Sweethearting: The Complicity Relatives Theft CRT in Saudi Arabia

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Abstract—The study will search the level of existence of the sweethearting in Saudi Arabia's Supermarkets in Riyadh. Sweethearting occurs when frontline workers give unauthorized free or uncounted goods and services to customer's conspirators. The store managers and /or security managers were asked about the sweethearting that occurs in the supermarkets. The characteristics of sweethearting in Riyadh stores were investigated. Two independent variables were related to the report of sweethearting. These independent variables are: The effect of store environment on sweethearting and the security techniques and loss prevention electronics techniques used. This study expected to shed the light about the level of sweethearting in Saudi Arabia and the factors behind it. This study will serve as an exploratory study for such phenomenon in Saudi Arabia as well as both descriptive for the characteristics of sweethearting and explanatory study to link between the environmental and security systems factors to sweethearting.

Keywords—supermarket, stealing, sweethearting, theft.

I. INTRODUCTION

THE significant of this study emerge from the high development of retail industry in Saudi Arabia. This development needs an immediate care and investigation to the growing sweethearting crime in different parts of the world. This investigation would enable the decision makers in Saudi Arabia to act swiftly toward combating of this negative new coming phenomenon.

The sweethearting is very serious problem compared to the classical individual crime. Sweethearting is the act of ringing up less than the actual price of an item when an accomplice is doing shopping. That means "sweethearting"--when cashiers pretend to scan merchandise but deliberately bypass the scanner, thus not charging the customer for the merchandise -- they Scan-it. The individual crimes normally can be driven by the economic and social factors whereas the sweethearting crime is characterized as the criminal act which involves both internal and external involvement of members. The problem of sweethearting is a basic environment to educate and train many new criminals [1].

The main aim of the study is to give description of the characteristics of sweet hearting as well as some factors related to the prevalence of sweethearting crime; this aim can be spelled out into three objectives, they are as follow:
- To know the characteristics of sweethearting crimes in Saudi supermarkets.

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- To probe the effect of the organization environment on the prevalence of sweethearting.
- The effect of the loss prevention techniques used by stores on the prevalence of sweethearting.

II. LITERATURE REVIEW

Sweethearting is unauthorized giving away of merchandise without charge to a "sweetheart" customer (friend, family, fellow employee and love ones) by the fake scan or ring up of merchandise by the cashier. This kind of theft is called sweethearting because you do it for a friend or family. Sweethearting is a popular way in which employees steal using a friend or family member. *Sweethearting* is a term used in the retail loss prevention industry to mean intentional margin loss/shrink through employee theft at the cash register, the granting of special favors or privileges, especially to friends or family in retail, the giving of unauthorized discounts or the abetting of shoplifting or other theft; the giving of a sweetheart deal [2].

Sweethearting generally occurs when an employee promises a deal to a customer in order to close a sale, or otherwise reduces the price of merchandise for dishonest reasons. Sweethearting investigations involve research into employees' finding competitor price matches to give to customers; overriding prices for their customers, friends, and themselves; and markdown of fees such as delivery and protection agreement. Besides just outright stealing cash from the register, employees often steal with accomplices- friends and relatives. Sweethearting is the act of ringing up less than the actual price of an item when an accomplice is doing shopping. A friend comes in and brings say SR25 worth of product to the register but only SR5 is actually rung up. Often the employee will use "No Sale" or "Void" to do this, but smarter ones will use a known UPC (Universal Product Code – a barcode). Since supermarkets' profit margins are so thin, sweethearting had a major impact on the increasing cost of food. Supermarkets are particularly vulnerable to sweethearting, which has accounted for an almost 35 percent profit loss industry wide [3].

Retailers and restaurant managers have tried for decades to stop employees who steal and share the bounty with customers. Now, the motives behind what store detectives call "sweethearting" are coming into focus. Clerks and servers do it to please friends, win fatter tips and because their employer made it easy. And many are part of growing informal networks of service workers today who expect "you scratch my back and I'll scratch yours" behavior from acquaintances

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when they shop or dine [4].

The research by Brady and other, 2012, is the first to examine service sweethearting, an illicit behavior that costs firms billions of dollars annually in lost revenues. Sweethearting occurs when frontline workers give unauthorized free or discounted goods and services to customer conspirators. The authors gather data from 171 service employees and 610 of their customers. The results from the employee data reveal that a variety of job, social, and remuneration factors motivate sweethearting behavior and several measurable employee traits suppress its frequency. The results from the customer data indicate that although sweethearting inflates a firm's satisfaction, loyalty, and positive word-of-mouth scores by as much as 9%, satisfaction with the confederate employee fully mediates these effects. Thus, any benefits for customer satisfaction or loyalty initiatives are tied to a frontline worker that the firm would rather not employ. Marketing managers can use this study to recognize job applicants or company settings that are particularly prone to sweethearting and as the basis for mitigating a positive bias in key customer metrics [5].

