LPRC
LOSS PREVENTION RESEARCH COUNCIL

ELEVATING BOX PROTECTION: INTERVIEW AND TRIAL RESULTS OF WG's *BANDIT IR SMART TAG*

Jenn Jarrett, M.A., Kenna Carlsen, M.A., Read Hayes, Ph.D.

LPRESEARCH.ORG

A Research & Results Community

Executive Summary

In 2019, the Loss Prevention Research Council worked with a large health and beauty retailer located in Jacksonville, Florida to better understand the impact of implementing WG's *Bandit Tag*. A mixed-methods approach was utilized, where results indicated that:

- Trial results indicated a favorable impact of the *Bandit Tag* when comparing shrink data from 2018 to 2019.
- 60% of offenders noticed the *Bandit Tag* in-store, while 30% were able to correctly identify all the capabilities of the technology.
- Offenders were "somewhat unlikely" to steal an item protected by the *Bandit Tag* (2.5 out of 5).
    - Only one offender stated that they would still steal a product protected by the *Bandit Tag*, with most offenders reporting that they would instead target an unprotected item, indicating that the technology deterred them away from theft of that protected product.
- Offenders rated the *Bandit Tag* as more of a deterrent than CCTV, EAS, RFID, and public view monitors (PVMs).
- A majority of customers (97%) felt "comfortable" or "very comfortable" with the *Bandit Tag.*
- Customers tended to "agree" to "strongly agree" with the statement *I like this technology* (4.57 out of 5).
- Associates believed the *Bandit Tag* positively impacted their ability to serve customers (4 out of 5)
- Associates showed a slight preference for the *Bandit Tag* over CCTVs and PVMs.

INTRODUCTION

Theft and shoplifting remain a prominent issue within the retail sector. In fact, results from the 2020 National Retail Security Survey show that shrink was at an all-time high in 2019, accounting for 1.62% of a retailers' bottom line - a number estimated to cost the industry $61.7 billion annually (NRF, 2020). As a result, retailers have turned to evidence-based technological solutions in an attempt to reduce external theft in their stores (Hayes, 2003; Johns, Hayes, Scicchitano, Grottini, 2017; Lab 2010).

Package tags and wraps are widely used to protect merchandise. However, as retail offenders learn techniques to defeat these technologies, solution providers must respond by developing new, more secure ways to protect products. WG developed and sought to test their *Bandit IR Smart Tag*, a universal package tag designed to protect hard merchandise.

The goals of the research were to:

1. Understand the quantitative impact of implementing the technology in-store by comparing the shrink numbers from 2018 to 2019 following installation of the *Bandit Tag.*
2. Examine offender reactions to the *Bandit Tag* technology, including its deterrent power and improvement suggestions.
3. Understand customer perceptions and reactions toward the *Bandit Tag* technology.
4. Understand associate perceptions and reactions toward the *Bandit Tag* technology.

BACKGROUND

Research Design

In 2019, the Loss Prevention Research Council worked with a large health and beauty retailer located in Jacksonville, Florida to better understand the impact of implementing WG's *Bandit Tag*. A mixed-methods approach was utilized. First, the retailer provided us with their store-level shrink data from 2018 and 2019 (*before* and *after* implementation of the *Bandit Tag*), allowing us to estimate the quantitative impact of the technology.

Next, using qualitative interviewing methods, retail offenders were recruited to better understand their reactions to the technology and to gather feedback on the technology. Customer intercepts took place within the stores, where they were asked to provide feedback on the technology. Finally, store associates were asked to trial the tags and then participated in an interview with an LPRC Research Scientist.

Bandit IR Smart Tag Design

WG's *Bandit IR Smart Tag* is advertised as an advanced security for boxed merchandise, equipped with up to four alarm levels and boasting faster application and removal time. The advertised benefits of the tag are:

- It is easily attached to boxed merchandise.
- It is activated with the push of a button.
- The plunger on the tag recognizes when it is on a surface.
- Boxes can be arranged in a more aesthetically pleasing way.
- It alarms when tampered with or removed.
- It alarms when in range of EAS pedestals.
- It cannot be removed without a patented WG IR detacher.
- It is also available with an active RFID chip set

Figure 1. **Photos of WG's *Bandit Tag***

RESULTS

Trial Results

In order to estimate the quantitative impact of the *Bandit Tag*, the participating retailer provided shrink data from two StoreLabs currently utilizing the technology. Cycle counts do not occur regularly or uniformly across the brands, therefore, shrink numbers were compared from 2018 to the same time period in 2019 (following installation of the technology). Notably, all three brands saw a decrease in shrink following installation of the

Bandit Tag (see Table 1).

