

Long Tail Media in the Store

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There are on the order of one quadrillion (1 followed by 15 zeros) media exposures annually in stores around the world. The question of how those exposures are presently allocated and the current dynamics of in-store media are addressed in this article by examining media exposure in a typical supermarket. Thinking of shoppers in a store as an “audience” in the traditional media sense can introduce some intriguing possibilities. The long tail analogy is apt for shopper marketing in the sense of the small number of products that produce very large unit sales, but there also is a variety of media to attract shoppers’ attention in stores, which differ greatly in both exposures and effectiveness. This article points the way to an objective view of this crowded and complex field.

INTRODUCTION

Walk in to a supermarket and you are confronted with a sensory overload of stimuli. The supermarket is a 360-degree sensory environment with enticing smells, samples to taste, auditory announcements, and most importantly a barrage of visual media from signage, packaging, and display advertisements. This information is non-directed; that is, it is an assault from all sides and, because of the quantity of information to absorb, consumers employ more filtering in the retail environment than for any other media. TNS Magasin data have shown that in a typical 20-minute shopping trip, the shopper only reads 8 to 10 text-type messages. Rather than through words, communication with purchased products is all about color, shape, and iconic images.

In a supermarket, purchasing decisions also take place very quickly—most decisions being made in only a few seconds. Many of these purchasing decisions are not planned in advance; impulse shopping in the supermarket accounts for 40 percent of all money spent (User Interface Engineering, 2001; confirmed by TNS Sorensen primary and secondary locations purchase data), and certain categories lend themselves more strongly to

impulse buys than others. This presents some interesting research challenges in how to document shoppers’ decision-making process and in identifying which in-store media are most effective. Because of the immense amount of visual stimuli, knowing what the consumers pass by as they move around the store or the contents of an aisle are not enough—directed measurement of the field of vision is the only way to accurately assess consumers’ behavior, motivations, and perceptions at the point of purchase. This article shares some insights on measuring both the long tail and “the big head” in an in-store media environment.

STUDYING THE STORE

Before detailing how the in-store media was measured, it is useful to provide some background on the factors at play in supermarket shopping. An initial step in considering in-store media is to examine how people move around a supermarket, and thus, which media they are most likely to encounter. In-store research has shown that supermarket shoppers are inefficient in the way they move around the store, and on average spend only 20–30 percent of their time actually acquiring merchandise (Hui, Fader, and Bradlow, 2008).

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Supermarkets have an opportunity to take advantage of the 70 percent of “down-time” during shopping trips to influence what shoppers buy, and how they navigate the store. This 70 percent is also most likely susceptible to nonpackage *display* media influences.

Supermarket shoppers do not tend to systematically go up and down aisles. Instead, they shop the broad perimeter and make short treks into aisles to get what they need, then returning to the perimeter of the store. Shoppers prefer to move counterclockwise around a store and typically speed up their shopping as they get close to the checkout (Hui, Fader, and Bradlow, 2008; Sorensen, 2003). This may be because the shopper has finished, or when less than the full store has been shopped, this pull to the checkout may cause “early” termination of the trip. Store design comes into play because the stronger the flow toward the front in the center-of-store aisles, the shorter the average shopping trips will be—and the fewer the purchases.

The result of these factors is that the average shopping trip covers only about 25 percent of the store or less (Sorensen, 2003). In-store media are used to address this, but there is a balance between using media to draw shoppers to visit an area of the store and forcing shoppers to spend longer than they need, which could lead them to choosing to shop elsewhere in

future. Supermarkets need to accommodate both those who are on a longer shopping trip and are happy to browse, and those who want to be in and out as quickly as possible.

The speed of shopping is also a significant factor in understanding many aspects of store traffic. Shoppers take a while to choose some products and so should not be crowded or rushed. These products might be something such as soup, where there is a dizzying array of choice, or baby food, where emotional factors are at play (Sorensen, 2003). Conversely, “quick trip” shoppers spend more of their limited time in-store actually making purchases and are likely to pick up extra items that lend themselves to a quick decision.

LONG TAIL VERSUS BIG HEAD

As shoppers make their way around the supermarket, managing the “long tail” of products available becomes a major factor in a store’s success. The phrase “the long

tail” is no longer new and has been thoroughly discussed by Chris Anderson in *The Long Tail: Why the Future of Business is Selling More of Less* (Anderson, 2006). He explains how a retailer like Amazon can make money by selling only 10 copies a year of a single book because if you add up all those low-selling items, they not only become profitable, but equate to about a third of the company’s business. The selling of only a few of a very large inventory selection makes even more sense when it is applied to digital products—such as downloadable music and movies.

