Online Coupon Code Based Promotional Activities

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Abstract: **Coupon code has been extensively used by the marketers as an important promotional tool to increase the sales of their company. In the once many times, consumers increased their use of coupon codes as a cost- saving measure. Conventional knowledge suggests that tickets have a positive impact on deals prospects of the promoted product. The experimenter investigates whether there's a broad agreement among different experimenters as to the impact of tickets on purchase preference. Retailers regularly add tickets and abatements into their marketing strategies to boost deals conversion rates and increase client fidelity. While abatements are clearly seductive to shoppers, digital tickets can also be a successful means of growing a social media based promotional activities. This study proposes a client Preference for coupon code grounded promotional conditioning of "SANSIS AUTOMATIONS", an electronics manufacturer unit, whose products are available in social media, websites and other applications. Appropriate samples were used as primary data and also, we used secondary data in this study. In conclusion this study discloses the buying and expenditure pattern of the respondents, respondents' outlook towards coupon code based promotional activities. Tools such as Chi-Square, T-Test, etc. are used to evaluate this study. Finally, the result of the study is doable.**

Keywords: Digital Coupons; Coupons Management; Redemption; Automatic Clearing; e-Commerce

I. INTRODUCTION

Coupon code is a cultured digital marketing tool assisting to drive sales, expand customer loyalty and build the brand. Thus, a 360 degree marketing strategy is offered by Coupon codes.

Very few people wish to pay the full price for the products they purchase online. So many vendors are proposing new customer price cut and digital coupons.

Merchants frequently increase coupons and discounts into their promotion plans to enhance sales conversion rate and customer loyalty. While reductions are definitely striking to customers, digital coupons can also be a effective means of increasing a social media and email marketing list or encouraging mobile website usage.

Marketers are always growing their distribution of digital coupons to encounter the request of consumers purchasing online and via their mobile devices.

Usually, a coupon is a certificate that permits a consumer some sort of incentive to purchase a product or a service.Even though the incentive is usually a discount in price, coupons can also be used for repayments, combined offers, free samples, or other types of advertisings (e.g., sweepstakes or contests) [1]. The economic and financial crisis has strengthened the distresses of consumers in relation toissues of savings, causing a change in their behavior, particularly in relation to the savings obtained via coupons.

For customers, social vouchers are verified to be an outstanding tool to support purchases. Besides proposing great discounts, they permit consumers to have a first experience with numerous products at a lower price. Offering services that let the use of online and/or mobile coupons has proved to be a profitable business model.

In effect, huge discounts, advanced redemption rates when related to traditional coupons and payments to service providers makes it really difficult to attain success in the short term.

Even in long-standing, profitability is uncertain [7]. Given these disquiets, companies falter to develop large-scale initiatives and are thoughtful about the potential of the coupons. Despite these doubts, some prospect a favorable future for these strategies, since both coupons technology and the propensity of consumers to use it are evolving [8]

Further article is structured as follows: in Section 2, existent standards are introduced; in Section 3, current platforms and solutions are resumed; in Section 4, patents are presented; and in Section 5, Data analysis and interpretation is carried further with future trends.

II.　　STANDARDS

One of the reasons why paper grounded tickets persist to be the predominant result for recycling promotional offers is the fact that there are well- defined and accepted methodologies for their generation. Their processing can easily be integrated in both suppliers and retailers systems. When digital coupons are at stake, in particular when its distribution is made through mobile devices, no similar and standardized methods exist.

Interoperability issues among different tools forhandling digital coupons contribute to the lower redemption rates when compared to the traditional ones in paper format. Maximum studies point out that digital coupon's redemptions account for only 2% of total redemption [9]. Points-Of-Sales (POS) are the key bottleneck, because of the heterogeneity of systems and versions and because most of them are unprepared to read bar codes from mobile devices. To overcome these obstacles,it is necessary to have standards that enable compatibility of numerous systems in the diverse stages of digital coupons processing: from generation and communication toredemption and ransom and monetary reconciliation.