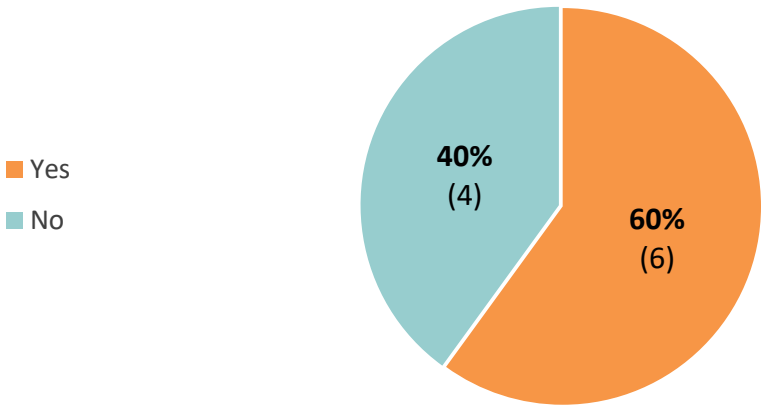
Table 1. **Shrink Results**

	Shrink (Percent to Sales) September – End FY 2018	**Shrink (Percent to Sales) *September – End FY* 2019**
Brand A	-1.76%	0.00%
Brand B	-55.79%	-1.68%
Brand C	-1.97%	-1.59%
Average	-7.08%	-3.80%

Offender Feedback

Ten self-admitted shoplifting offenders were recruited and screened by an LPRC Research Scientist. They were asked to meet in the StoreLab, where they were escorted into one of two aisles with products protected by the *Bandit Tag* and asked a series of questions. First, they were asked if they had noticed *any* anti-theft or loss prevention technologies in the store. Once they began looking for devices, 60% of respondents specifically identified the *Bandit Tag* technology (see Figure 2). When asked, all respondents were able to correctly identify the technology as an anti-theft device.

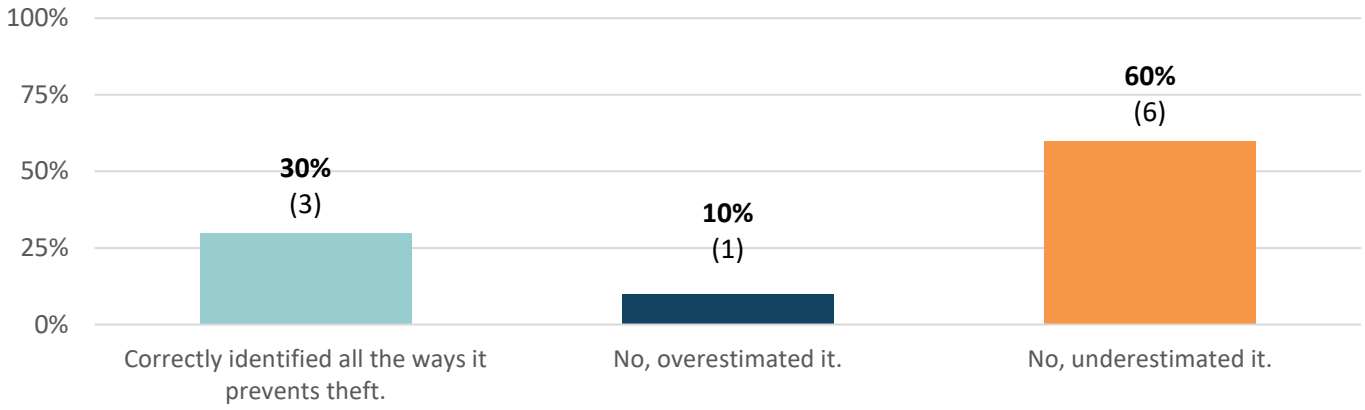
Figure 2. **Did offenders see the *Bandit Tag*?**



Next, they were asked to describe the mechanisms of the *Bandit Tag.* Three of the offenders (30%) correctly identified *all* the ways the technology prevents theft. One overestimated it, stating that they believed it to be a