According to (Quanfu, 2009), a significant portion of retail shrink is attributed to employees and occurs around the point of sale (POS). In his paper, he targeted a major type of retail fraud in surveillance videos, known as sweethearting (or fake scan), where a cashier intentionally fails to enter one or more items into the transaction in an attempt to get free merchandise for the customer. They first develop a motion-based algorithm to identify video segments as candidates for primitive events at the POS. They then apply spatio-temporal features to recognize true primitive events from the candidates and prune those falsely alarmed. In particular, they learn location-aware event models by Multiple-Instance Learning to address the location-sensitive issues that appear in their problem. Finally, they validate the entire transaction by combining primitive events according to temporal ordering constraints. They demonstrate the effectiveness of our approach on data captured from a real grocery store [6].

Supermarket operators continue to rank employee theft their most severe shrink problem. In Supermarket Security and Loss Prevention 2007, FMI estimates that nearly 40% of total shrink items from employees who steal money or merchandise. Mark Gaudette, director of loss prevention, Big Y Foods Inc, is piloting a new technology at Big Y to help boost the amount of this "identifiable" theft and reduce shrink –particularly sweethearting -- at the checkout. The grocery installed Stop Lift Checkout Vision Systems' video recognition software in a pilot in several stores that together form a representative cross-section of its 58 units. This addresses the chief challenge of using security cameras alone: catching the perpetrator in the act at the time of the incident [7].

There are a number of options for business owners to help stop sweethearting and employee theft such as installing security cameras. However many businesses don't have extra cash flow right now for such expensive measures.

Simple steps business owners can take to help deter theft at little to no cost [8]:

- Encourage employees to report questionable activities: Implement ongoing, consistent communications with employees that promote honesty and set the expectation that honesty is expected in the workplace and necessary for the team's safety and success.
- Does employee background checks: This simple step can help weed out potential employees that are likely to cause problems in the future. Also remember to check references.
- Avoid favoring certain employees: Favoritism can destroy team camaraderie. Treat all employees equally. This includes not overlooking the highest-paid employees when investigating suspicious activity, such as employee theft, simply because they make more money.
- Remove opportunities to steal: Avoid letting employees work alone or schedule employees to work opposite someone who is not their "buddy." Carefully evaluate your business to identify weak or unguarded points and determine how you can remove or secure merchandise to avoid tempting thieves.
- Limit the amount of petty cash kept on hand. Be sure you regularly account for all inventory.
- Create a nonthreatening environment: Help establish a sense of ownership among employees. Always take their feedback into consideration so that they feel empowered. Use a bonus program that encourages and rewards good behavior and punishes thievery.
- Encourage employees to be watchdogs over one another: Have employees discouraged sweethearting and theft among themselves. Use peer pressure to your benefit.

Kundu and others (2006) had invented a method to combat sweethearting - The method involves obtaining video data originating from video cameras that monitor a transaction area. The video data is analyzed to track items (307) involved in transaction in the transaction area. Video analysis of the tracked items is compared with transaction data that is produced from a transaction terminal (34). Presence of an item that is involved in the transaction is identified. Introduction of the item to a region of interest in the transaction area is detected. Used for identifying suspicious retail transaction activity e.g. sweethearting and pass-throughs in a retail environment. The method compares video analysis of the tracked items with transaction data that is produced from the transaction terminal, thus performing an accurate identification of suspicious retail transaction activity e.g. sweethearting and pass-throughs in the retail environment [9].

Sweethearting Detection utilizes artificially intelligent video recognition technology to determine what your cashiers are doing. By using behavior recognition algorithms, some commercial system can differentiate all sweethearting behaviors, such as [10]:
- Covering a bar code
- Stacking items on top of one another
- Only scanning the item on the bottom
- Skipping the scanner entirely and directly bagging the

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III. RESEARCH METHOD

Two hundred ninety three stores where investigated about the occurrence of sweethearting. The respondents are the store managers, the head cashers, security officers and general employees. They were told that the sweethearting is the complicity of relatives to steal from the stores. At least one of them is an employee of the store.