The Mobile Marketing Association (MMA), the premier global non-profit association demonstrating the various actors of the mobile marketing arena, pursues to describe and launch standard languages and platforms for handling several types of advertising offers such as coupons, incentives,rewards, etc. It generated the Mobile Coupon Ad Unit (MOCAUS) committee with this purpose. As a result of this struggle, in [9] it is offered and termed dealing out platform that systematizes the various stages of the process (Figure 1). In [10], it is provided a set of varied documents such as studies, reports, and guides to top practice in mobilemarketing.
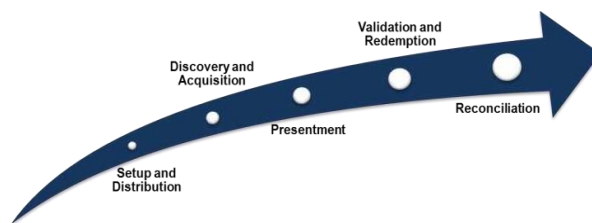

Figure 1. Platform for processing digital coupons proposed by MMA (adapted from [9])

Linking the regulation of business processes associated with the use and treatment of coupons, GS1 [11] is the foremost worldwide organization looking out to define and form open standards for coding and handling the movement of goods, services and data through the value chain [12]. The set of open standards of the GS1 are documented by the International Organization for Standardization (ISO) and let the correct identification (national and international) ofitems (products and services), logistic units, and commercialactors through the value chain and activity segments. The identifiers of the European Article Numbering-Uniform Code Council (EAN•UCC) can be characterized by barcodes and comprises of three elements: Global Trade Item Number (GTIN) -; Serial Shipping Container Code (SSCC) -; and Global Location Number (GLN). Distant from the uniqueidentification, these codes aid the exchange of extrainformation such as expiration dates, serial numbers, lotnumbers, etc. [13].

More precisely, with respect to the processing of digitalcoupons itself, the normative document [14] from GS1 creates a set of stipulations that define the first versionof the 'Digital Coupon Management standard.' In [15], it is offered a leading proposal for standardizing the digital coupons management process (Figure 2). This proposal identifies standards for the management process, the proof of identity of objects and the data model.
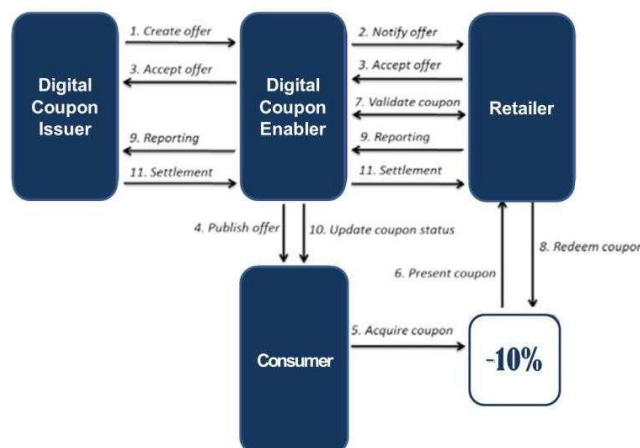

Figure 2. Process management of digital coupons as proposed by GS1 (adapted from [15])

Concerning the standardization of data communication, GS1Global Data Synchronization Network (GDSN) [16] describibesa set of ethics that specify the connection of the different actors in the value chain with the GS1 Global Registry through a network of certified data repositories (GDSN- certified data pools) (Figure 3). In this system, all items are recognized by a unique mixture of GTIN and GLN identification codes.
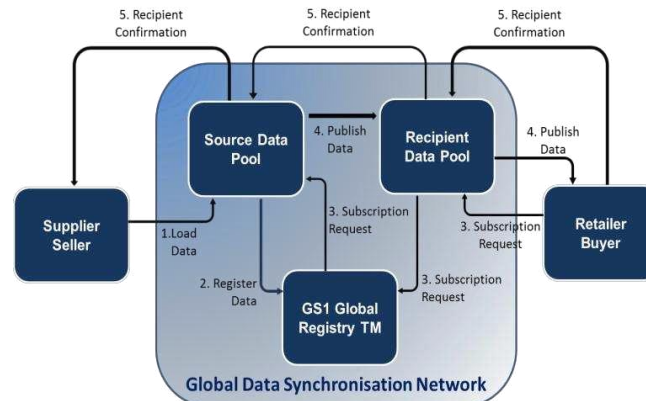

Figure 3. GS1 Global Data Synchronization Network(adapted from [16])

Inadequacy and fraud rate connected to coupon dealing out in paper format results typically from the fact that many vendors fail to make a precise validation of coupons offers. Therefore, the utmost logical way to crack the problem is to block the redemption of inacceptable coupons whenpresented by consumers. This can be achieved through the grouping three factors [17]: the new GS1 Data bar barcode; sellers' systems well-suited with GS1standards; and eventually, a real-time validation service intersecting POS system and the data pool server(s)containing date information on coupons offers.