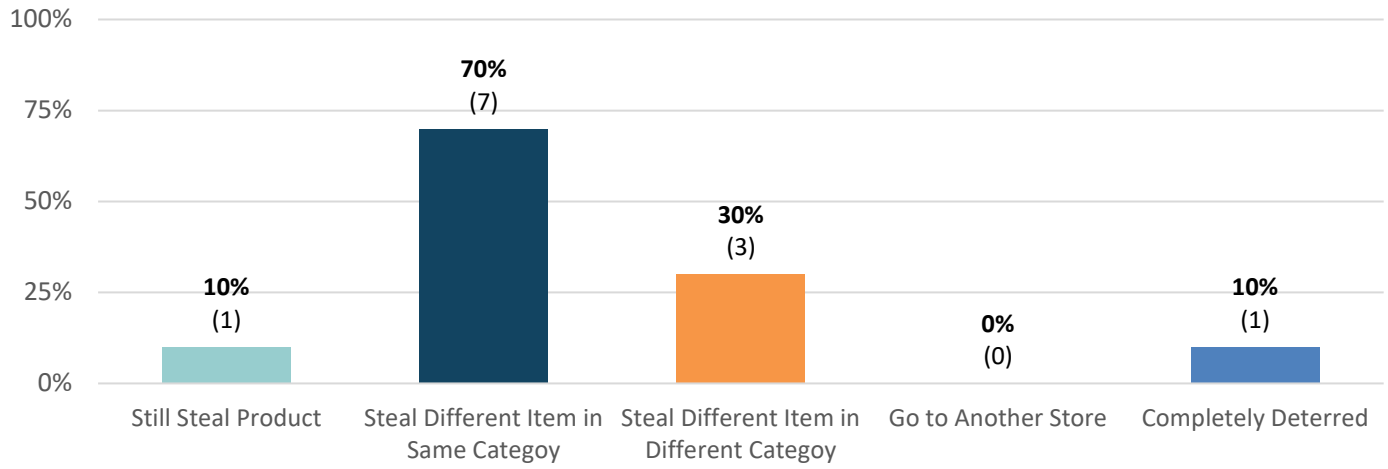
GPS tracking device. Six of the offenders (60%) underestimated the capabilities of the *Bandit tag*. Of those, four of the six did not realize that cutting the band or removing the device would also set off the alarm itself, and one thought it could be easily removed with a traditional magnet detacher as opposed to the patented WG detacher.

Figure 3. **Do the offenders understand the mechanisms of the *Bandit Tag*?**



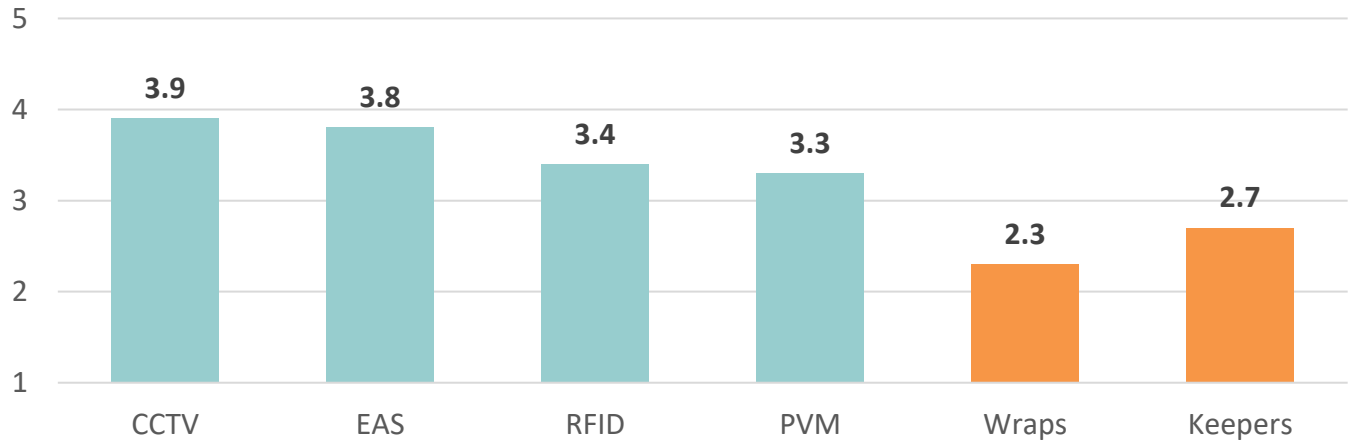
We also wanted to test the deterrent power of the WG technology. First, shoplifting offenders were asked what their reaction would be if they entered a store using the *Bandit Tag*. The responses were open-ended and coded based on the content; therefore, offenders could react in multiple different ways. Of the ten offenders, one (10%) indicated that they would not steal *at all* if they saw the technology on the target item, suggesting that the technology is a specific deterrent for that offender. Seven offenders (70%) reported that they would take an unprotected product in the *same* product category, and three (30%) would take an unprotected item in a *different* product category. However, one offender (10%) would not be deterred from stealing that day (see Figure 4). When asked how likely they would be to steal an item protected by the *Bandit Tag*, the average response was 2.4 out of 5, meaning offenders were “somewhat unlikely” to attempt to steal that product.