This has led to wide recognition of the importance of the long tail to retail profits for e-commerce. The economics of the internet make it possible to make as much profit from selling a few copies each of a million different items, as the bricks-and-mortar retailer can make from selling hundreds of thousands of copies each of a few hundred different items. The “big head” consists of those few items any retailer carries that produce very large unit sales. Because the cost structure of internet retailing is radically different than that of the bricks-and-mortar store, management of the big head and the long tail online can more easily and naturally follow the shopper. That is, the experience of the online shopper, whether purchasing from the big head or long tail, is little different. However, mingling the big head and long tail in offline stores (for example, supermarkets) is killing sales and driving shoppers from the store. This makes

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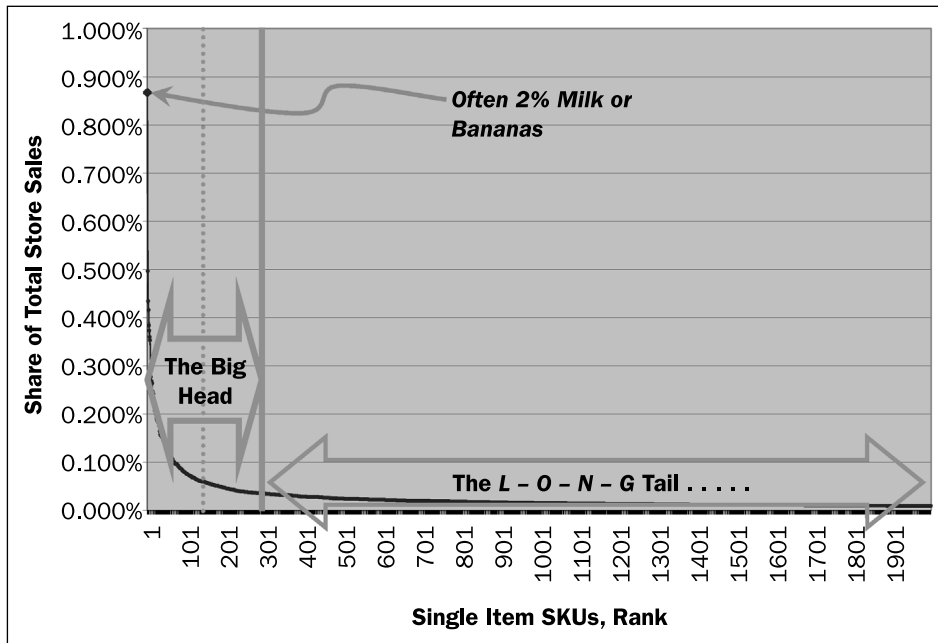


Figure 1 Supermarket Long Tail Distribution of Products

understanding the big head and long tail, and managing them distinctly and appropriately, more important than ever. Figure 1 shows the long tail distribution of products in a typical supermarket.

From the million or more items the manufacturers offer from their warehouses in any given major market, the typical supermarket selects maybe 40,000 items to offer to their shoppers. However, the typical household only buys about 400 distinct items *in an entire year*, and they buy only about half of those regularly. Those 400, the *big head*, must be managed distinctly from the rest of the 40,000 (or more), the *long tail*.

There is a natural tension here between the needs of the shopper and the economics of brand suppliers. For the winning retailer, the shopper must come first. That does not mean, though, that there is no place for the long tail (SKU proliferation) in the winning supermarket. It is simply essential that the big head and long tail be clearly recognized and managed dis-

tinctly, rather than just lumping it all together and expecting the shoppers to sort it out.

The long tail, for instance, can be profitable for the bricks-and-mortar retailers because they are being paid by the brand owners to put the items on the shelves. For the brand supplier, the long tail is a competitive imperative. But it is becoming evident that how to manage the big head versus the long tail will define success in many ways for the postmodern retailing world.

Figure 1 shows that although a few items may individually create as much as 1 percent of total sales, a combination of a few hundred items constitute about a third of total store sales. Even in a full-size supermarket this is “the big head.”

FOUNDATION PRINCIPLES OF MEDIA AND VISION

In-store media are often marginalized as being a narrow category, consisting of digital screens, signs, placards, and such.

