

Key Factors When Choosing a Shopper Counting Solution

An Executive Brief

July 2015





Table of Contents

Preface: Why Numbers Alone Aren't Enough	1
Realizing Optimum ROI from Shopper Counting Solutions	1
Sales Impact Intelligence for Better Business Decisions	2
Timely Intelligence for Efficient Operations and Satisfied Customers.....	2
Intelligent and Standards Based for Optimum ROI	3
Verint Video People Counting Analytics: An Overview	4
Integrated Analytics for Enhancing Efficiency and Profitability.....	4
Standards Based for Reliable Operation and Lower Costs.....	4
Sophisticated Analytic Technology for Superior Accuracy	5
Designed for the Challenges of the Retail Environment.....	6
• Variability of Store Environment and Configuration	6
• Distinguishing Individuals in Clusters of People	6
• Extreme Lighting.....	6
• Camera Anomalies, Shifting, and Tampering	6
Using the Verint Video People Counting Application	7
Primary Components	7
• People Counting Configuration Application	7
• Auto Configuration.....	7
• Scaling.....	7
• Camera Position Verification Service (Verint CamAlert™)	8
Reporting: Actionable Intelligence for a Retail Smarter Enterprise	8
Conclusion	9
Verint Retail: Transforming Video into Value.....	9
Supplementary Materials	9
About Verint Video & Situation Intelligence Solutions	10

Preface: Why Numbers Alone Aren't Enough

The ability to count the number of people entering or exiting a store is certainly a significant asset. This information can help retailers determine how much staff to assign, how much product to stock, even how many shopping carts to line up.



But, not all shoppers have equal value for a retail organization — some shoppers buy, some buy more and some do not buy at all — so the number of people that come to a store is hardly the whole performance story. Increasing revenue is not only about increasing traffic, but also about increasing the value that each shopper brings. Consequently, a shopper counting solution that reveals shopper activity and how it is affected by advertising, sales promotions, employee training, and other programs can help retailers chart a more profitable course.

This executive brief explores the various ways that shopper counting analytics and the Verint People Counting application can help retailers more effectively meet their important business objectives.

Realizing Optimum ROI from Shopper Counting Solutions

In a highly competitive, commoditized market, business intelligence must serve a variety of purposes, from enhancing operational efficiency to generating revenue. A shopper counting solution that detects only how many people enter and exit a store is delivering just a fraction of the Return On Investment (ROI) that high-performing retail organizations should expect.

To deliver significant ROI, a shopper counting solution should:

- Help retailers improve the shopper experience and make better decisions about advertising, merchandising, and other important programs
- Better equip retailers to address operational issues effectively in real time
- Operate reliably and cost effectively, with highly accurate results

Sales Impact Intelligence for Better Business Decisions

The shopper experience is a critical competitive differentiator, and knowledgeable, motivated employees are better equipped to deliver a superior shopper experience and increase conversions. But, employee training and incentive programs can be expensive and time consuming, so it is important to determine how they actually impact sales.

Advertising is also a high-cost influencer of sales, and the migration from print and broadcast advertising to in-store, Internet, and other media has spiraled costs and made measuring impact increasingly difficult, although no less essential.

A shopper counting solution can help retailers measure the success of advertising campaigns, sales promotions, and employee training, so they can make better decisions about which programs to deploy and the stores or geographical regions in which to deploy them.

Working with Point of Sale systems, a shopper counting solution could calculate the percentage of shoppers that make purchases and continually measure this ratio over time for individual stores, groups of stores, or geographical regions.

Reviewing changes in the conversion ratio subsequent to significant events (such as an ad campaign, a special product promotion, or a management training program) can help retailers understand the impact these events have on sales and profitability and make better-informed decisions in the future. For maximum benefit, this intelligence should be made available to the appropriate managers, marketing executives, sales teams, human resource specialists, and other key staff throughout the retail organization.



Employee training and incentive programs can shape a better shopper experience, but they can also be expensive. A shopper counting solution can help retailers assess how these programs actually impact sales.

Timely Intelligence for Efficient Operations and Satisfied Customers

A shopper counting solution is most effective when it delivers intelligence that is both relevant and timely.