Figure 4. **Offender Reactions to the *Bandit Tag* (Coded)**



Next, the offenders were asked to compare the deterrent effect of the Bandit tag to other LP security solutions. On average, the *Bandit Tag* was rated as *more of a deterrent* than CCTV, EAS, RFID, and public view monitors (PVMs) (See Figure 5).

Figure 5. **Offender Comparison of the *Bandit Tag* to other LP Solutions**
(1 = Bandit Tag is less of a deterrent, 5 = Bandit Tag is more of a deterrent)



Finally, the offenders were asked if they had any suggestions on how to make the technology more *noticeable,* make the function *easier to understand,* and make it more of a *deterrent*. The responses included:

- **Improving Noticeability:**
    - *Double up on straps (40%)*
    - *Add lights or make it colorful (30%)*

- *Make it less noticeable (20%)*
- *Make it more sensitive (10%)*
- *Add signage to device (10%)*

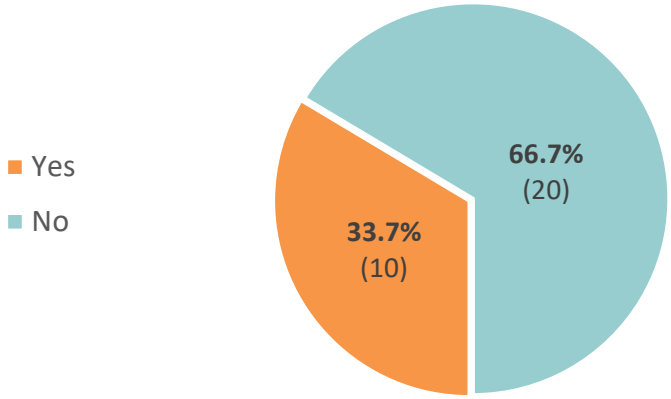
- **Improving Understandability:** *For understandability, most offenders (50%) were pro-signage and one was anti-signage. Suggestions included:*
  - *"[Add a warning], i.e. device activates when tampered with"*
  - *"[Add a warning], i.e. audible protection if tampered"*
  - *"[Add a warning], i.e. WARNING: device alarms if tampered"*
  - *"The beep should be enough. If you have a sign people just feel like it's bulls***. You want to test it out yourself"*

- **Improving Credibility:**
  - *"Make sure all four corners are covered"*
  - *"Make sure employees quickly react anytime the device is activated"*
  - *"Make it tighter so it is sure to alarm. Without the knowledge of what it does, I wouldn't be deterred"*
  - *"Link it to the security company"*
  - *"Make it harder to get off the box and keep a record of who sets them off"*

Customer Feedback

Next, we wanted to see how customers reacted to the *Bandit Tag* technology. Thirty customer intercepts took place at the StoreLab. Customers were first shown the technology and were asked whether they had seen the technology in-store before. A majority (66.7%) hadn't noticed the *Bandit Tag* before (see Figure 6). Next, they were asked how they think the technology operates. Of the thirty respondents, two (6.7%) did not know what the device did. The most common response was that the tag would alert at the door/pedestals. Some customers overestimated the capabilities of the tag, for example, one customer thought the tag would "*set off the EAS gates and alert the polic*e", while another thought the tag "*might explode with color if you try to remove it.*" One customer (3.3%) underestimated the tags capabilities, stating that it "*would slip right off*."