However, in-store media may be reasonably described as anything that communicates to a shopper, and this may be broadly divided into commercial messaging, intended to directly affect economic activity (shopping and purchasing), and noncommercial messaging such as décor, other shoppers, and the like. In a typical shop there is so much to take in that much media in the store are never seen or processed. It is not really media unless it *mediates* communication between the producers and purveyors of the media and their intended audience—in this case, the shoppers. So this raises the question of just what *do* shoppers see in the store? To answer this accurately requires some ability to track the eyes of shoppers as they move around the store. The import of what shoppers see occurs in three separate levels.

Level one

The highest level of knowledge of what the shopper sees is obtained by studying the *actual point of focus* of the eyes (typically determined by corneal reflections). This is the most important measure of the communication of the media with the shopper because it directly determines not just what the shopper sees (falls into their field of vision), but what their minds lead them to *look at*, as distinct from simply seeing.

Level two

The second level of knowledge of what the shopper sees is their *entire field of vision*. The shopper selects their point of focus from this much broader offering, so we must acknowledge that they have been “exposed to” whatever shows up in their field of vision. However, not everything present in the field of vision is of equivalent value. This is because elements on the periphery of the field will obviously have less impact than those near

the center, and, of course, not all that is in the central field of vision is of equivalent value—as measured by the point of focus. The full accounting of the exposure impact of any portion of the field of vision is given in Figure 2.

The formula shown in Figure 2 allows one to compute “exposures” based on the size of the media, how far away it is, and how long it is exposed. This formula allows for a person to be fractionally reached. This could be described as a person watching two televisions side by side, both showing a commercial at the same time; the formula would result in each television getting half an exposure (if the total screen area

of the two screens is no larger than one screen). Also, a 30-second spot gets twice the exposure of a 15-second spot. This is not entirely different, in absolute terms, from current TV ratings. For example, the formula states that one 15-second exposure to a 5 sq ft screen (2 × 2.5 ft) from a distance of 8–9 ft (about how far one sits from the TV screen) is exactly *one* exposure. If you put all the numbers into the formula, and assuming the person is sitting directly in front of the TV, all of the sine functions equal one, and 5 sq ft × 15 seconds divided by the square root of 75, squared, is *one*. This formula is so important because it makes exposure a continuous variable, rather than

a discrete variable. Thus, we have a continuum of exposures from tiny fractions (for a small package on the periphery of the field of vision) to large multiples of exposures where a large display fills the shopper’s field of vision, or some fraction of the field is seen for a long time, or many times. This is absolutely essential in the store where you have massive, simultaneous exposure coming at you from all possible angles and distances.

Level three

The lowest level of the knowledge of what the shopper sees is their *path* through the store. Their path through the store, on a second by second basis, is inextricably linked to what they are looking at and seeing because of “the head bone is connected to the foot bone” principle. That is, what the eye looks at, the neck will soon turn the head toward; similarly, the body will follow and align with the head, with the foot obediently accepting the lead of those above. In this way, the path is inextricably linked to what is seen, although the articulation of the various bodily connections only assure that the average orientation is certain.

The value of this third level is that electronic paths can be accurately measured in the millions at feasible cost. This provides access to billions of computed fields of vision, based on accurate path measurements. Direct measurement of fields of vision through devices like the TNS EyeCam™ can be done at relatively modest cost in hundreds of stores, while the highly accurate and revealing points of focus studies (the A-S-L MobilEye™) typically reveal their treasure of learnings from dozens or hundreds of individual shoppers.

FIELD OF VISION METHODOLOGY

The data used in this article were produced by asking shoppers to wear a TNS EyeCam™ through a normal, unsupervised shopping trip. The camera is hidden