By providing shopper counts for specific stores, groups of stores, regions, or even countries, as well as for specific days and time periods (such as 2- and 3-day weekends), a shopper counting solution can help retailers assign staff based on actual demand, rather than store size or subjective assessments.

Additionally, by rapidly alerting managers and other key personnel to unusually high volumes of shoppers, a shopper counting solution can rapidly notify managers when additional staff is needed, reducing the potential for abandoned shopping carts, unclosed sales, and unhappy customers.



Shopper counts by store and specific periods of time helps managers allocate staff based on actual demand, rather than guesswork.



Intelligent and Standards Based for Optimum ROI

A shopper counting solution has maximum benefit when it makes intelligence automatically available to the people who need it, wherever they are located, according to the structure and workflow of the organization. This intelligent distribution transforms shopper counts and conversion ratios into powerful assets for initiating positive change throughout the retail enterprise and increases retailers' Return On Investment in shopper counting solutions.

Finally, a shopper counting solution that is built around accepted industry standards carries lower cost of ownership because it leverages retailers' existing IT, storage, and network infrastructures and eliminates the need to invest in proprietary hardware. These standards-based shopper counting solutions operate more smoothly with POS, access control, and other retail systems and can exchange critical information for developing better business intelligence.

In the next section, we examine how Verint Video People Counting Analytics delivers highly accurate and pertinent intelligence for improving retail performance.



Verint Video People Counting Analytics: An Overview

Integrated Analytics for Enhancing Efficiency and Profitability

Verint Video People Counting Analytics is a video analytic application that records the number of people entering and exiting a store. Part of the Verint Retail portfolio, Verint Video People Counting Analytics is fully integrated with Verint Enterprise Video Management Software (VMS). As a result, the intelligence that Verint People Counting generates can be automatically and intelligently distributed to authorized staff throughout the retail enterprise according to its organizational structure.

Verint Video People Counting Analytics can replace manual counts and subjective anecdotal evidence with video- and data-based intelligence, helping managers on site and in remote or centralized locations make better decisions with regard to staffing and store operations.

Using this intelligence, they can appropriately dispatch sales associates and Loss Prevention personnel during peak periods to improve the customer experience, reduce losses from shrinkage, and ensure the safety of people and property.

Verint People Counting Analytics also makes this information available to other standards-based analytic solutions for the development of important retail intelligence. For example, when used with Verint Point Of Sale Analytics, Verint Video People Counting Analytics can generate sales intelligence that retailers can use to determine conversion rates, evaluate the success of current promotions and merchandising strategies, and assess the return on print, electronic, and in-store advertising.

Verint Video People Counting Analytics is designed to work with the entire line of Verint Video Analytics, including Verint Return Lane Analysis for reducing fraudulent return transactions and Verint Video Queue Management Analytics for real-time queue length and wait time intelligence.



Verint People Counting Analytics helps managers and executives make better decisions with regard to staffing and store operations.

Standards Based for Reliable Operation and Lower Costs

Built around open industry standards, Verint Video People Counting Analytics can be deployed using commercial off-the-shelf server, storage, and network technologies, for high availability, reliable operation, and lower cost of ownership. The Verint application readily scales to accommodate new locations and expanded operations.

Designed to preserve technology investments, Verint Video People Counting Analytics lets retailers leverage their existing infrastructure, including fixed cameras, and make the most of their buying power without ongoing investment in proprietary solutions.



Enhancing Efficiency and the Shopper Experience

Verint Video People Counting Analytics helps retailers do more than just react ... It helps them take a proactive approach to increasing operational efficiency, improving product availability, and delivering a market-winning shopper experience.

By enabling retailers to predict both the number of shoppers that will come to a specific store *and* the number who will actually buy, Verint Video People Counting Analytics helps retailers allocate staff for more efficient operation and design sales programs and merchandising for greater profitability. Working with Verint Video Point Of Sale Analytics to determine conversion ratios, Verint Video People Counting Analytics helps retailers zero in on successful practices in best performing stores, improve demand sensing, and increase inventory turns. And by detecting conversion changes for specific locations over virtually any period of time, Verint People Counting Analytics helps retailers immediately assess the success of advertising, new products, new promotions ... even employee incentive and management training programs.

Sophisticated Analytic Technology for Superior Accuracy

Verint Video People Counting Analytics is designed to produce timely, accurate, and pertinent intelligence.