Figure 5. **Had you noticed this technology in-store before?**



Customers were then asked about their initial opinions of the technology in an open-ended question. Overall, the comments were positive. Twenty-one customers (70%) gave general positive comments including things like: *"good idea"*, *"cool technology"*, and *"neat idea"*. Two of the customers with previous retail experience went on to say that they wished they had the device in their stores. Others also added that they appreciated that the device did not allow people to tamper with the make-up:

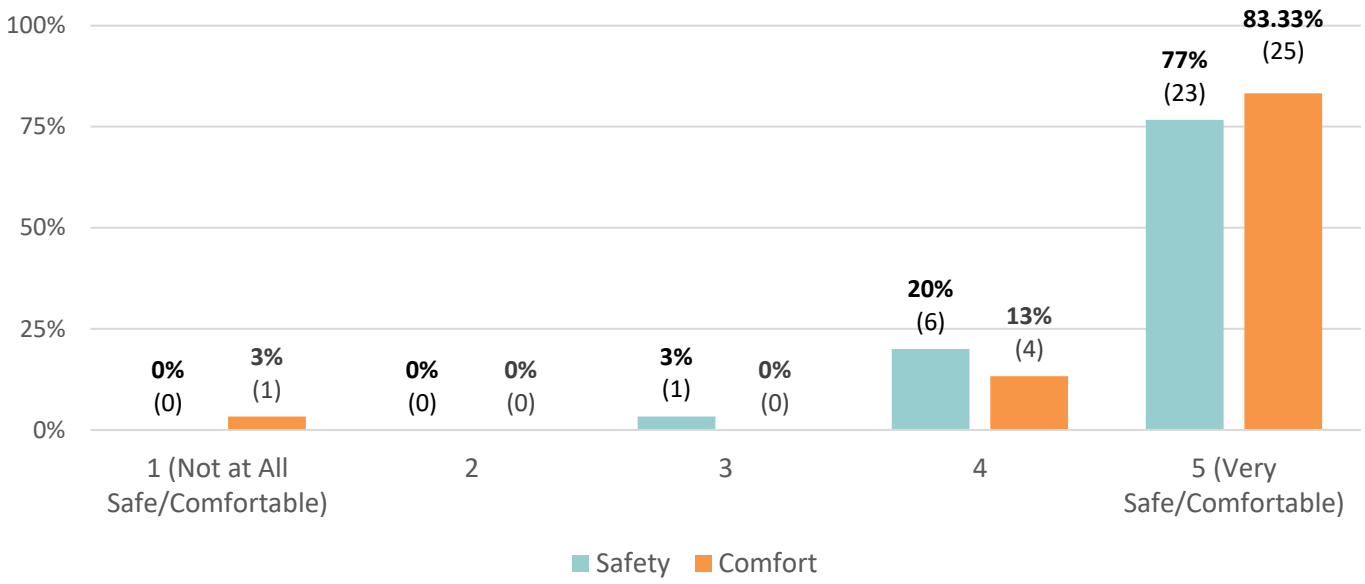
- *"I'm curious if this is a fool-proof way it works. I used to work in make-up, and we had a lot of theft. This probably would have helped."*
- *"Nice knowing no one has touched your make-up though."*
- *"I like that I can move it around on the package so I can read [the description]."*
- *"[I have] no problem with anything that cuts theft and keeps prices low"*
- *"Pretty cool. Helps keep everything from being so expensive and being stolen."*

While the customer insights were mostly positive, two customers (6.66%) express minor concerns:

- *"Slightly inconvenient, but I'm all for it, if it prevents theft."*
- *[Device Alarms] "Good idea. Maybe if you have a full cart of items it could alarm. If you drop it would it alarm? I would be scared to touch it. I AM scared to touch it."*

Next, we asked customers how safe and comfortable they felt in the presence of the technology compared to other shelving units, where 1 is "not at all safe/comfortable" and 5 is "very safe/comfortable". Only one customer indicated that they felt "much less comfortable" and this was after the customer took the tag off the product and it alarmed. However, the majority (97%) reported being "comfortable" to "very comfortable" and "safe" to "very safe" around the device (see Figure 6).

