising of their loyalty membership highlighting the user of the TRW technology several weeks before the official launch of this new program, the results were most impressive – FANCL acquired almost 500,000 members within the first 4 months of launching its TRW loyalty program, sales turnover increased positively even in the face of a weak local economy.

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In addition to the above case studies, many potential commercial applications in the business and service environment can take advantage of the TRW capabilities of the card, application examples have been planned for the following :-

- specialist retailer stores
- departmental stores
- convenience stores (C-stores)
- grocery stores
- fast food chains
- hospitality (fine dining)
- healthcare (outpatient card)
- automotive servicing
- library cards
- Personal services (ie. Hairdresser salons, personal grooming spas etc)
- Leisure/entertainment entry cards (ie. ski resorts, amusement parks)

6.0 Comparison of ESL TRW loyalty card vs. normal plastic loyalty card programs

Any retailer or organization planning to implement any type of loyalty program will typically face several similar difficulties and considerations when selecting a CRM solution and the type of loyalty card to be issued to its loyalty members, we provide below a comparison between implementation of a TRW card solution versus other traditional normal card membership programs as follows :-

e-Secure LSS using TRW cards & ESL printer	Other normal cards
delivery of personalized card	
not required – membership application completed at point of sale; card can be activated immediately.	required, usually sent via mail customer has to wait for many days before commencing to use the loyalty card.
monthly or periodic points statements	
not required – are updated on the TRW card face.	required, since there is no other means of informing the card holder on points earned. Some systems could print points onto the purchase receipt, but this means many pieces of paper to keep.
announcement of new promotions / offers	
significantly reduced – via the use of TRW on the card face.	usually through direct mail, average cost is high, requires large quantities of pre-printed materials, envelopes, and cost of postage.
award voucher printing	
on demand – at point-of-sale, can be on TRW card face, no stock requirements.	pre-printed stock required, handling of award vouchers needs to be carefully controlled as tracking and invalidating of lost vouchers is very difficult.
promotions & loyalty awards	
provide multiple awards within a promotion.	limited, usually one award at a time only.
Instant-win prizes at the point-of-sales	
yes – random chance awards controlled systems by LSS software.	usually not available, however some do offer this capability.
points & award redemption at POS	
yes – points removed at POS, and award vouchers Automatically printed, card face printing is also updated.	not available, usually the retailer has to provide a redemption counter or through a call centre to provide such services to the card member.
specific location promotion variations	
yes – to individual store level if required.	limited, usually across the board coverage.
customer support issues	
general program & reward redemption queries significantly reduced - Information written on the TRW card face.	requires increased customer support activity and hence, higher human resource costs.

ongoing additional revenue opportunities

on card advertising every-time card is used,
and at no consumable cost to the retailer.
targeted promotions by retailer partners are
enhanced, through mix of card & mail media.

Not Available.

normally through mail flyers only.