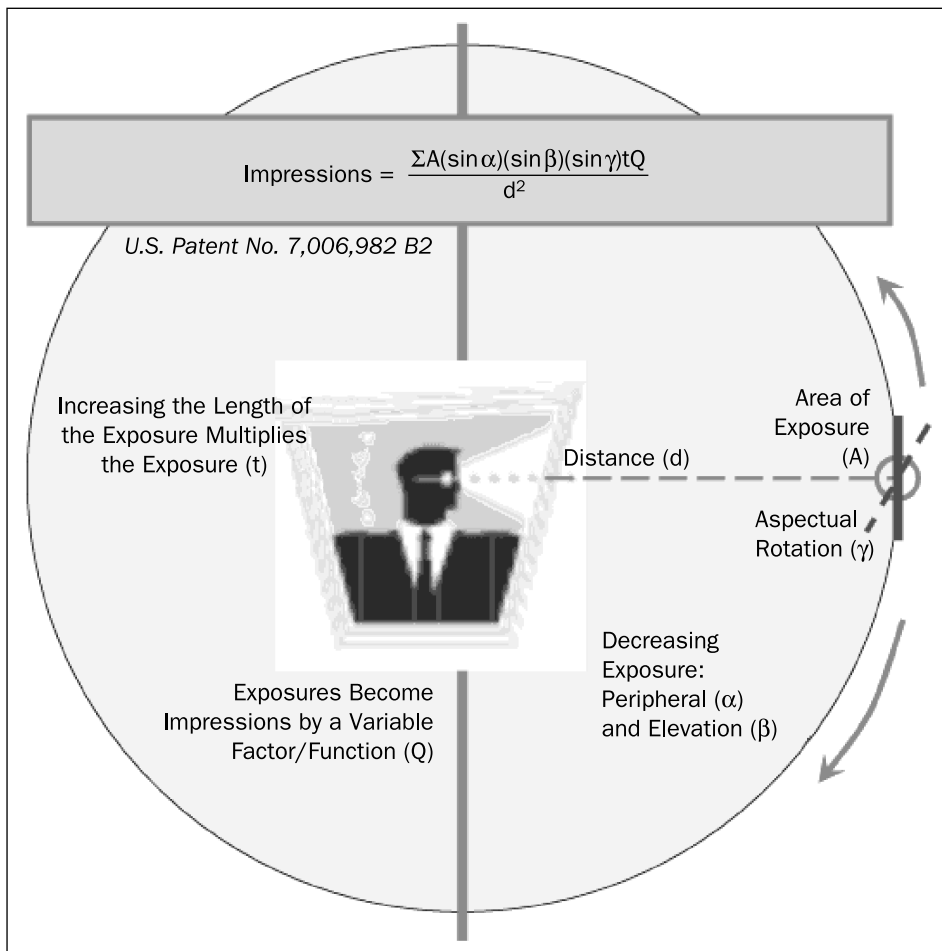


Figure 2 Computation of Exposures from Shopper Metrics (Sorensen, 2006)

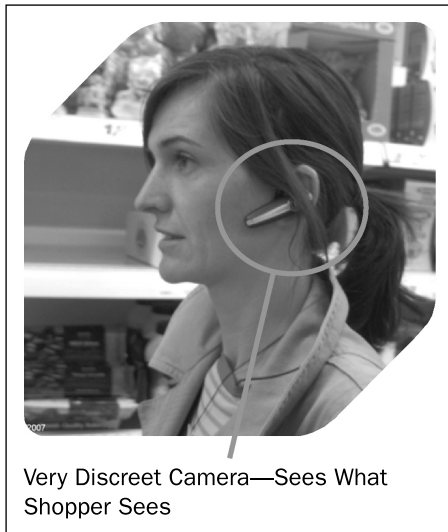


Figure 3 Shopper Wearing TNS EyeCam™

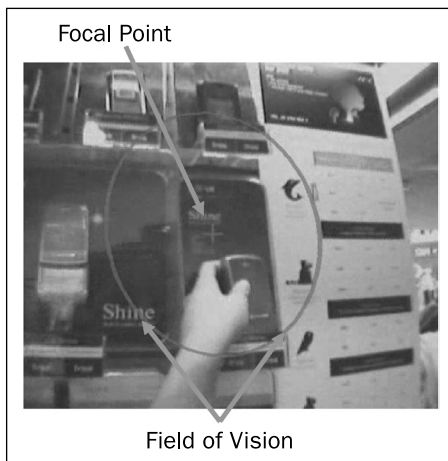


Figure 4 Recording using TNS EyeCam™

in a BlueTooth case, of the type used for hands-free mobile phone operation. Technicians tabulate the data by visually inspecting the continuous fields of view of the shoppers, noting whenever any of the designated media appears in the central field of vision and again when it disappears. The device and its recording are shown in Figures 3 and 4.