III.   CURRENT PLATFORMS AND SOLUTIONS

The innovative digital communication networks are an outstanding opportunity for the innumerable stakeholders involved in the cycleof purchasing and retailing products. In particular, the use of coupons in digital form as well as its processing by electronic means proposes thechance for providers and retailers to eradicate most of the problems associated with the traditional coupon processing cycle in paper. There are several concerns that offer solutions for the different phases of digital coupons processing: issuance, distribution, validation, reconciliation and payment. However, these results every so often involveproprietary and local implementations based on non-standardprotocols. They can be classified in two major types: global solutions; and partial solutions.

A. Global Solutions

In general, this category of platform relies in a base architecture that lets processing solutions for both digital and non-digital coupons, with a very comparable flow of information. From the customer's viewpoint, the available structures can be used to combine discounts from the trader with the local retailers. The mobile device or site (site of the platform itself, retailers' sites, coupon distributorssites, etc.) can be used to add coupons with a pre-defined limit.

The mobile device number or any of the cardsassociated with the account can then be used to redeem the coupons for the purchase of products at the POS. For some platforms consumer may pattern the coupons on paper to present them in the POS (Point of Sale). From the providers and retailer's viewpoint, they offer coupons on the platform, which automatically apprises the information in their website(s), twitter profiles, social networks and main search engines, thus updating customers Concerning customized marketing, platformsoffer some applications for mobile devices, which using geotagging technology allow consumers to receive alerts onthe presence of offers of coupons when they are actually close to their favorite retail stores. In this case, both the initiation of the alert service and its configuration are made by consumers themselves.

B. Partial Solutions

In addition to the global solutions that deal with the entirecycle of coupons processing, many other solutions seek to meet the needs of retailers in terms of promotionalcampaigns, including discount vouchers (coupons) associated to specific products and other types of promotionsthat entitle discounts on services, restaurants, bars, clothing and convenience stores, etc. Promotions are offered in a similar way to the global solutions platforms. For consumerswho have mobile devices there are applications that allow downloading of digital promotions. For other consumers, promotions are sent via services like Short Message Service (SMS), Multimedia Messaging Service (MMS), etc. To benefit, consumers only have to show the coupon at the place of purchase of the product or service. Promotions are made available to consumers according to their consumption habits. Nevertheless, they always have control over the information they want to receive. Some of the systems available on the market also provide geolocation features thatallow showing the consumer where he can benefit frompromotions and witch places near its location provide those promotions.

Relating coupons processing in Portugal, PacSis (Systems Promotion and Marketing) [20] provides the service of managing discount vouchers. One of its newest marketing solutions is offering online coupons in partnershipwith Coupons.com Incorporated [21], also including mobile marketing and profiling targeting for brands. However, the solution does not currently include the integrated electronic processing of the different phases of digital coupons deployment. Digital coupons must be printed for later redemption at retailers.

The ability of real-time analysis of data on purchases andredemption of coupons is one of the increasingly important features for those responsible for the definition of promotional campaigns. Several companies seek to explore and develop platforms to provide this kind of analysis basedon the buying cycle, allowing the recommendation of products and the customization of coupon offers to consumers.

In [22], it is presented a platform for implementing discount coupons which seeks to maximize both customer satisfaction and business profitability.

IV. RESEARCH WORK

With respect to research-oriented view on the topic, the incorporation of Near Field Communication (NFC)technology in processing systems of digital coupons is currently a hot research topic. In [23] and [24], two differentworks present the Wing Bonus system, a solution used for dissemination, distribution, validation and management of vouchers, loyalty cards, and all kinds of coupons using NFCtechnology. The issues of security and usability are discussedin [25], where the authors suggest a vouchers management system that integrates NFC technology. A practical offline payment system based on digital vouchers using NFC in mobile phones is presented in [26].

Another important filed of research is related to security concerns where some interesting works are being developed ([26] is a good example]). In [27], the authors suggest a chaotic maps-based validation scheme for e-coupon systems that contents security and functionality requirementswhile preserving effectiveness. A system of computer-generated coupons thatis endangered against illicit use is made in [28], where the authors offer a shortlist of conceivable attacks and describe the protocol to avoid them and the requirements for all major components. In [29], the authors propose a new effective and secure micro-payment scheme, named e-coupons, which can provide the users the facility for delegating their spending capability to other users or their own devices.