Figure 6. **Customer Safety/Comfort with the *Bandit Tag***



Then, we asked customers to rate the following statements on their agreement from 1 ("strongly disagree") to 5 ("strongly agree"):

Table 2. **Customer Agreement on Statements Related to the *Bandit Tag***

Statement	Average Rating *(Out of 5)*
This technology is noticeable.	**4.73** Agree to Strongly Agree
This technology is easy to understand.	**4.90** Agree to Strongly Agree
This technology effectively prevents theft.	**4.70** Agree to Strongly Agree
I like this technology.	**4.57** Agree to Strongly Agree
I would be less likely to shop at a store using this technology	**2.00** Disagree

Lastly, we asked customers what we could do to improve the technology in an open-ended question. Half of the customers said that the tag was good as it is and did not need improvement. One participant in that group stated: "*Nothing. Doesn't matter to me. If you are a thief it matters, if not it doesn't*." Three participants suggested adding signage or education to the product. Some useful quotes from this category are below:

- *"Education. Signage telling me what it is. Approaching it less anti-theft and more anti-tampering, I'd view it as a positive. If it's anti-theft, I'd think less of the store if it's being robbed."*
- *"It's okay. Wouldn't have noticed it if you hadn't told me about it. Would've missed it if I wasn't told. Maybe a sign?"*
- *"Add a label saying something like "this device can be moved but not lifted."*

Several individuals gave other suggestions on how to improve the product. The following quotes were some of the most insightful ideas:

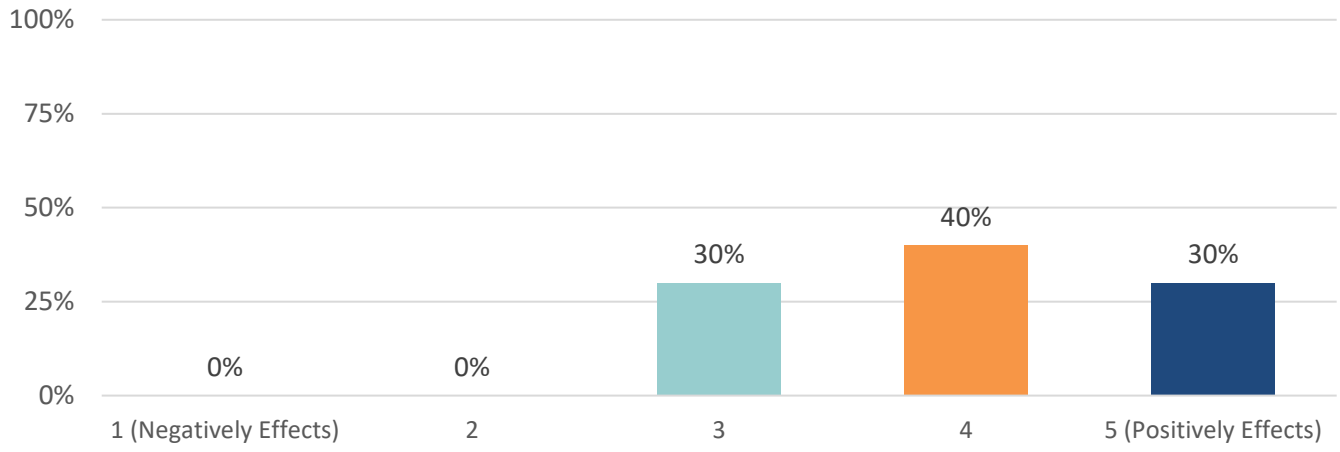
- Make it smaller/less noticeable (20%)
- Improved associate training (6.7%)
- Improve the alert (3.3%)
- Make the band more intimidating (6.7%)

Associate Feedback and Results

Finally, ten associates working in the StoreLab were interviewed to gather their feedback on the *Bandit Tag*. The associates worked at the current store for an average of about 15.6 months, where the shortest amount of time was 2 months, and the longest an employee worked there were about 11 years.