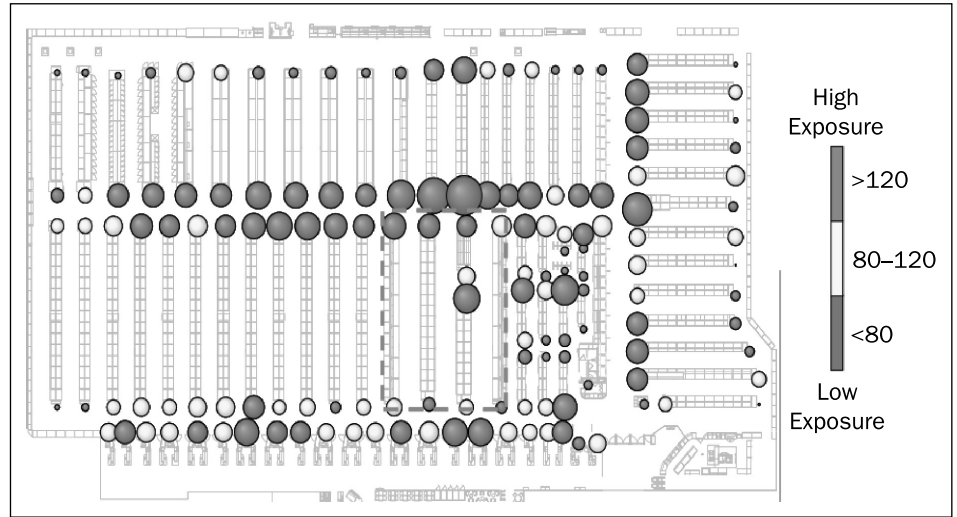


Figure 5 “Snap Shot” of Media Exposure in a Supermarket

The “field of vision” being tracked is actually a probability ellipse that encompasses 80 percent of the true point of focus, based on a series of shoppers in real world shopping trips. The purpose of this trimming of the image is to minimize the peripheral vision, which is known to be less impactful. (See Figure 2 above.)

APPLICATION OF VISION PRINCIPLES IN THE STORE

The goal in shopper research is to ultimately understand all quadrillion in-store exposures to the shopping audience. Although *all* those exposures are of interest, as already indicated they fall into two broad categories: commercial and noncommercial. Moreover, the noncommercial constitutes something like 40 percent of the total, at least for supermarkets. That amounts to 50 percent of exposures around the spacious perimeter and only 20 percent of exposures are noncommercial in those walled canyons referred to as center-of-store aisles. The “spacious perimeter” can be taken to include all of the broad “drive aisles” around the store. Figure 5 catalogs the relative exposures of the various end-aisle displays in one store. This

illustrates the value of computed fields of vision, referred to at TNS Sorensen as EyeShare®.

These end aisle displays have been indexed (average = 100) to allow comparison of the relative number of exposures to all of the various end-aisle displays in the store. In discussing “long tail media,” it is essential that we be able to accurately distinguish among the various media offered. What is shown here is the distinction between displays getting very little exposure and those receiving a lot of exposures. (This is not based on traffic alone, but on *how long* shoppers are exposed, as well as on the *direction they are facing*, essential elements of any true measurement of in-store audience exposure—see Figure 5.)

Figure 5 is based on a “snap shot” of over 20,000 shoppers, producing one of the most accurate pictures possible of media exposure—very necessary for making fine distinctions among the various deployments of media. However, tracking the actual field of vision of shoppers provides greater confidence to those who have to “see it to believe it.”

Table 1 shows the results of tabulating the share of shoppers reached during at

TABLE 1**Seconds Exposed per Week Based on What Shoppers Actually Saw**

Stimulus Exposed	Share Exposed, Reach	Times/Trip	Seconds/Exposure	Seconds/Shopper, Frequency	% Reach x Frequency, GRP
End aisle displays	100%	15.5	5.8	90.1	90.1
Free-standing product display racks	100%	9.0	4.0	36.3	36.3
In-store flyers	21%	14.0	5.6	79.0	16.3
Navigational signs (aisle directories, product markers)	74%	5.7	3.3	19.0	14.0
Display bins	97%	4.2	3.3	13.9	13.5
Free-standing advertisements, cutouts, inflatables	88%	3.8	3.4	13.0	11.5
Pallet of featured product	85%	2.1	4.9	10.6	9.0
Shelf advertisements	62%	4.9	2.5	12.3	7.6
Floor advertisements	91%	2.9	2.4	7.0	6.4
Coupon dispensers/tear-off pads	50%	3.9	3.0	11.5	5.7
Store staff	6%	1.5	45.0	67.5	4.0
Refrigerator/freezer door advertisements	21%	4.4	3.8	16.9	3.5
Video or interactive displays or kiosks	3%	8.0	2.5	20.0	0.6
Shopping cart advertisements	0%	—	—	—	0.0

least one point in their shopping trip, the number of times those reached are exposed to the media, and the average length of those exposures. From this we can readily calculate the total number of seconds (exposures) per shopper, which, multiplied by the Reach percentage, provides gross rating points (GRPs).