The survey questionnaires were administered to those stores to different levels and types of stores to gain the representatives to Riyadh stores. The sample is a convenient sample for these stores which voluntarily accepted participation.

The questionnaire consists of two parts; one is related to the stores environment, the other part is related to the act of sweethearting in the stores. The first part consists of four questions they are:
1. What is the location of the store? The responses are: Residential, Residential and commercial, Commercial, Industrial and others
2. What is the type of the store? The responses are: Small store, Supermarket, Hypermarket, Commercial center and other.
3. How to rate the overall security system of the store? The responses are: Poor, Fair, Good and Excellent
4. How do you rate the electronic security system in the store? The responses are: Poor, Fair, Good and Excellent.

The second part consists of about 50 items classified as in six parts, they are:
1. Friends and Relatives.
2. Stolen Items.
3. Theft shifts.
4. Action taken.
5. Position and number of thieves.
6. Time dimension.

The statistical analysis ranged from descriptive statistics to the inferential statistics. These include the mean and standard deviation for the items in sweethearting acts and the Anova test to compare the different types of store environments as mentioned before in part 1 in the sweethearting acts as in the second part. These statistical techniques were done to answer the research question based on the objectives of the study.

IV. RESULTS

The respondents were asked "How often the cooperation between Employees and their Relatives or Friends (sweethearting) in stealing in the store?" The answers range as: Never, Rarely, Usually, Often and Always, with scores respectively: 1, 2, 3, 4 and 5. The same measurement is also used for the rest of sweethearting questions. In general, the study indicates that sweethearting occur 1.35, with standard deviation of .75. The average is out of 5. This result shows that it is not a highly recognized problem in Saudi Arabia. But this average also shows that, this phenomenon is prevailing in this tradition society. Thus the need is to look into this problem with details to investigate its related factors. The main factors behind this problem can be; the environment and the security measures which are taken by the stores.

A. The Characteristics of Sweethearting

TABLE I
SWEETHEARTING OF FRIENDS AND RELATIVES

Friends and Relatives	Mean	Standard Deviation
Husband employee and wife	1.3739	.77328
Employee with friend (male)	1.3640	.74284
Employee with brother	1.3697	.75602
Employee with sister	1.3613	.74325
Employee with father	1.3487	.74645
Employee with mother	1.3640	.75962
Employee with friend (female)	1.3487	.73506
Employee with other female relative	1.3347	.73685
Employee with other male relative	1.3431	.73298

In general no big difference between relatives and friends to cooperate in theft but the most of sweethearting in Riyadh happened between husbands and wives. This result is expected as the form of family in Saudi Arabia is strong and the relationship out of marriage is rare and illegal. Also the cashiers are Saudi national by the requirements of the government. Most of expatriate employees in the store are singles no wives or friends as the life styles in subgroup culture, so the possibilities of foreigners to have such sweethearting acts is limited.

TABLE II
STOLEN ITEMS

Stolen Items	Mean	Standard Deviation
Stealing health and beauty items	1.2929	.70858
Stealing fruits	1.2773	.68651
Stealing vegetables	1.3403	1.4910
Stealing deli food (cheese, olives)	1.2762	.66032
Stealing clothes	1.3766	.75065
Stealing perfumes	1.2929	.65304
Stealing sweet items	1.2720	.66523
Stealing groceries	1.3013	.70505
Stealing soft drinks	1.3096	.72497
Stealing electronic items	1.2929	.70858

The most stolen items respectively are; clothes, vegetables, soft drinks and groceries. These items can be considered household items that related to need of family husband and wife or the other members of the family. Other items are less to be stolen.

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TABLE III
THEFT SHIFT

Shift of Occurrence	Mean	Standard Deviation
First shift (7 am – 4 pm)	1.4644	.98187
Second shift (4 pm – 12)	1.5314	1.0442
Third shift (12 am – 7 am)	1.5188	1.0200
The night	1.5690	1.1991
The daylight	1.4895	1.0283

Night shift experiences more sweethearting theft, Compared to the day. The second shift (4 pm – 12) is surpasses other shifts. The time of second shift is the main time for business in the supermarkets, so it is not surprising result.

TABLE IV
ACTION TAKEN

Action Taken	Mean	Standard Deviation
Against employee only	1.4435	.98088
Against customer only	1.4728	1.0030
Against both employee and customer	1.4603	.98598
Against the male customer	1.4519	.98133
Against the female customer	1.4770	.98651

No difference dealing was noticed against sweethearting act based on the gender or the position of the person, but slightly lower against the employee only.