Another important line of research is related to the utilization of mobile devices. In [30], a study is made on omnichannel commerce and on how mobile affects in-store traffic and sales, and in [31], a report makes an analysis on how coupons offer are reacting and adapting to mobile. A solution, called MO beam, to overcome the problem of the inability of most barcode readers at retailers to reliably read a barcode displayed on phones, and through that to promote further utilization of mobile phone as a mean of coupon utilization [32].

With the increasing development of geolocation technologies, this field is becoming a central topic in digital coupons research. In [33], the authors complete a study on location-based promotion on mobile devices and social networking that use local-tracking skill to target clients.

a. Patents

Over the past four years, with the developments in terms of mobile communications, several companies proposed and patented structures for the electronic treatment of different stages of digital coupons processing. In [35], Coupons.com describes a set of procedures and mechanisms for generation, distribution, redemption, reconciliation and payment of coupons. Through a network, the distributor server receives from retailers the information regarding retail coupons presented for redemption by consumers. In response, the server of the distributor determines their validity, checking not only the terms of the offer, but also if they have been previously redeemed in other retailer, thus eliminating possible frauds and errors. If coupons are valid, the server labels them as redeemed causing the retailer to be credited for the amount of the respective discount. Thissolution includes the possibility of having a server at the retailer, enabling that the generation of coupons for a particular offer available in the distributor's server be made during the checkout process at the retailer. The solution alsoenables consumers to add coupons to their account in the distributor's server or to print them in paper. Upon checkout,consumers can thus redeem coupons in various forms: in paper; on a mobile device; or by indicating the identifier of their account in the distributor platform.

In [36], a solution similar to the above is presented.But it does not comprise the possibility of generation coupons at the vendor side nor printing coupon in paper. Thesolution includes a component for managing the distribution,redemption, reconciliation and payment for retailers, andbilling and payment to suppliers.

In systems in which the consumer must provide his mobile device so coupon codes can be read, several problems arise. Namely, the processing time required at the POS checkout. The method described in [37] allows that thedistribution, redemption and reconciliation be made by transmitting data of the digital coupon directly to consumer'smobile devices via wireless communication. Similarly, it is detected directly from the consumer device the existence of coupons selected for redemption, the data being also received via wireless communication.

Additional area of development is the delivery of coupons and extra offerings through consumer devices in straight connection with products and services. In [38], it is presented a system and respective method for the selective distribution of digital coupons based on the consumer geographical position relative the location of the retailer's store.

Another example of solution for distributing coupons is the use of Radio Frequency Identification (RFID) tags at various locations inside the shops as a means of sharing information about products, and download of coupons and other incentives, serving also as a way to detect the presenceof consumers in the shops and facilitate commercial transactions in the POS. Labels placed on placards and ads near the products, shops entrances or POS can be read by consumer's mobile devices using software for detection, reading and subsequent decoding of the information provided.

Nokia Corporation [39] proposes a solution for processing promotional information using RFID tags. The proposed platform enables the capture of promotional information provided by the retailer, allowing the consumer to select coupons via the mobile device for later redemption.The platform then makes the validation of redeemed coupons, showing in the device information related to its validation that is used for confirmation by the retailer. A comparable result is defined in [40] by Coupons.com Incorporated. The consumer has the opportunity to get promotional information not only through RFID tags but alsousing Quick Response (QR) codes.

Still concerning the distribution of coupons, Apple Incorporated presents in [41] a specific solution for storage, management and redemption of digital coupons through a mobile device. Storage can be done either in a server accessible from the mobile device as locally on the device itself. Consumers enter the identifying code of the coupon orread a QR code to store coupons in the mobile device. The solution allows the device to alert the consumer ofredemption possibilities according to the coupons it stores. Additionally, alerts can be generated whenever the device verifies that there are nearby products of the consumer purchase list for

which it holds discount coupons.

Finally, regarding the generation of coupons and their identifications, most of the solutions that have been proposedimplement coding schemes that lead to the standards proposed by GS1, particularly in regard to the designated 'mobile coupons', that follow the GS1 Data Bar standard [42]. In [43], it is described a system for generating coupon offers and respective barcodes. It enables the user (supplier or retailer) to generate coupons by selecting the type of barcode. In response to this choice, he is presented with a specific interface through which he will provide the data needed to generate the coupon. In the range of possible typesof coupons, the progressive discount coupons, whose value increases with the number of consumers that perform a certain action, or with approach of the expiration date, constitute an increasingly important option in terms of marketing campaigns, especially in social networks [44]. In [45], it is described a specific methodology for thegeneration of variable-value coupons. In this case, besides the expiration date, the coupon includes its own schema associated with data associated to its progressive value. Thus, this variable schema depends on the time intervalbetween the generation date and the date of redemption of the coupon.