The average trip in this store was 12 minutes, which is a little low compared to what we usually see as being in the 16–20 minute range, but the store was smaller than many, too. These exposures noted at which second, for example, an endcap came into view, and at which second the shopper turned away. So the data show that for about 25 percent of the shoppers' time in that store, one or another of these

media were in their field of vision, most often an endcap or free-standing secondary display. This is no doubt why 40 percent of all purchases, across all stores and categories (on average), come from those secondary displays—nongondola, promotional displays.

It is important to look a bit more at how these exposures are measured and stated here. GRPs have always been based on reach and frequency, and this is the appropriate convention in-store as well. This has always meant that as much weight was given to showing an advertisement to 100,000 people one time, as was given to showing the same advertisement to 50,000 people two times. However, in-store, many purchases occur in

less than 5 seconds. (It is not just the frequency of purchase that justifies the European designation of consumer packaged goods (CPG) as *fast-moving consumer goods* (FMCG). They are also fast because many of these purchases occur with a blazing speed that eludes the thinking of many trying to focus on the in-store audience.)

To account for the variable impact of exposures based on their variable duration of exposure, it seems most reasonable to follow the GRP convention of counting people and exposures, in this instance as people and seconds, so that GRP is the product of people and times, or in this case, people and *time* (seconds). (From Figure 1 it could be appreciated that exposures and

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impressions are continuous variables—not discrete counts. That is, there may be fractional exposures as well as multiple exposures. Introducing *time* as the metric, instead of counting *times*, facilitates this more accurate measuring.)

Following this time convention, then, we see that even though only about one of five shoppers carry the weekly circular with them (in this store), their frequent references to it, though brief, accumulate enough exposures to put it in the big head rank.

THE BIG HEAD AND THE LONG TAIL

Information such as this is essential in addressing *long tail media* in the store. The relationship of “the big head” to “the long tail” is readily seen in the graphic of the data in Figure 6.

Notice that only a few media have reached as high as 15 percent GRP in this store, with end-aisle displays, other free-standing product displays, and the in-store flyers (weekly circulars) dominating the big head. The rapid fall-off in exposures for the long tail media is striking. However, we will show shortly that even very limited exposures can be effective in producing sales. But here we can see the critical nature of relative end-of-aisle dis-

play measurements of the type illustrated in Figure 5. Not only are the end-aisle displays the overwhelmingly most important in-store media (in fact, fully 40 per-

cent of *all* store sales come off these), the value of individual displays varies greatly.

THE MOST IMPORTANT MEDIUM IN THE STORE

There is no point in thinking about media in the store without considering the package. This is because all media compete with all other media in the store, and not only does the package feature in two of the top three big head media (end-aisle displays and free-standing product display racks), but in those center-of-store aisles, the 80 percent of visual impressions are largely packaging (Figure 7).

However, much of this packaging clearly is a share of the long tail, and not the big head. We need to have an accurate view of where this fits into the competitive media picture.