TABLE V
POSITION AND NUMBER OF THIEVES

Position and Number of Thieves	Mean	Standard Deviation
More than one employee are cooperating with customers	1.45	1.01
Cashers are cooperating with the relatives and friends	1.46	.98
Shift managers are cooperating with the relatives and friends	1.45	.95
Deli men are cooperating with the relatives and friends	1.46	.97
Receivers are cooperating with the relatives and friends	1.46	.98
General employees are cooperating with the relatives and friends	1.45	.98

No difference was noticed based on the position of the employee in the stores. For more than one employee it was received the same extent of average but with higher standard deviation. This higher standard deviation indicates fewer representatives of the data. This is can be called retail organized crime which was looked at with suspicious and not clear evaluation between employees about it.

TABLE VI
TIME DIMENSION

Time Dimension	Mean	Standard Deviation
This theft happened in the weekend	1.4477	.98112
This kind of theft happened during the weekdays	1.4393	.96769
This kind of theft happened on the holidays	1.4770	1.0117
This kind of theft occurred before the end of Arabic month	1.4435	.97659
This kind of theft occurred before the end of Gregorian month	1.4477	.98964

This kind of retail loss is occurring according to this research on the holidays more as shown in the table. Other time dimensions are similar in occurrence.

B. The Effect of Store Environment on Sweethearting

TABLE VII
THE EFFECT OF LOCATION OF THE STORES ON THE PREVALENCE OF SWEETHEARTING

Location of the Store	Occurrence of Sweethearting
Residential	1.4444
Commercial	1.2368
Residential and commercial	1.5000
Industrial	1.3333
Others	1.0000
Total	1.3515
Anova F test	1.761
Sig.	.137

Residential and or commercial areas are most expected to have sweethearting act as it surpassed the other areas such as commercial only or industrial areas. This can be explained as the residential areas or commercial areas are close to the family members to be able to come to stores during the business hours. So the possibility of sweethearting to occur is high. For the statistical analysis this is not significant difference, so this result can only be an indicator but cannot be generalized.

TABLE VIII
THE EFFECT OF TYPE OF THE STORES ON THE PREVALENCE OF SWEETHEARTING

Type of the Store	Sweethearting
Small store	1.6400
Supermarket	1.3636
Hypermarket	1.1538
Commercial center	1.2921
Other	1.1250
Total	1.3515
Anova F test	3.083
Sig.	.017

Small stores are affected by sweethearting more than other types of stores. Clearly this is because there is full freedom of the salesman to deal with customers freely as he is only one person employee in the store, maybe with other person as helper. This difference is significant with probability of 0.01. This is genuine difference as the level is small.

C. The Effect of Store Security System on Sweethearting

TABLE IX
THE EFFECT OF THE OVERALL SECURITY SYSTEM OF THE STORE ON THE
PREVALENCE OF SWEETHEARTING

The Overall Security System	Sweethearting
Poor	1.2800
Fair	1.4219
Good	1.4815
Excellent	1.1594
Total	1.3515
Anova F test	2.665
Sig.	.049

As it expected the good security system is controlling theft in general and for sweethearting it is applied up to point of good system. For the excellent system tend to be less control. This is with significant difference with probability of 0.049.

TABLE X
THE EFFECT OF THE ELECTRONIC SECURITY SYSTEM ON SWEETHEARTING

The Electronic Security System	Sweethearting
Poor	1.3478
Fair	1.3704
Good	1.4894
Excellent	1.2464
Total	1.3515
Anova F test	1.004
Sig.	.392

For the electronic security system, there is no significant difference between the levels of the system on sweethearting. But there are differences in number as the same trend in general security system. This indicates that general security has more effect than having electronic things even this is part of the general.

V. CONCLUSION

Internal theft is an unfortunate fact of life in retail. While merchants have made progress in some areas, "sweethearting" or "sliding" has proven to be one of the most difficult practices to deter. Part of the problem we had in identifying it was the fact that it is a largely random activity by the employees who help in theft. Our approach has been evaluated on a large data set captured from real grocery stores mainly in Riyadh. The results are encouraging given the various realities which are hidden under this type of theft. Our current work focused on improving the cashier tracking, manager's involvement, and other workers whose are developing a more sophisticated geometric model to help in theft of items between cashiers and their relatives customers. In such a way, we expect to enhance disambiguating ability of the model of trick which are using in "Sweethearting" should be traced and shed the light for these techniques for retailers to developed a strong structure to prevent this type of theft.

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