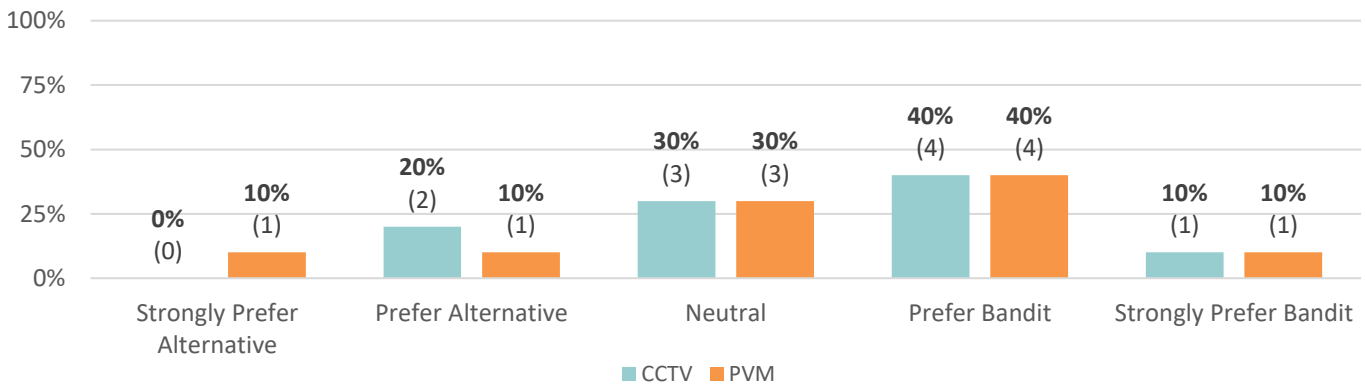
The associates were first asked whether the technology positively or negatively impacts their ability to provide customer service. The average score was a 4 out of 5, indicating that associates generally believed that the *Bandit Tag* positively impacts their ability to serve customers (see Figure 7). Notably, none of the associates thought that the technology would negatively impact their customer service.

Figure 7. **How does this technology affect your overall ability to provide customer service?**



Importantly, none of the associates stated that the Bandit Tag hindered their job. Associates reported that they rarely get approached by customers about the technology (1.4 out of 5). They were also asked if they thought the Bandit Tag was effective at deterring theft. 60% of associates stated that the tag was *very effective*, 30% stated the tag was *effective*, and 10% said *neutral*. One associate stated, *"if someone wants to walk out, they will; but we've seen less theft in the areas protected by these tags."* Associates were then asked to compare the Bandit Tag with other technologies used in their store including PVMs and CCTV (see figure 8).

Figure 8. **Percentage of Associates Preferring the *Bandit Tag* Over Alternative Technologies.**



On average, associates slightly preferred the *Bandit Tag* over CCTV (3.4 out of 5) and PVMs (3.7 out of 5). When asked for more detail on their preference of the Bandit Tag over CCTVs or PVMs, associates tended to appreciate the utility of all technologies:

- *"Both [CCTVs and Bandit Tag] are useful. Tags are useful for prevention, and cameras are good for investigation."*
- *"Cameras help you see who, but the tags help you hear where."*
- *"Both are good for different reasons. I can hear the tags, but cameras have to be watched."*

Some associates stated that the cameras were not effective because they had to be watched:

- *"Because you'd have to watch the cameras [for them to be effective]"*
- *"You can't always keep your eyes on a monitor."*

When asked how the tag could be improved, three associates (30%) stated that the tag was already great. One stated: "*They work. I like the technology. [The tag] makes it harder for a thief to work around."* Several other associates offered feedback on improving the technology:

- *"If the detachers were portable and we could walk around with them, it would make our jobs easier."*
- *"The sound is alarming, it's good for me. When they get old, sometimes the band can lose its stretchiness, though."*
- *"Make them less sensitive. They go off really easily. I touched a pallet in the back room and the whole pallet went off."*

References

Hayes, R. (2003). Loss prevention: senior management views on current trends and issues. *Security Journal,* 16(2), 7-20.

Johns, T. L., Hayes, R., Scicchitano, M. J., and Grottini, K. (2017). Testing the effectiveness of two retail theft control approaches: an experimental research design. *Journal of Experimental Criminology,* 13(2), 267-273.

Lab, S. R. (2010). *Crime Prevention: Approaches, Practices, and Evaluations: Seventh Edition.* Cincinnati, OH: Anderson Publishing.

National Retail Federation. (2020). *National Retail Security Survey: Final Report.* Retrieved from: https://cdn.nrf.com/sites/default/files/2020-07/RS-105905_2020_NationalRetailSecuritySurvey.pdf