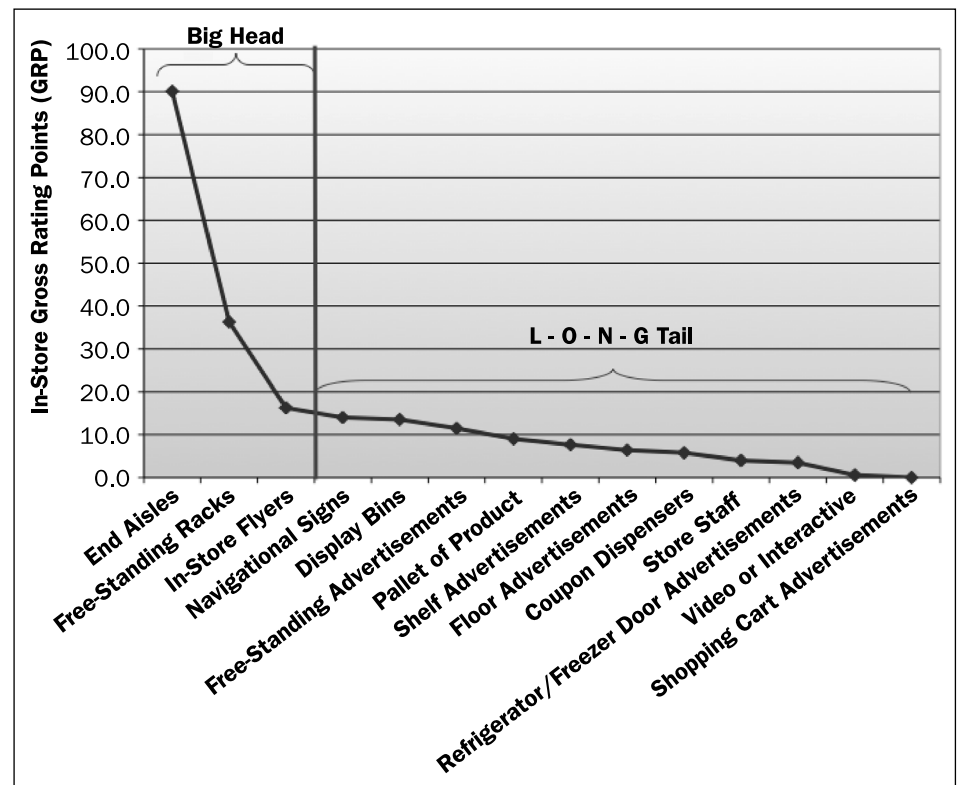


Figure 6 Example of Big Head versus Long Tail In-Store Media



Figure 7 Center-of-Store Aisles

First, in relating to the products and their packaging, there is an important decrescendo to consider. As discussed relative to Figure 1, in most major metropolitan areas, the various warehouses will have on the order of a million distinct items (SKUs) in stock. A typical supermarket will have selected 30,000 to 50,000 items from the available offerings to offer to *their* customers, in turn. However, any given household will only purchase 300–400 of these different items in an entire year, with about half of those being purchased regularly.

These facts are more a reflection of the economics of the supermarket business than they are of the needs and desires of shoppers. But they are the relevant facts when considering that some of the highest volume supermarkets in America sell less than 2,000 *distinct items* (Stew Leonard's is an example). Tesco's drive to more limited selection stores (3,500 items) with their Fresh & Easy entry into the U.S. market is a lot more sensible than some of the punditry acknowledges—

Lidl and Aldi are proving this point in Europe.

The relevance here is that a supermarket that accrues 20 million exposures total from all shoppers, per week, after use of a major block of those exposures for non-commercial purposes (décor, etc.) is left with something like 12 million commercial exposures. When those are distributed over all the individual items in the store, it averages out to about 300 exposures per item, on average, per week. And those 300 exposures are from a total of 10,000–20,000 shoppers per week in the store.

But that's for the *average* item. It is very likely that the big head, constituting something like 1,000 items, accrues something like several thousand exposures per week per item, while the long tail items receive something like a hundred or less exposures, per item, per week. Do not forget that 100 exposures, allowing for fractional (less than 1 second, full field of view) exposures, can mean that the item fell into the field of view of well more than

100 people, if many are only exposed to a fleeting glimpse.

EXPOSURES VERSUS IMPRESSIONS; SEEING VERSUS LOOKING

In all of this discussion of exposures, we have been relying on items appearing in the field of view of shoppers. It is common in the media business to use the terms “exposures” and “impressions” more or less interchangeably. But the reality is that they are two very different things, with an exposure being an objective measure of something that happens in front of the eye, while an impression is a subjective something that happens behind the eye, in the brain (see Figure 8).

The difference between these two things, from the standpoint of measuring, is that exposures are about what appears in an elliptical cone in front of the shopper, while the impression results from the single point, the point of focus, that the brain directs the eye's attention to.

This is a significant issue because ultimately media are about stimulating sales. In that sense, appearing in the field of vision (seeing) is only an *opportunity to look*—create an impression. But it is the *look* that leads to the sale. That is, exposure makes possible an impression, just as seeing (passive) makes possible looking (active); and it is the sequences of looking that are the stimuli that lead to the final stimulus that triggers the sale.

There are two issues that need recognition in the final mile of measuring media in the store. We have already noted the fact that all media, including packages, compete with all other media. But this muddies even the very accurate field of vision metrics because a single field of vision can easily have more than one medium simultaneously (fractional exposures). In fact, Figure 7 probably shows a thousand packages in a single field of vision. Admittedly this is a wide, panoramic view.