V. DATA ANALYSIS
CHI-SQUARE TEST
How you get to know about the coupon offers in Sansis Automations

		Through social media	Through Television	Through Print Media	Through Radio	Through Friends & Relatives	Total
Age	Below 20	19.2	7.0	4.5	.3	1.0	32.0
	21-30	36.0	13.2	8.4	.6	1.8	60.0
	31-40	1.2	.4	.3	.0	.1	2.0
	41-50	1.8	.7	.4	.0	.1	3.0
	Above 50	1.8	.7	.4	.0	.1	3.0
Total		60.0	22.0	14.0	1.0	3.0	100.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	180.825[a]	16	<.001
Likelihood Ratio	86.742	16	<.001
Linear-by-Linear Association	61.313	1	<.001
N of Valid Cases	100		

a. 20 cells (80.0%) have expected count less than 5. The minimum expected count is .02.

Interpretation:

Since p value 0.01 is less than 0.05 Null hypothesis is rejected and alternate hypothesis is accepted. Hence, there is a significant association between age of the respondents with reference to knowledge of the coupon offers.

T.TEST ANALYSIS

Sansis Automation runs a coupon code-based marketing campaign and has sale values for the 7 days before and for the 7 days of the campaign.

The difference between the mean sales pre-campaign and the mean of the sales during the campaign is likely or unlikely to have happened by chance.

Days	Pre-Marketing	During Marketing
Monday	649	1070
Tuesday	654	799
Wednesday	961	575
Thursday	816	940
Friday	663	917

Saturday	623	714
Sunday	599	748
Average	709.29	823.29

T.TEST for statistical significance difference

H0: The difference between the mean of the pre and post coupon code-based marketing sales (Successful)	>0.05
H1: The difference between the mean of the pre and post coupon code-based marketing sales (Unsuccessful)	<0.05
P – value (which T.TEST RESULTS)	0.17777(i.e., >0.05 so accept the null)

The T.TEST returns a P value. This P value is the probability that there is no statistically significant difference between the two data sets.

If the P value returned is >0.05 (alpha) we would accept the null hypothesis that the variances of two populations are equal. If the value is not equal to <=0.05 we would reject the null hypothesis.

As the P value returned in this case is 0.17777, greater than 0.05, we can accept the null hypothesis and say there are statistically significant differences between the pre and post marketing sales of Sansis Automations using coupon code-based promotion.

VI. DISCUSSION AND CONCLUSION

The result of this study indicates that the consumers mostly prefer buy-one-get one-free promotions, discount coupons, price-off promotions, counter display promotions, membership programs, demonstrations and cash-back promotions.

According to the consumers view it discloses on using coupons for advertising activities reduces the respondents' expenditures. Best of all promotional activities from the study, it is clear that most of the consumer prefer coupon code system.

So, it can be concluded that the very few consumers expect to pay full price for products and services when purchased online/offline but most of the consumers prefer in receiving coupon codes. That makes the customers feel happier as they can purchase branded products/dream products of their wish in their lower price.

Astute consumers can save a decent amount of money when using coupons to purchase their requirements. Eventually, providing coupons will be the best solution for customers who wish to buy quality products in a lower price in SANSIS AUTOMATIONS.

VII.   SUGGESTIONS OF THE STUDY

Based on the result of the research and conclusion, the researchers suggest the following suggestions can be uphold to support the benefits of coupon code from the customer's perspective:

☐   Money is mandatory during any festive season, if the retailer gives coupon during this time, it could be useful for the customer to enjoy the festivity and the retailer can receive token of love from the customer.

☐   First is always the best. If a retailer satisfies his new customer by providing them with welcome coupon and help them to save money on their first purchase, it could make them happy. It will assuredly make a visitor as a steady customer.

☐   Making customers happy always built-up one's business. This can be done by sending special coupons on their special days like anniversaries, birthdays and so on. This can make the customers happy as well leads to develop a cordial relation between the retailer and the customer.

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