Verint People Counting differentiates between people and inanimate objects, such as shopping carts, and readily identifies “buying groups” (two or more people entering a store together), counting each group as one paying customer. Verint People Counting thus does more than just count; it delivers information that is pertinent to revenue and operational objectives.

Additionally, while most traditional people counting solutions generate only data, Verint Video People Counting Analytics generates counting data and associates it with video, giving managers and executives a more comprehensive picture of store activity.

Authorized users anywhere in the retail enterprise can view both data and related video for single stores or groups of stores over virtually any period of time.

Verint Video People Counting Analytics provides retailers with mission-critical intelligence about the entire retail enterprise.



Verint People Counting delivers timely, meaningful intelligence for meeting revenue and operational objectives.



Designed for the Challenges of the Retail Environment

Verint Video People Counting Analytics is specifically designed to address the challenges of collecting and analyzing shopper counts in the retail environment.

Variability of Store Environment and Configuration

Verint Video People Counting Analytics provides accurate counts for most store environments with its default configuration. The analytics suite also provides a facility to calibrate itself based on specific doorway environments in each store and for each camera in those circumstances that cannot be addressed by the default configuration.

Distinguishing Individuals in Clusters of People

Many shopper counting solutions find it difficult to count individuals when clustering occurs; that is when large numbers of people simultaneously move through doorways. Verint Video People Counting Analytics can intelligently determine how many people are in a “cluster” by measuring the size of the group and applying heuristics to determine its population.

Extreme Lighting

Extreme sunlight can make it difficult to discern individuals moving through a camera’s field of view. Verint Video People Counting Analytics makes use of special camera lenses that adapt to the lighting environment, allowing the system to be properly calibrated for accuracy through all periods of light.

Camera Anomalies, Shifting, and Tampering

Verint Video CamAlert detects and triggers an alarm when changes in a camera’s position or operation impact counting accuracy.



Once traffic or POS conversion baselines are established, Verint People Counting can alert retailers to changes over virtually any period of time (day, weekend, month, quarter, year, and so on). And Verint People Counting can aggregate this information by store, groups of stores, or geographic region, so retailers can view results in a meaningful way.

This actionable intelligence can help retailers more effectively forecast sales, assign staff, and assess the impact of advertising campaigns, promotions, and employee incentives.



Using the Verint Video People Counting Application

Primary Components

Verint Video People Counting Analytics consists of four primary components designed for easy installation and maintenance.

People Counting Configuration Application

The People Counting Configuration Application enables retailers to define the criteria for every door, corridor, and other region where people can be counted. An individual People Counting Configuration is set up during installation and must be set up for each door or region of interest. The People Counting Application supports multiple simultaneous People Count Configuration sets.

During the installation configuration process, an Origin and Termination Area (OTA) is defined. An OTA is an area in which people are counted. OTAs are defined by drawing a line to indicate the customer's point of entry and exit. In most cases, this area is defined by the bottom of the door. The OTAs are then automatically positioned by the software application according to the Origin and Termination line that has been drawn.

Auto Configuration

The Auto Configuration component allows users to automatically adjust the Origin and Termination Areas based on stored origination and termination data that is normally derived by manual people counts of the video. The Auto Configuration will find the best possible rectangular fit of the OTA and take into account the stored data comparison over a specified time period. The major benefit of this feature is that the end user of the system does not need to manually find the best fitting OTA because the Auto Configuration algorithm finds it automatically. This saves time for the end user during initial setup and configuration.

Scaling

The Scaling feature provides a method for scaling results to 100%. This feature allows the end user of the system to scale entrance or exit data and save the data to the database that is used in the Reporting Application. The scaling factor uses common statistical models. (A more detailed examination of Scaling and its impact on People Counting Analytics is available from Verint upon request. Contact your Verint representative for more information.)





Camera Position Verification Service (Verint Video CamAlert™)

Camera installation and placement are critical to people counting accuracy. However, a camera's Field Of View (FOV) tends to drift from the initial installation position, and manually monitoring all cameras to ensure that they remain in position is often not feasible, especially for large CCTV systems.