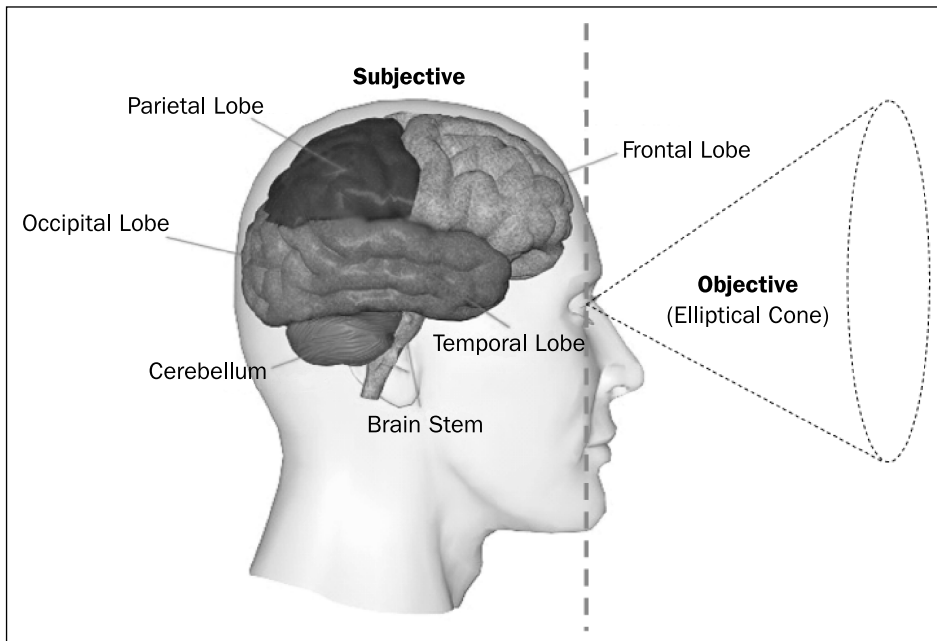


Figure 8 Subjective and Objective Processes

But even on close study of a shelf or section, probably dozens of competitive offerings crowd any single field of view. The computational metrics of Figure 1 are designed to parse scenes of this and any other nature, to give a mathematical measure of the exposure of any surface, in the complex shopping environment.

What this line of thinking shows is that, because a single exposure can encompass a good deal more than a single advertisement, the true number of “exposures,” if one is counting advertisements exposed, is probably orders of magnitude larger than the quadrillion, because there we were referring to an exposure as a single, entire field of vision. Before

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one concludes that the approach outlined here is vastly understating exposures, bear in mind that a *point* of focus is tiny (infinitesimal) compared to a field of vision, and it is the *point* of focus that signals an impression being made. This means that the number of impressions is orders of magnitude *smaller* than the number of exposures measured via the field of vision.

The following countervailing principles can be accurately resolved by applying the fractional accounting of Figure 2 with the mental accounting of the point-of-focus studies:

- Fractional exposures increase the number (of fractions) by orders of magnitude.
- Point-of-focus impressions decrease the number (of fixations) by orders of magnitude.

These principles can be applied in a laboratory, or central location test environment, using Tobii, ISCAN, or other fixed location eye-tracking, as contrasted with the A-S-L MobilEye for real world, in-store research.

CONCLUSION

These thoughts help us to realize that exposures, as a metric, are somewhat removed from the sale. Focus on the long tail leads us to understand the reality that although the quadrillion annual global exposures is a very large number, by the time it is reduced to even thousands of shoppers in a typical supermarket, the exposures become nearly vanishingly few.

However, following on the earlier comment that any exposure that creates an impression that leads to a sale is a worthwhile exposure, consider that in the typical supermarket, there are a large number of items that sell one or fewer copies *per week*. Consummation of these sales is preceded by at least some amount of exposure (field of view), which led to an

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impression (point of focus). Managing the long tail—an essential element of post-modern active retailing—is all about profitably managing these sales. And *media*, broadly understood, is always the cutting edge of *any* sale. **JAR**

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Dr. Sorensen has conducted shopper behavior studies for the top 20 brand manufacturers and retailers in

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Dr. Sorensen shared the American Marketing Association’s 2007 EXPLOR Award for technological applications that advance research, with Dr. Peter Fader and his group at the Wharton School of Business of the University of Pennsylvania.

REFERENCES

ANDERSON, CHRIS. *The Long Tail: Why the Future of Business Is Selling Less of More*. New York: Hyperion, 2006.

HUI, SAM K., PETER FADER, and ERIC BRADLOW. “The Traveling Salesman Goes Shopping: The Systematic Deviations of Grocery Paths from TSP-Optimality.” January 1, 2008: [URL: <http://ssrn.com/abstract=942570>].

SORENSEN, H. “Purchase Selection Behavior Analysis System and Method Utilizing a Visibility Measure.” *U.S. Patent No. 7,006,982 B2*, February 28, 2006.

———. “The Science of Shopping.” *Marketing Research* 15, 3 (2003): 30–35.

USER INTERFACE ENGINEERING. “What Causes Customers to Buy on Impulse?” E-Commerce White Paper, 2001: [URL: <http://www.uie.com/publications/whitepapers/ImpulseBuying.pdf>].