The Camera Position Verification Service compares the current camera image to a previously saved image. An alert or alarm is generated if the camera has shifted or been moved from its initial installation position, so that users can generate repair tickets or correct the camera position. The Camera Position Verification Service is an independent software installation. It may be used for all types of video analytics or where a customer needs to have immediate information regarding movement of the camera's Field Of View.

Reporting: Actionable Intelligence for a Retail Smarter Enterprise

The Verint Video People Counting Analytics Reporting Application helps users access and analyze counting data. This browser-based application can be accessed, with proper user authentication, from any client on the enterprise network or remotely via login to the Wide Area Network (WAN).

Reports include total number of people in a store at any given time, the number of people entering or exiting a store, and peak occupancy over a twenty-four hour period.

Data is presented in text and charts.

Data can be queried by users, and it can be automatically pushed to central data warehouses or to other applications for use by other authorized staff.



With Verint Video People Counting, authorized users can access data and associated video from any client on the network or remotely via WAN login.

Event	Time
Entered: 0	12:49 PM - 12:50 PM
Exited: 4	12:49 PM - 12:50 PM
Entered: 2	12:48 PM - 12:49 PM
Exited: 4	12:48 PM - 12:49 PM
Entered: 1	12:47 PM - 12:48 PM
Exited: 4	12:47 PM - 12:48 PM
Entered: 3	12:46 PM - 12:47 PM
Exited: 2	12:46 PM - 12:47 PM
Entered: 4	12:45 PM - 12:46 PM
Exited: 0	12:45 PM - 12:46 PM
Entered: 2	12:44 PM - 12:45 PM
Exited: 3	12:44 PM - 12:45 PM



Conclusion

Like any enterprise investment, shopper counting solutions should deliver enterprise-wide value in a variety of areas. Sophisticated shopper counting solutions, such as Verint Video People Counting Analytics, go beyond conventional people counting technologies by providing intelligence about the proportion of shoppers who make purchases and the impact of advertising, promotions, and other programs on sales.

These solutions deliver intelligence and real-time alerts to the appropriate staff wherever they are located — on store floors, in offices, or in corporate headquarters thousands of miles away — so they can make better business decisions and deliver a market-winning shopper experience.

Verint Retail: Transforming Video into Value

Verint Video People Counting Analytics is part of the Verint Retail portfolio. Verint Retail is a next-generation video management and analytics platform that provides retail executives with visibility into their entire operation and facilitates a proactive approach to shrinkage, fraud prevention, customer service and store management.

Built on Verint's years of experience working with retail industry leaders, Verint Retail generates actionable intelligence to address a broad range of important corporate initiatives, including reducing liability and loss, improving business performance, and building competitive advantage.

With Verint Retail, suspicious activity can be immediately detected, addressed and investigated. Verint's standards-based, open architecture facilitates integration with existing security and IT infrastructure, enabling the capture of video, audio and data from a wide variety of devices in a store's main shopping areas, checkout lines, loading docks and exterior. Verint Retail uses sophisticated analytics and information from POS, access control, and other enterprise systems to detect liability, theft, fraudulent returns, and other important transactions.

When a security event occurs, Verint Retail's powerful rules-based engine can automatically distribute alarms, alerts, video, and data to appropriate staff wherever they are located. Verint Retail provides built-in mass export and investigation management capabilities for collecting video from any number of cameras and locations and gathering case-related audio, video, and data in a searchable database. This critical intelligence can be easily shared with law enforcement organizations for further investigation or corroboration.

Verint transforms video into *value*.

Supplementary Materials

The following Verint executive briefs present useful information related to this topic. To receive either of the titles listed below, contact your Verint representative or call Verint at 1-631-962-9600.

The 3 R's of IT-Friendly Solutions
Actionable Intelligence for a Safer World and a Smarter Enterprise



Verint. Powering Actionable Intelligence.®

Verint® (NASDAQ: VRNT) is a global leader in Actionable Intelligence® solutions. Actionable Intelligence is a necessity in a dynamic world of massive information growth because it empowers organizations with crucial insights and enables decision makers to anticipate, respond and take action. Verint Actionable Intelligence solutions help organizations address three important challenges: customer engagement optimization; security intelligence; and fraud, risk, and compliance. Today, more than 10,000 organizations in over 180 countries, including more than 80 percent of the Fortune 100, use Verint solutions to improve enterprise performance and make the world a safer place. Learn more at www.verint.com.